Redcliffe Aero Club

AirChat

No. 29

Summer 2022/23

OVER 50 YEARS OF PROFESSIONAL AVIATION TRAINING
CHARTER AND QUALITY AIRCRAFT HIRE

If you're reading this copy of AirChat as a pdf document you can click on the headings below to jump to that page.

And anything in the magazine that is highlighted in blue is a hyperlink that will take you to the relevant web page.

Front Cover: Inspecting a Q400 fire bomber at Bundaberg airport
Rear Cover: Channel Country, Western Queensland
Right: David Smith's view of sunset over Deception Bay

From the President

Hello everyone and welcome to the last edition of AirChat for 2022.

The Club continues to navigate around the weather events that are causing available flying time to be reduced. Hopefully the La Niña system won't be as dramatic over the coming months as last summer's events.

We say goodbye to Andrew Wells, one of our instructors. Andrew is heading off to fly 737-300 series for Air Nauru. The Club would like to wish him well in his new adventure.

As usual the Club's first Friday night of the month BBQ's have been well patronised. Where else can you get a great steak and salad, dessert and drinks for $20?

Club flyaways have been going well too, especially the "Northern Exposure" flyaway in August this year. We ended up having five aircraft with 10 people departing from YRED late August for nine nights with stopovers In Longreach, Karumba, Horn Island, Cooktown and Airlie Beach before returning back to Redcliffe. You can read all about it in this AirChat.

The popular Stanthorpe overnight flyaway was held on the 13th and 14th August. Unfortunately it was a drive away due to the bad weather, which didn't stop the group from enjoying the wines from several different vineyards that we hadn't visited to date.

More social events are planned for 2023 so get involved with your Club and enjoy the facilities.

Mike Cahill

Redcliffe Aero Club President 2022

CEO update

Dear members

This year has been a difficult one for the Club financially. After two years of restricted trading due to the pandemic, the year began with the aerodrome and hangars being flooded for the first time in its 60 year history. The aerodrome remained closed for 10 days. Weather events throughout the year have also hampered our ability to earn income. The end result for the year was a financial loss. Together with the reduction in hours flown we have had significant increases in aircraft maintenance costs and high fuel costs. Despite our best efforts to keep hire rates as low as possible we have unfortunately had to increase our rates. We realise that this may make private hire even less attractive for all of you but keeping rates low was unsustainable. Nevertheless, the fuel prices have fallen slightly in recent months and the outlook for the current year is somewhat better despite the ongoing run of inclement weather.

We are constantly working on new initiatives to make flying more affordable for our members and invite ideas from all of you on what you think will improve the situation going forward. One idea is to encourage more use of our simulator. This state-of-the-art machine is available for all members and is particularly useful in times when the weather conditions prevent actual flying. Why not have a session in the simulator with one of our instructors? Then you can be signed off to fly the simulator solo to practise and improve your flying skills. We would like to offer a special deal to members over the coming wet season when weather can reduce flight options. Until 31st March we'll have a "standby" rate for our simulator. If the machine is not booked 24 hours prior to your enquiry you can reserve a slot for a discounted rate of $50/hour rather than the normal rate of $100/hour. If you wish to fly "dual" the instructor rate would remain at $110/hour on top of the simulator hire rate. We hope in this way more members will make use of this valuable Club asset over the summer months.

As mentioned by Mike in his President's Report, one of our Grade 1 instructors, Andrew Wells, has resigned and left the Club for greener pastures, flying Boeing 737s for Air Nauru. We thank Andrew for his contributions to the Club and wish him well for the future. We won't be searching for a replacement for Andrew for now as I believe we have sufficient instructors to cope with the current demand. This will also allow progression of existing staff into higher duties. If business picks up in the new year, we can reassess our position.

I'd like to wish you and your families all the very best for the holiday season and hope to see you around the Club. I encourage you to make the most of our facilities and services be it training, Club flyaways or hiring our aircraft so you can enjoy the privileges of your pilot licence.

Best regards,

Stephen White

CEO

From the Chief Pilot

Would you know what to do with a runaway trim?

Generally speaking, aircraft equipped with an electric elevator trim tab control on the yoke are also equipped with an autopilot. Autopilots that are designed to maintain an altitude or attitude will have two servo motors for these tasks. One of these servo motors is installed in the elevator control circuit. We refer to this servo as the Elevator Actuator and it acts directly to position the elevator. It will drive a pully wheel either forwards or backwards to apply either a push or pull input to the elevator depending on the required input from the autopilot control computer. In this way the aeroplane will adjust its pitch attitude in response to altitude deviations and thus maintain the pilot commanded altitude. We will see this happening by the control yoke or stick moving just as the human pilot would move it when maintaining an altitude.

At times the load on the Elevator Actuator servo exceeds the limits designed into the system, such as the force required to move or hold the elevator. In that case the second servo motor called the Elevator Trim Actuator will operate the elevator trim tab to relieve the force on the Elevator Actuator in the very same way as the human pilot would. You remember, push forward, roll the trim forward, pull back, roll the trim back. You will see this happening by observing the manual elevator trim wheel. If your aircraft is so equipped it will roll forward or back accordingly. It is this Elevator Trim Actuator that the pilot controls when we operate the slider switch on the control yoke, the electric trim switch.

This altitude or attitude hold control function and electric elevator trim control are wonderful labour-saving devices when used correctly and the system actually does what the pilot intended. However very occasionally something might happen that the pilot does not intend. The autopilot may not be set up to do what the pilot thinks it will do, or in a very rare case a fault may develop in the system. When operating the elevator electric trim switch or while operating with the autopilot engaged, perhaps the nose pitches up or down unexpectedly. You take hold of the yoke and correct the change in your pitch attitude. While you are applying manual force to the yoke to maintain a level attitude you notice that as time goes on you need to apply even more and more control force to the yoke. Soon you notice that the trim wheel is rotating of its own accord making your dilemma progressively worse. This is the runaway trim situation.

How do we deal with the runaway trim? The elevator trim actuator will have driven the elevator trim wheel to its stop and is trying to drive the wheel further and any attempt to counteract the wheel manually results in the actuator rolling the trim wheel right back to where it was, at the stop.

The Pilot Operating Handbook has a checklist to help you here, but it's not easy to find. In the POH for IVW and YRE buried in Section 3 Emergency Procedures is this checklist:

AUTOPILOT OR ELECTRIC TRIM FAILURE (if installed)

AP OR PTRM ANNUNCIATOR(S) COME ON

1. Control Wheel - GRASP FIRMLY (regain control of airplane)
2. A/P TRIM DISC Button - PRESS and HOLD (throughout recovery)
3. Elevator Trim Control - ADJUST MANUALLY (as necessary)
4. AUTO PILOT Circuit Breaker - OPEN (pull out)
5. A/P TRIM DISC Button - RELEASE

WARNING

FOLLOWING AN AUTOPILOT, AUTOTRIM OR MANUAL ELECTRIC TRIM SYSTEM MALFUNCTION, DO NOT ENGAGE THE AUTOPILOT UNTIL THE CAUSE OF THE MALFUNCTION HAS BEEN CORRECTED.

ROC has a similar checklist as does RAQ; however it is located in the autopilot supplement in Section 9.

This checklist is reproduced as an example of the actions that may be required in the event of an electric trim failure, but always, always consult the POH of the aircraft you are flying for the procedure relevant to your aircraft.

Happy AV8ing

Mal McAdam

Head of Operations / Chief Pilot

Editorial

Dear Reader

Summer is here again after a long, wet winter and almost non-existent spring. As we head into the holiday season we have a variety of articles for you in this edition of AirChat.

Have you ever wondered what it's like to fly to the top of Australia? A "squadron" of Club members headed north to the Torres Strait in August. They recount their various experiences of the "Northern Exposure" trip in a group writing effort.

Harpur Michell returns with an account of a trip out to Lake Eyre and Coober Pedy in winter to see the lake and river systems as they filled with water from the autumn and winter rains. In his article you can find out just where Betoota is and what you can catch at Cameron's Corner if you're not careful.

Jaclyn Hope has written a report on the recent Club flyaway to Bundaberg, including a visit to the Bert Hinkler aviation museum, Macadamias Australia and an inspection of fire bombing aircraft that operate out of Bundaberg Airport.

Phil Ware has some salient advice on how to deal with military restricted areas while Bob Tait laments the loss of "true experts" in aviation. Jim Davis has provided an article on what kinds of fires you may encounter in your aircraft, and what to do about them, while I review a booklet he's written on how to prepare yourself for flight tests.

Meanwhile, Lauree Skene-Gordon provides her regular update on the RTO team and the current students' progress.

Shelley Ross is known to many from her "Flying the Outback" website and articles she's written for various flying magazines over the years. She's a great believer in the advantages of ADS-B and has written an article explaining what it is and how it can help all of us to be safer in the skies. There's currently a government rebate program that means we can buy ADS-B systems for half price, so if you don't have one now's a good time to buy.

Rob Knight tells us how he was introduced to instrument flying and describes how you can enter a spiral dive in IMC if you don't know what you're doing.

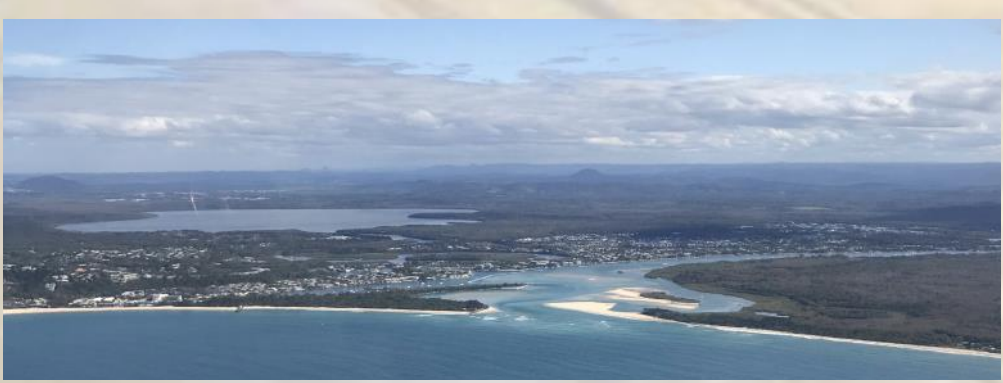
And Club member Nils Voermann, who is based in Toronto, has written an article about what it's like to be a private pilot in an aero club on the other side of the planet.

Happy reading and stay safe.

And don't forget - please email me your stories for inclusion in the next AirChat.

Email: airchateditor@redcliffeaeroclub.com.au

Philip Arthur



Upcoming events

Our Club flyaways are always fun and a great way to get together with like-minded aviation lovers.

Keep yourself informed as to what's coming up and tell us where you'd like to go by joining the RAC Flyaways Facebook group. Click on the link below:

https://www.facebook.com/groups/678739008989427

Also, our monthly happy hour barbecues are held at the clubhouse on the first Friday of every month.

You pay only $20 for the best steaks in SE Queensland and it INCLUDES beer, wine and soft drinks.

Please call the Club reception beforehand to register for the barbecue for catering purposes.

Recent achievers

Congratulations to all our students who recently completed a milestone in their training at the Redcliffe Aero Club. In addition to those students shown below, Isabelle Jacobs did her First Solo on 11.08.2022. The whole Club wishes you all well for your future endeavours in aviation.

Gabriel Goodman did his First Solo on 24.10.2022

Bennie Lindeque gained his PPL on 28.08.2022

Liam Collecut achieved his PPL on 15.10.2022

Jeffrey Huff gained his CPL on 24.09.2022.

Sachin Butola passed his PPL on 03.11.2022

Mark Lane gained his CPL on 15.11.2022.

Sam Keenan achieved his CPL on 15.10.2022

Wings Awards










At the Club's annual Wings Awards on Saturday 19th November we celebrated major milestones that our students achieved during 2022. Following a couple of years under Covid rules we were able to return to the Club hangar for the wonderful evening.



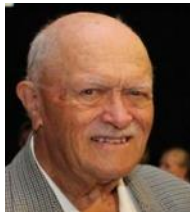








Restricted areas

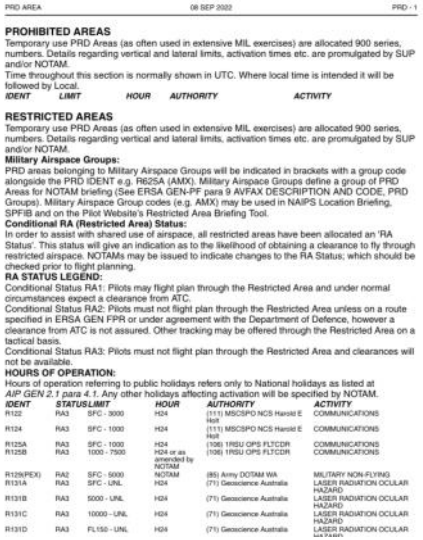


by Phil (Curly) Ware

When they are active, military Restricted Areas (RAs) are similar to normal controlled airspace - you need a “clearance” to fly through them. The difference is that RA airspace is owned by the RAAF, Army or Navy. They are shown on VTC and VNC charts, with airspace dimensions drawn with red lines and relevant altitudes shown in red text. Can you fly through them? It depends on the type. RA1 and RA2: yes, with a clearance. RA3: Never. More detail, including hours of operation, is given in ERSA in the PRD section:

www.airservicesaustralia.com/aip/current/ersa/PRD__08SEP2022.pdf

Some RAs are activated by NOTAM so as well as checking ERSA you need to read the NOTAMs if you intend to fly through (or near) one. If the RA is “not active” then for practical purposes, you just go on through. Brisbane Centre always know the status of RAs, so check with them first if you’re unsure.



PRD AREA 08 SEP 2022 PRD - 1

PROHIBITED AREAS

Temporary use PRD Areas (as often used in extensive MIL exercises) are allocated 900 series, numbers. Details regarding vertical and lateral limits, activation times etc. are promulgated by SUP and/or NOTAM.

Time throughout this section is normally shown in UTC. Where local time is intended it will be followed by Local.

IDENT	LIMIT	HOUR	AUTHORITY	ACTIVITY

RESTRICTED AREAS

Temporary use PRD Areas (as often used in extensive MIL exercises) are allocated 900 series, numbers. Details regarding vertical and lateral limits, activation times etc. are promulgated by SUP and/or NOTAM.

Military Airspace Groups:

PRD areas belonging to Military Airspace Groups will be indicated in brackets with a group code alongside the PRD IDENT e.g. R625A (AMX). Military Airspace Groups define a group of PRD Areas for NOTAM briefing (See ERSA GEN-PF para 9 AVFAX DESCRIPTION AND CODE, PRD Groups). Military Airspace Group codes (e.g. AMX) may be used in NAIPS Location Briefing, SPFIB and on the Pilot Website’s Restricted Area Briefing Tool.

Conditional RA (Restricted Area) Status:

In order to assist with shared use of airspace, all restricted areas have been allocated an ‘RA Status’. This status will give an indication as to the likelihood of obtaining a clearance to fly through restricted airspace. NOTAMs may be issued to indicate changes to the RA Status; which should be checked prior to flight planning.

RA STATUS LEGEND:

Conditional Status RA1: Pilots may flight plan through the Restricted Area and under normal circumstances expect a clearance from ATC.

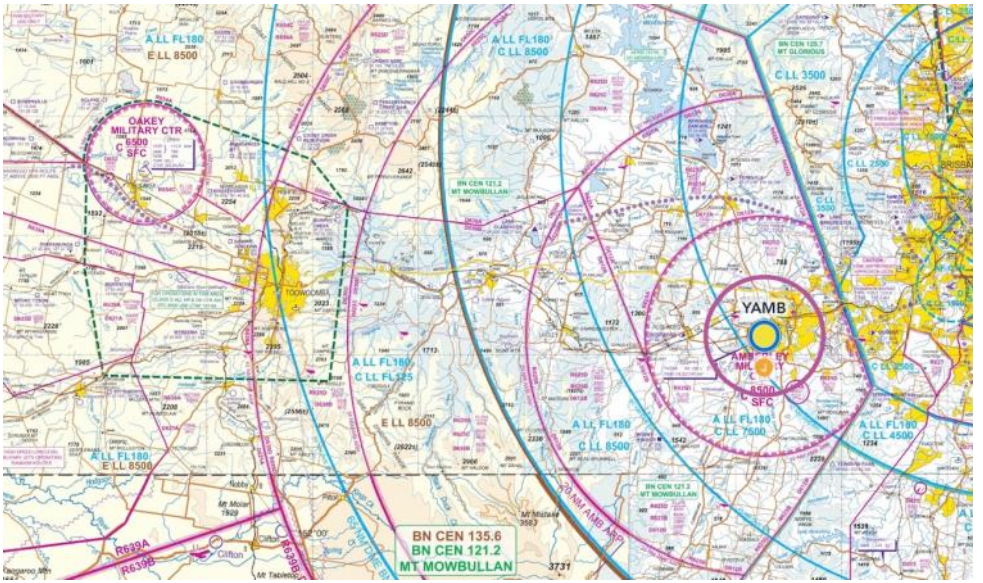
Conditional Status RA2: Pilots must not flight plan through the Restricted Area unless on a route specified in ERSA GEN FPR or under agreement with the Department of Defence, however a clearance from ATC is not assured. Other tracking may be offered through the Restricted Area on a tactical basis.

Conditional Status RA3: Pilots must not flight plan through the Restricted Area and clearances will not be available.

HOURS OF OPERATION:

Hours of operation referring to public holidays refers only to National holidays as listed at *AIP GEN 2.1 para 4.1*. Any other holidays affecting activation will be specified by NOTAM.

IDENT	STATUS	LIMIT	HOUR	AUTHORITY	ACTIVITY
R122	RA3	SFC - 3000	H24	(111) MSCSPD NCS Harold E Holt	COMMUNICATIONS
R124	RA3	SFC - 1000	H24	(111) MSCSPD NCS Harold E Holt	COMMUNICATIONS
R125A	RA3	SFC - 1000	H24	(106) 1RSU OPS FLTCDR	COMMUNICATIONS
R125B	RA3	1000 - 7500	H24 or as amended by NOTAM	(106) 1RSU OPS FLTCDR	COMMUNICATIONS
R129(PEX)	RA2	SFC - 5000	NOTAM	(85) Army DOTAM WA	MILITARY NON-FLYING
R131A	RA3	SFC - UNL	H24	(71) Geoscience Australia	LASER RADIATION OCULAR HAZARD
R131B	RA3	5000 - UNL	H24	(71) Geoscience Australia	LASER RADIATION OCULAR HAZARD
R131C	RA3	10000 - UNL	H24	(71) Geoscience Australia	LASER RADIATION OCULAR HAZARD
R131D	RA3	FL150 - UNL	H24	(71) Geoscience Australia	LASER RADIATION OCULAR HAZARD



Examples

Greenbank R627: Surface to 2000ft. Situated just south of Archerfield, Greenbank Firing Range is owned by the army and used for live firing. The army's job is to blow things up and shoot things down. If they see you they could think you are either a Target Towing Aircraft or the Target. Fly through their airspace and you may get "shot down".

Can you overfly R627? Yes. Its upper limit is 2000ft AMSL. However, it is only one mile from the controlled airspace over Archerfield so make sure you are "identified" by Centre when in the area, to arrange a clearance or obtain a suggested heading to avoid R627. "Friendly Fire" is not always particularly friendly.

Amberley: Amberley RAAF base CTR extends from the surface to 8500ft and is surrounded horizontally and vertically by RAs. Clearances are often available, depending on traffic, so it is best to ask for a clearance rather than "blunder in". The airspace is used for fast jet training so if you've "blundered in" make sure you tell them, so that you don't become a bonnet mascot for one of the aforesaid aircraft.

Oakey: Oakey army base CTR also extends from the surface to 8500ft and is similarly surrounded horizontally and vertically by RAs. Usually closed on weekends, it pays to check the status first, either by reading NOTAMs or by asking Brisbane Centre. Again, clearances are often available even if active, so it's better to ask than to "blunder in".

Evans Head R638A/B/C: Owned by the RAAF, R638 is used by fighters and bombers to "attack" ground targets in the area. Their bombing runs are "assessed" by a team on the ground. To get into Evan's Head aerodrome when the RAs are active, there is a "wedge" shaped bit of airspace, with upper limit 1000ft, that extends to the north and west from the coastline. Remain at or below 1000ft when inside this wedge to stay clear.

There is no way to transit south of Evans Head aerodrome when the RA is active without a clearance, as the area boundary extends south to Yamba from the surface up. However, by contacting Brisbane Centre, they can phone the RAAF at Amberley on your behalf, and request a clearance - which may or may not be forthcoming. Weather may be a factor when considering such a request.

How To Navigate RAs: Even in this day of OzRunways, Garmin GPS, Avplan etc. the simplest way is to draw your intended track on a VTC or VNC and check whether it passes through, or close by, any RAs. It's best to plan around them and have that plan as a "Plan B" if a clearance is not available from the airspace owner.

If you are leaving controlled airspace and flying directly into an RA, Centre will arrange your clearance. If in doubt though ask them to confirm that you have a clearance to enter.

Attitudes

by Bob Tait

The declining demand for “experts”

The article below was originally published in 1996. Things have moved on quite a long way since but it still seems relevant today. Ed

During the second world war, the crew of a Lancaster bomber was comprised of a collection of “experts", each of whom performed a function which was vital to the success of the mission. Each crew member was thoroughly trained in the skills and knowledge required to ensure maximum performance in his particular task.

There was the pilot who accepted the burden of command and hand flew the aircraft, an engineer who looked after the engines and systems, a navigator who worked full time monitoring their position and passing heading changes to the pilot, a signaller whose task was receiving and transmitting radio messages, a bombardier who took charge of the final run onto the target and dispatched the bomb load and gunners who provided defence against enemy fighters.

It was universally accepted that the success of any flight depended upon each crew member expertly performing his duties, as the words of this wonderful old RAF song testify.

[Tune: “Battle Hymn of the Republic"]

By the ring around his eyeball you can tell a bombardier

You can tell a bomber pilot by the spread around his rear

You can tell a navigator by his compass, charts and such

You can tell a fighter pilot but you cannot tell him much!!

Of course things are very different in the general aviation industry of the 1990s. Work for bombardiers and gunners is not easy to find and the tasks of signaller, navigator and engineer have simply been added to the role of the pilot. In the industrial relations vernacular of today it would be called “downsizing" and “multi-tasking”!

There is still a need for experts, but they are a different breed of expert. Rather than requiring extensive detailed knowledge of one particular task, the pilot/navigator/engineer/signaller gets by with a practical grasp of a broad range of functions.

This allows the single pilot of a multi-engine IFR flight to simultaneously perform such amazing feats as:

- Shoot an NDB approach at night in driving rain and cloud, and
- fly the circling approach to land after becoming visual at the minima, and
- attempt to communicate with ATC via a crackling HF radio, and
- keep an eye on that troublesome left engine and
- maintain cordial customer relations with four inebriated passengers singing football songs.

Some of these pilots remember the days when GPS was just a school sports carnival! (Greater Public Schools).

Electronic wizardry has produced the next generation of experts. Not the flesh-and-bone experts of the Lancaster days, but expert systems, whose capacity to store and retrieve information and carry out specific tasks would have been beyond belief even five years ago, let alone fifty! Not that I’m complaining - I spent too many years bouncing around in a noisy cockpit with a WAC on my lap to be ungrateful for systems like GPS. Yet I feel a little twinge of sadness when I realise that expert pilot/navigators will go the way of bombardiers - nobody will need one and nobody will care.

Book review

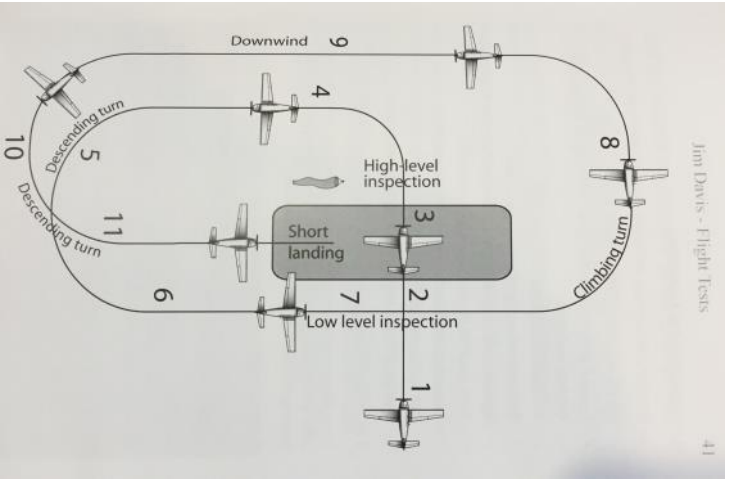
“Flight Tests” by Jim Davis

Philip Arthur

I tend to get somewhat stressed prior to any test (who doesn’t?) and flight tests are probably among the worst. Flight reviews may not be quite so bad but even so it’s best to be well prepared for whatever will be thrown at you, especially if it’s your first one (or the first in a long time). Despite all the training we do beforehand and discussions with instructors in the lead up, it’s always a bit of a mystery how the actual test day will unfold with that “unknown unknown”, the test examiner, who you are unlikely to have met before, yet alone spent two or more hours crammed into a light aircraft together. This is especially the case for relatively new and inexperienced pilots. A small booklet by Jim Davis aims to demystify the flight test and help prepare us for being put through the mill by the flight examiner. I was recently made aware of the book and (in the interests of total transparency) when I enquired about it the publisher Pilot Train Aviation sent me a free copy to review.

Its 56 pages contain a lot of straightforward and clear advice on how to prepare and what to expect from the examiner for a variety of scenarios. Jim is well known in Australia and South Africa (where he is based) and has written for numerous aviation magazines over the years. The booklet was first published in 1981 and the third edition was released in August this year. Its target is pilots doing tests under CASA, South Africa’s CAA and Europe’s EASA. He doesn’t focus on the specific requirements of individual agencies but rather on techniques and procedures. As he writes: “Most flight test failures are not caused by iffy handling, they are the result of poor checks, procedures and airmanship.”

It is what you might call a “plain speaking” sort of book, that gets straight to the point and hammers home the messages of how to prepare yourself mentally and physically for your interaction with the test examiner.



There are lots of tips on how to make the process easier for yourself and effectively turn it into a learning opportunity rather than a torturous experience that you'd rather forget. One tip is to think of the examiner as an interested passenger who you need to advise on certain procedures and communicate to so that there are no misunderstandings in the cockpit.

The main topics covered are pre-test preparation, pre-flight inspections, ground handling, the aerial component and after flight procedures.

The aerial component includes sections on takeoff, engine failures, turns, stalls, incipient spins, asymmetric flight (for those who fly twins), forced landings, precautionary landings, crosswind procedures, basic instrument flying and cross country flying. It includes a lot of down to earth and sensible advice for newcomers who may be overwhelmed by the jargon and bureaucracy that typifies general aviation, while guiding the reader through each exercise they are likely to be tested on and describing what an examiner expects of a student. Jim introduces the concept of "showmanship". As a testee you need to make it clear to the examiner that you are checking that the brakes are holding and ask them to check theirs, explain that you're going through your checklists, keeping a lookout for traffic, doing your CLEAROFF or HASELL checks, planning for contingencies and thinking ahead of the aeroplane. It's not good enough to mumble your way through these things but rather to enunciate clearly to the examiner what you are doing as you do it. This may not be something you'd do when your partner is next to you in the passenger seat but definitely a good idea when the person sitting there is deciding whether you are suitably prepared to take them (or anyone else) up on a flight next week.

At $25 delivered it seems a good investment. You can read more about it at www.pilottrain.com.au/product/flight-tests/

Northern exposure 2022

In August a group of Club members went on a flyaway to the northern most tip of the Australian mainland. For just over a week the various crews ventured via Longreach and Karumba to Horn Island and then returned via Cooktown and the Whitsundays. Thanks go to all the authors who have contributed their experiences on the various days of the trip. Ed

Day One – Saturday 20th August

Redcliffe - Roma - Longreach

Michele Liddy

Author disclaimer - Day One is written not from a pilot's perspective, but as a passenger who had the privilege of participating in this wonderful adventure that was "Northern Exposure 2022".

It was blue skies and perfect weather conditions as ROC, piloted by Paul Smeath, departed from Redcliffe Aero Club. We flew over the patchwork fields and farming land of the Western Downs towards the first of many fuel stops. There was a windy chill in the air as the group met in Roma to refuel and stretch our legs.

As we departed Roma for Longreach, ROC made a slight diversion from the others in our group to fly over Carnarvon Gorge which was a highlight for both of us, and a bucket list destination for me (thank you Paul). The sheer expanse and beauty of the gorge below us was awe-inspiring. As we flew over the bushland and towering sandstone cliffs of Carnarvon National Park, there was some turbulence which I soon became accustomed to and which ROC seemed to carve through with ease.

As we landed at Longreach, it was wonderful to see the enormous Qantas jets that towered over ROC as we taxied past to stop for the night. I managed to make a quick visit to the Qantas Founders' Museum before closing time and then headed to our accommodation at the Albert Park Motor Inn and then out to our first group dinner at Harry's Restaurant.

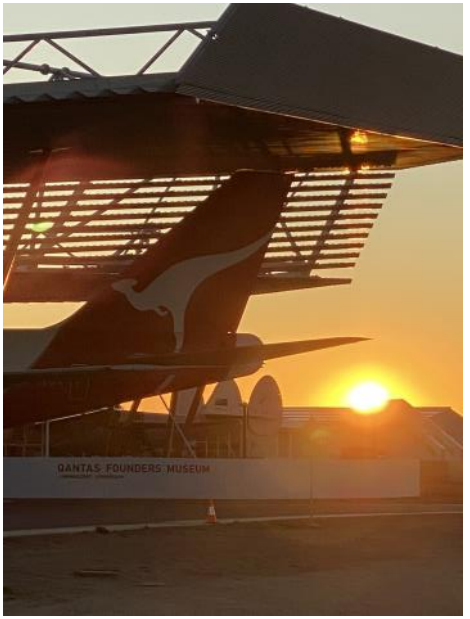
Day Two – Sunday 21st August

Longrach – Cloncurry - Karumba

Paul Smeath

The Longreach sunrise with the Qantas 747 tail appearing on the horizon was an absolutely amazing spectacle to kick off Day Two of our adventure. Michele and I started off with an early morning walk to the Stockman's Hall of Fame and the Qantas Museum before packing up our hotel room and heading back to the museum for breakfast.

The group was enthusiastic to get the second day of flying underway which would see us travel from Longreach to Karumba via a fuel stop at Cloncurry. However our departure was delayed due to a small technical problem. It is at this point, due to potential peer group pressure, that I fall on my sword and own up to the fact that while checking VH-ROC's engine oil, I dropped the only set of keys for the aircraft into the engine cowling! How did I manage that, you may ask??? Anyway, on with my story. The keys found their way between two cylinder blocks and the only way to retrieve them was to remove the engine cowling and take advantage of the smallest pair of hands on the flyaway to pluck the keys out, thanks Michele (incriminating photo below).



Finally, we were up and away, heading for Karumba in absolutely perfect flying conditions, which provided spectacular aerial views of outback Queensland and some breathtaking Channel Country. The runway runs parallel to the ocean at Karumba, providing more spectacular views of this beautiful country as we came in to land. We were greeted by the courtesy bus and taken to our accommodation where we had a very short period of time to check-in and then head to the local boat ramp for our river cruise and sunset dinner on an isolated sand island. We had started Day Two with a spectacular sunrise, and ended the day with an equally spectacular sunset.

On Final into Karumba

Day Three - Monday 22nd August

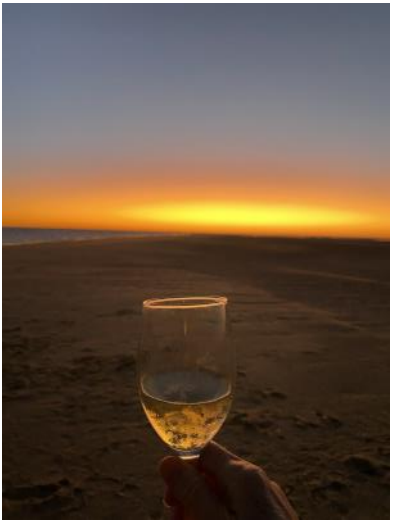
Karumba - Weipa - Horn Island - Thursday Island

Michael Gardner

On day three we departed Karumba, flying along the pristine coastline of the Gulf of Carpentaria for Horn Island with a planned fuel stop at Weipa.

After starting the day with a big breakfast at Ash's Holiday Units we headed for the airport, located two minutes' drive from the middle of town. Having fuelled up the day before (and with none of us dropping our keys into the engine cowling!) we were able to depart by 8:30am. With clear blue skies we were eager to get to Horn Island.

After takeoff John Waugh and I decided to circle back over the town to take some photos. It's a small town with a population of only 500 people and situated on the mouth of the Norman River. From there we turned the nose north and headed for Weipa.



Visibility started to deteriorate severely due to fires in the area and we weren't sure if they were burn offs or bushfires but there was plenty of them. We kept in contact with the rest of the group on frequency 123.45 MHz to make sure we were all well clear of each other and climbed to 5500 feet which seem to improve the visibility.

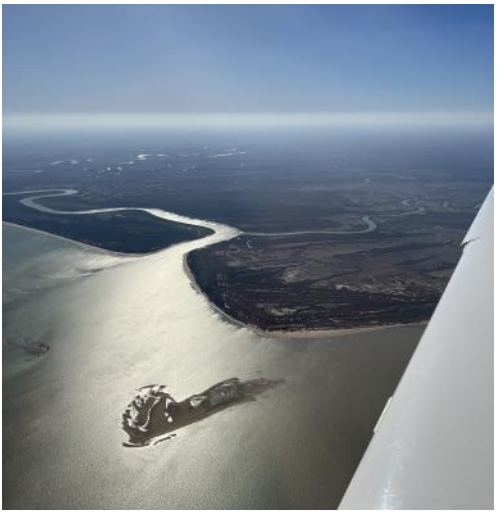
It is very rugged land between Karumba and Weipa so we chose to fly near the coastline which gave us a beautiful view of the Gulf of Carpentaria and submerged coral reefs.

Although there are a few cattle stations and aboriginal communities with airstrips along the way, it certainly is a remote part of the world. Spotting crocs lying on the banks of rivers was an exciting way to break up the flight.

As we descended into Weipa the bauxite mine came into sight. Having officially commenced production in 1969, the mine is operated by Rio Tinto Aluminium and produces roughly 16 million tonnes of bauxite annually.

The massive mining trucks driving along the dirt roads were very impressive. The wind was strong and gusty but we all arrived safely into Weipa. After regrouping and a quick briefing about the weather a very helpful fuel truck driver refuelled our aircraft before an arriving Alliance Jet. After a bite to eat on the tarmac we were back in the air heading further north.

It was only an hour flight from Weipa to Horn Island but this was one of my favourite legs of the trip. Again we chose to fly coastal most of the way and now the excitement was building, as we were getting close to the northernmost extremity of the Australian mainland. We could see from one side of the state to the other as the land was now getting narrow and we had the top end in sight. With Horn Island visible in front of us and Cape York out to our right, the coastline was stunning. It is an unspoiled wilderness.



We made it across the bay to Horn Island, where we overflew the field to join a downwind for Runway 14. With several BN2 Islander aircraft inbound we managed to keep out of everyone's way. Regrouping on the ground, our group had unfortunately been reduced to four planes after our fellow traveller Luc George was forced to turn back to Weipa due to an electrical malfunction. We tracked Luc's progress and we were relieved to see he'd returned to Weipa safely.

The ARO escorted us to the parking area where we tied down the aircraft in very hard rocky ground. I even managed to snap a tie down peg! This was the pinnacle of our trip. We'd made it to the Top of Queensland.

Thursday Island harbour

A bus picked us up from Horn Island airport and transported us to the Thursday Island (TI) ferry departure point where we enjoyed the roughly 15 minute scenic ferry trip to TI. On the ferry Mike Cahill got talking to a TI resident who was returning home after his latest stint at work. The local's work was as the captain of a Gulfstream 650 jet based in Hong Kong, flying the extremely rich and famous on their private jets.

On our first night on TI the group had a great meal at the Torres Strait Hotel, the most northerly hotel in Australia.

Day Four - Tuesday 23rd August

Rest Day on Horn Island and Thursday Island

Dean Harvey

Thursday Island, with its safe harbour, was established in the late 1800s and is now the administration centre for the Torres Strait Islands. There is no airstrip on TI, due to its hilly topography. Horn Island on the other hand, is relatively flat, so its airport services TI and the Torres Strait islands. The strip was constructed in the late 1930s when geo-political storm clouds arose that later erupted into WWII.

Day Four was our opportunity to explore the islands. We took the ferry back to Horn Island and took part in an organised tour, whereby we discovered the hidden and fascinating aspects of Horn Island's WWII heritage. The tour included both a privately established and run museum and a drive around Horn Island. The drive blended WWII sites, historical facts regarding WWII and actual veteran's stories.

The group found the tour fascinating and revealing.

After the tour we caught the ferry back to TI for our final night in the Torres Strait. Pilots and crews discussed the next day's adventure - the long journey from Horn Island round the tip of Cape York Peninsula, Australia's northern most tip and all the way down the coast to Cooktown.

Day Five - Wednesday 24th August

Horn Island to Cooktown

John Waugh

Early the next day the group ferried back to Horn Island to leave for Cooktown. Of course, the pilot's nemesis struck once again - head winds and low cloud! So, a lot of the leg was at 1500ft until about Lockhart River. The ruggedness and vastness, let alone beauty, of Australia never ceases to amaze and the coastline down to Cooktown was no exception. Fuel margins were tight for the slower Cherokees taking four hours flying to Cooktown. On the approach into Cooktown our pilots realised they had a bit more to deal with as severe wind sheer and gusts tested their skills on final for runway 11. Due to good planning, or simply the fact the Cirrus MSF and 182 ROC were faster, they arrived earlier and fuelled up, so there was minimal queuing at the bowser!

The fuelling, unloading, tying down aircraft and transfer was getting routine now and everyone was soon being checked into their accommodation at the Sovereign Resort Hotel. Before settling in a course diversion was required to the nearest bar to celebrate the day's aviation achievements.

Some of the crews did a walk around town down to the river before dinner, which was a great way to stretch the legs and catch up on the historical sights of Cooktown.

As prearranged we met up with Luc George again in Cooktown. Luc, whose plane had developed electrical problems enroute from Weipa to Horn, flew commercially to Cooktown to meet up with the group and ride in one of the planes for the rest of the trip. While Luc unfortunately missed some of the legs of the journey it was great to have him back on board.

Day Six - Thursday 25th August

Cooktown - Mareeba - Shute Harbour

Mike Cahill

The day began with a 6 o'clock walk for some of the group to the top of Grassy Hill overlooking Cooktown. Cloud cover meant we didn't see the sunrise but on the positive side we had some exercise. We agreed on breakfast at 7am and shuttle to airport at 8am for an ETD of 0930 on our first leg from Cooktown to Mareeba.

Pretty much every day as we ate breakfast, pilots and crew discussed the weather and route to be flown that day. Cooktown was no exception. Several of us had experienced some wind shear while landing into Cooktown the previous day so with wind gusts still around and some lower than wanted cloud cover, the weather was a hot topic as we enjoyed bacon and eggs and a coffee.

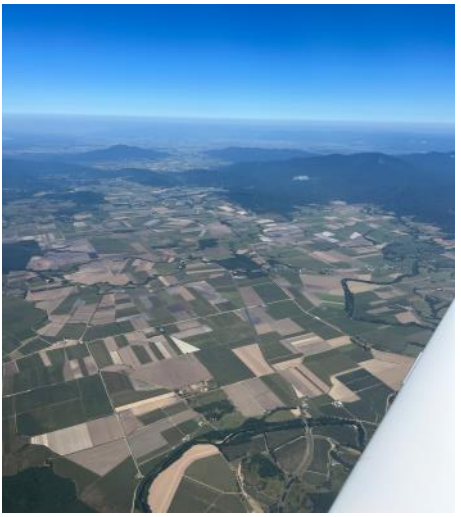
After check out from the Sovereign Resort Hotel we all packed into the mini bus for the 10 minute trip out to the airfield. With planes pre-flighted, luggage stowed and pax strapped in place, we all departed Cooktown upwind, setting course for Mareeba. The main and immediate obstacle for the VFR pilots was avoiding the low level clouds, maintaining control of the aircraft with the high wind gusts and keeping check on the Great Dividing Range that was close by as they flew down the coast.

Peter Nally was PIC on this leg and once clear of Cooktown we were on climb to 9000 feet. Passing through 5000 feet we were on top of the weather and the flight to Mareeba was very smooth. The weather was confined to the coast which is typical for Far North Queensland. It was a fairly short IFR leg and it wasn't long before we were at TOD and checking with ATC for traffic into Mareeba. On arrival we taxied to the fuel bowser, refuelled ready for the next leg and waited for the other aircraft to arrive.

I had arranged to meet some family members that I hadn't seen for about 10 years. Cousins from my Dad's side of the family live in Mareeba and I was very fortunate that they came out to the airfield to see me and meet all of our crew. We were made welcome at the Mareeba Aero Club where we relaxed in their courtyard checking flight plans and discussing the transit flight through Townsville controlled airspace while enjoying a coffee.

I had previously contacted the Townsville RAAF base and informed them of our plans to fly through their airspace. They asked us to contact them at the 36 nautical mile mark, which we did and the transaction was made easy for us all. Several were offered to track direct to Shute Harbour which was taken up. It goes to show that taking the time to communicate via phone to ATC prior to a flight pays off with an easy transit flight.

Overflying Townsville at 9000 feet in clear skies heading south over the Burdekin River, the twin towns of Home Hill and Ayr clearly stood out among the patch work quilt country of sugar cane fields. Not long after we were vectored 10 degrees left of track due to arriving jet traffic into Proserpine. After 10 minutes on this new heading I figured ATC had forgotten about us and I asked to start our descent into Shute Harbour from our present position which played into our hands. It placed us precisely where we needed to be, set up for joining a straight in approach to Shute Harbour.



The approach to Shute Harbour is somewhat different, especially for first timers. I was glad I'd downloaded their pilots' guide from their website so that we could study it before attempting the landing. I have never flown an approach at 200 feet where the runway wasn't straight in front of you. The final left turn to align yourself with the runway centreline was a great experience, although that's not what was verbalised in the cockpit just prior to touchdown! And why is there a house just near the end of the runway that you have to avoid flying over? As they say in real estate - position, position, position.

After a perfect touchdown, we taxied to the awaiting ARO who had us engine off at the bowser. I have to comment on the staff at the Shute Harbour airstrip who were extra helpful with all our aircraft during the three days we were there. Happy to fly back there again.

We only had a five minute walk to the Whitsundays Tropical Eco Resort which backed onto the airstrip, where we all gathered for a bevo to discuss our day's flying.

The local Jubilee Tavern provided a shuttle transfer to dinner where everyone enjoyed reliving the day's flying highlights. Oh, and we also enjoyed a few more refreshing drinks!

Day Seven – Friday 26th August

Whitsundays

Peter Nally

This was a non-flying day when about half of the group went on an all-day adventure boat ride to Whitsunday Island with the opportunity to do some snorkelling, whale-watching and stingray spotting. The monohull tinnie with huge twin outboards scooted along at around 30 knots, about the same as a Tiger Moth pushing a headwind, but it seemed much faster. After traversing Whitsunday Island on foot to take in the spectacular view of Hill Inlet and Whitehaven Beach we reboarded for the short trip to Whitehaven Beach where we enjoyed a picnic lunch interrupted only by hungry seagulls used to getting a feed from unsuspecting daytrippers. Not everyone took the opportunity to closely inspect the coral using a face mask and snorkel, but those who did said it was worthwhile. The return trip took us out to some open sea followed by a view of Hamilton Island on the way back to Airlie Beach. Overall it was a great day out but not for those who don't like getting sprayed with salt water!

A more leisurely time was had by those who preferred to chill out by the resort pool or take the shuttle bus into Airlie Beach to explore what the tourist strip had to offer. Airlie Beach seemed to be recovering from the Covid-induced downturn in tourist numbers and there was no shortage of people on the streets stimulating the local economy and boats of all shapes and sizes either in the marina or out enjoying the sheltered waters for which the area is renowned.

Day Eight –Saturday 27th August

The group split up on Day Eight. Bryan Galvin and Mike Hawley departed Shute Harbour for Redcliffe in Cherokee VH-BHN as did John Waugh and Luc George in Cherokee VH-SZB while the others remained in Shute Harbour for another day.

Michael Hawley

After a truly amazing experience travelling up to the far north of Queensland with some great fellow aviators and newly made friends, Friday evening was time to enjoy our final night's BBQ and plan our flight home to Redcliffe. The BBQ was excellent. We all helped out with preparing, cooking, and setting up of our own 'Long Table' event. The menu included rib eye steak, teriyaki chicken, salads, coleslaw, mushrooms, fried onions and even fruit cake for dessert. I helped out preparing and cooking cobs of sweetcorn, while Bryan Galvin was poring over the charts and maps plotting our routes for the flight back to Redcliffe aerodrome the next day. The weather had been overcast and windy making our boat trip around the Whitsunday Islands even more exciting than most of us had expected. The forecast for the Saturday was pretty much the same but with increasing low cloud. BG suggested that we make an early start in the morning to assess the weather to determine our preferred route through to Redcliffe.

The evening was filled with laughter, good conversation, beer and wine and everyone had the chance to talk about what was their highlight of the trip. BG and I bailed a little earlier than those who were staying in Airlie for another night to ensure that we were fit for duty the following morning.

Saturday morning started with a 5:30am wakeup call from BG (I called it loud snoring), a final check on the weather and a look at our maps before we packed up and headed for the aerodrome for a much-needed coffee and breakfast at the onsite cafe.

There we caught up with Paul Sneath and Luc George. John and Luc had also decided to leave on the Saturday as they thought the weather was not going to improve and decided to do the home run.

Taking off, there was a brisk 10 to 15 knot wind straight down runway 14 and a few bumps on the climb out. The cloud base was forecast at 1800ft but it was much lower at about 1200ft and unbroken. We kept below the clouds travelling coastal over water until we were past Long Island. Here the cloud base lifted, and we could continue our climb to 2500ft. Our initial track was a series of zigs and zags to track inland while avoiding high terrain.

The weather improved as we continued inland heading towards Bundaberg which was our planned refuelling stop. After about an hour or so of flying below the clouds and battling against a strong head wind we decided north west of Rockhampton to climb to 4500ft where the air was smoother. The headwind was still over 30 knots making our ground speed only about 90 knots at best.

The weather forecast did not anticipate such strong headwinds and at this point we started to do the fuel calculations to see what our chances of getting to Bundaberg were and came to the conclusion that we would be bouncing on our fixed reserve of 45 minutes. The clouds before us were beginning to look a bit menacing with some cumulonimbus formations in the distance. So west of Rockhampton we picked a break in the clouds to descend, changing course to the west heading for Emerald Airport which was our alternative refuelling option and track to Redcliffe from there.

Our decision to alter our track turned out to be a good one. We picked up a decent tailwind and avoided turbulent air and scattered showers which were gracing our original east coast route.

With a ground speed of over 130 knots, we made it into Emerald Airport in good time and with plenty of fuel in our tanks. After a quick break to use the airport's facilities and a review of our new homeward route, we refuelled our trusty Cherokee. While refuelling we watched a Qantas Dash 8 land, bringing in FIFO workers probably heading off to work at one of the many coal mines in the area. Until a few years ago one of them would have been me. We were quickly off again before the Qantas Dash had finished reloading with its returning workers.

We climbed out of Emerald and settled at a height just below the cloud base flying VFR on a direct track to Redcliffe Aerodrome some 343nm away. Our route would take us west of the Great Dividing Range over to Kingaroy then past the Glass House Mountains.

Flying now again southeast the strong headwind returned to slow our ground speed down to 100 knots but otherwise we had reasonable weather. We kept a close eye on our fuel consumption of 35 -38 L/h and checked that we could still comfortably make it back to Redcliffe. At the very worst we knew that we could divert to Kingaroy if we had to for fuel or any other reason. As we approached the Glass House Mountains the weather started to improve with the clouds becoming light and scattered with a clear view of the coast.

Throughout our flight there had been almost no local area CTAF radio traffic probably due to the poor flying conditions.
That was until John Waugh contacted us while we were west of Caboolture informing us of the bad weather he had encountered tracking coastal. Then only a few minutes later after the Caboolture CTAF call, Sam Keenan contacted us on the radio to wish us well.

It was now time to concentrate on our approach and landing into sunny Redcliffe which contrasted with the last six and a half hours of the flight home. Joining mid cross wind for runway 07 we made a smooth landing

with little of the usual cross wind.

Special thanks to everyone who came on our adventure for making it such an amazing and fun experience and a special thanks to Sam Keenan for the use of his awesome plane and the trust he had in us returning it in one piece.

Day Nine – Sunday 28th August

Shute Harbour – Thangool - Redcliffe

Peter Nally

Sunday dawned more than a little overcast with the occasional passing shower and low cloud that looked anything but inviting for sightseeing. After enjoying a hearty breakfast at the airport hangar cafe and waiting a few hours, during which the cloud base lifted a little, MSF took off from Runway 14 at Shute Harbour and turned onto heading 120, only to be faced with low wispy cloud and decidedly few VFR options. We were given a code by Brisbane Centre and told to standby for the clearance needed to climb IFR through the soup to set course. After what seemed a very long time, the clearance finally arrived and we were on our way through silky smooth stratus before popping out into bright sunshine about half way through the climb to our planned cruise altitude of 9000 feet. Fortunately, the cloud thinned out as we tracked towards Mackay and sightseeing improved.

From Mackay the flight planned track took us virtually in a straight line and visibility was great. Arrival at Thangool was uneventful compared with the windshear and circuit traffic a few days earlier at Cooktown and the somewhat unconventional approach to Shute Harbour. An RPT Metro arrived at Thangool as we refuelled and waited for ROC to rock up. Paul carried out a textbook landing for the cameras (or was it Michele??). Very soon it was time for the Metro to depart, followed quickly by ROC and then MSF. Conditions were surprisingly rough climbing out of Thangool until we gained some altitude and despite what looked like favourable conditions for washing dust and bugs from the wings and windscreen we were not that lucky. Nevertheless, cruise conditions were very smooth on top and the cloud below gradually extended to 8 Oktas, thereby raising our hopes of washing the aircraft on descent. Alas, it was not to be despite some rather dark patches and we elected to leave and re-enter controlled airspace on descent which gave more opportunity for getting the washing done, but eventually we gave up and informed the radar room we would be descending visually to Redcliffe. After enjoying a birds-eye view of Caboolture airfield slightly to the left of track we called inbound at Beachmere and landed in very calm conditions on runway 07 to complete a most enjoyable week away.

As the hangar doors were being closed the throaty rumble of ROC (or was it Paul??) was heard taxying towards the Club hangar and we knew that the Redcliffe aviation world was at peace.

RTO roundup

Exciting times lie ahead for the RTO team as we begin the recruitment process for the next cohort of aviation enthusiasts. We have positions in our Aviation Double Diploma combining AVI50219 Diploma of Aviation (Commercial Pilot Licence - Aeroplane) and AVI50519 Diploma of Aviation (Instrument Rating), as well as our standalone AVI50219 Diploma of Aviation (Commercial Pilot Licence - Aeroplane) and our standalone AVI50519 Diploma of Aviation (Instrument Rating) for candidates who have already started their aviation education journey.

Successful candidates will be Fee for Service (FFS) and/or utilise the Club's VET Student loans funding to complete their chosen qualification.

We would like to congratulate our 2020 Diploma students Jeffrey Huff (left) and Mark Lane (right) on completing their AVI50219 Diploma of Aviation (Commercial Pilot Licence - Aeroplane) qualification, demonstrating commitment, determination and dedication to becoming a commercial pilot.

Meanwhile, our 2021/2022 Aviation Double Diploma AVI50219 Diploma of Aviation (Commercial Pilot Licence - Aeroplane) and AVI50519 Diploma of Aviation (Instrument Rating), students continue to progress through their course content, with many of them achieving their CASA PPL Licence recently.

This includes Liam Collecutt (left above), Sachin Butola (right above), Jacob Neumann (left below) and Alexander Beck. (right below).

Do you dream of flying? Do you want to become a pilot ? The Redcliffe Aero Club is now taking expressions of Interests from candidates for our 2023 intakes. But hurry, as we have limited vacancies available for each course!

To express your interest in completing one of our aviation courses with a long standing and highly regarded flight school head to https://www.redcliffeaeroclub.com.au/ and fill out an expression of interest form, then return the form to info@redcliffeaeroclub.com.au.

Our RTO team will then be in contact to discuss your study options and offer you the opportunity to attend one of our upcoming "Pre Enrolment Information Sessions".

Diploma dispatch

The Redcliffe Aero Club (RTO No. 40971) Diploma students have had a challenging couple of months with the weather continuing to be uncooperative. As we progress through the last quarter of training for 2022, we continue to guide the students to work towards their milestone achievements as they progress. In these challenging times they continue to demonstrate their dedication and commitment to their aviation education journey.

All flight instructors, trainers & assessors and staff continue to assist students to not only meet the Australian Qualification and Training Framework (AQF) standards and CASA (Civil Aviation Safety Authority) industry standards but to exceed them, to be the best in their field and to develop the commercial pilot attributes that will prepare them for their first aviation employment opportunity.

It's been all hands on deck for the RAC RTO team with our audit season in full swing. The team has been busy coordinating and conducting a number of scheduled audits.

Our annual forecast to the Australian Qualifications Framework, VET Student loans funding and Queensland Department of Education and Training has been concluded, enabling our diploma students to access funding and human resources (Centrelink) payments while studying with the Club.

The RTO team is also about to commence our internal ASQA and quality indicator RTO audit with scheduled completion before the end of 2022.

The RTO team, flight instructors, trainers & assessors and current diploma students actively participate in our internal audits, with the goal to continuously improve our service, training and knowledge, while remaining ASQA, VET Student Loans and CASA compliant.

We actively encourage our diploma students to offer ideas, suggestions and potential improvements to their training plans and study structure while maintaining industry currency and preferences.

The AVI50219 Diploma of Aviation (Commercial Pilot Licence – Aeroplane) was superseded in April 2022 with the teach out period finishing in April 2023 so 2023 will see the current Aviation Double Diploma cohort of students transition from AVI50219 Diploma of Aviation (Commercial Pilot Licence - Aeroplane) to the AVI50222 Diploma of Aviation (Commercial Pilot Licence - Aeroplane). Training package release 1 has seen the introduction of amended units of competency, with unit of competency AVIY0046 Execute Advanced Aeroplane Manoeuvres and Procedures replaced by the revised unit of competency AVIY0083 Execute Advanced Aeroplane Manoeuvres and Procedures. Students who have not completed their AVI50219 Diploma of Aviation (Commercial Pilot Licence - Aeroplane) training components by Friday 31st March 2023 will transition to the new qualification.

We have also started to receive enquiries from potential candidates for our upcoming 2023 course intakes. Candidates interested in applying for any enrolment intakes in 2023 should complete the expression of interest form located on our website and return it to the RTO team. Candidates will then receive an invitation to one of our upcoming "Pre Enrolment Information Sessions". Potential candidates will attend the sessions for two days at the Redcliffe Aero Club. For further information don't hesitate to contact the RTO team at info@redcliffeaeroclub.com or call Monday to Friday on (07) 3203 1777.

Notes from a Canadian member

by Nils Voermann

First off, an introduction is probably useful since I am unknown to many, not being at Redcliffe as much as I would like – my now residing in Toronto, Canada is my excuse for long absences. While at Redcliffe I have been hiring Piper Warrior FRF, and in Canada similarly hire a Warrior at Burlington Executive airpark, an aerodrome south west of Toronto. See the excerpt below from the Toronto VTA chart, with Burlington in the bottom left corner.

While I lived in Brisbane from 2009 to 2013 I earned my Australian PPL at the venerable but now sadly closed Gil Layt's Flying School at Archerfield. Only at the end of this period did I discover Redcliffe Aero Club, with its much more vibrant pilot community, and I became a member. I have kept this up ever since, as part of travelling to Australia a few times a year on business, and each time taking the opportunity to fly out of Redcliffe.

Your AirChat editor asked me to write about flying in Canada, compared to Australia, and I have made some observations accordingly.

Toronto VTA excerpt (not for navigation)

Rules

The airspace configuration system in Canada is very similar to Australia, with class D airfields like Archerfield, B or C centered around major airports like Brisbane, and many uncontrolled fields like Redcliffe there and Burlington here. ATC tends to be more informal in Canada, and we have no requirement for an ASIC. Also, there is no requirement for aircraft to have a radio at uncontrolled fields like Burlington.

Weather

Of course we have winter. Although putting on layers of clothing, mittens, boots etc to combat the cold is a bit tiresome, as is shoveling snow out from in front of hangar doors, the reward of colder weather is spectacular aircraft performance. With ambient air temperatures around -20 or -30 C, and the correspondingly high air density, the climb rate of even an anemic old Cessna 152 trainer becomes almost jet like. In Toronto during winter months, it is common to have density altitude below sea level. It always seems colder than the thermometer indicates on a windy airfield, but once in the aircraft and going, the air-cooled engine provides plenty of heat to keep the cabin warm and cozy.

VFR navigation becomes somewhat more challenging after a snow fall when the landscape is covered under a uniform white blanket. This too has its reward though: flying at night with moonlight and its subtle blue-white reflection from snow covered ground, the cockpit illuminated by this light alone, one is seemingly suspended between isolated lights on the surface and stars above - a magical experience unknown to earthbound mortals.

Being at 44 degrees North, Toronto has much more variation in daylight hours than does Brisbane. In the summer last light is at 9:30pm on the longest day, but on the shortest winter day it is dark shortly after 5pm. Flying after a 9 to 5 workday therefore requires a night rating, which many of us obtain shortly after the PPL.

Flying clubs

Flying clubs in Canada exist at many smaller airports, and similar to Redcliffe offer flight training and aircraft rental. There is also the national Canadian Owners and Pilots Association (COPA) that have their airport specific chapters or flights. At Burlington airport we have about 40 members in COPA 28, and meet monthly for a pizza dinner and typically a guest speaker. I am working on upgrading to monthly BBQ steak dinners like at Redcliffe! We similarly have Experimental Aircraft Association chapters, often combining events with COPA. For example, we together host Young Eagles flights, where pilots volunteer their time and aircraft to give youngsters their first taste of flight.

Places to fly

We are fortunate to have a couple of global landmarks within easy flying distance of Burlington Airpark.

Niagara Falls is a 1.5 hour round trip including a few orbits over the falls, as shown in the picture on the next page. There is a defined minimum altitude of 3500 AMSL (approx. 3000 AGL), a fixed pattern to fly and a dedicated radio frequency, with commercial helicopters flying in the restricted airspace below. The falls are lit in different colours at night.

Downtown Toronto is distinguished by the CN Tower, having for many years been the world's tallest free-standing structure. This is adjacent to the Billy Bishop Toronto City "Island" Airport. See the photo on the next page.

The Island airport is Toronto's secondary airport and has numerous commercial airline flights using Dash 8 Q400 type aircraft. These incidentally are proudly Canadian made, by De Havilland a few miles to the North at Downsview industrial airport. A nice flight is to follow the Lake Ontario shoreline to skirt the main Toronto Pearson Airport Class C airspace beside and above, to orbit the CN tower and Toronto CBD, then do some touch and goes at the Island and/or stop there for lunch. Flight following is useful to help stay clear of Class C around the main airport or to get a clearance into it, and to facilitate entry into the different Class C airspace of the City Centre Airport, and to point out other aircraft on reciprocal or intersecting tracks.

Nigara Falls (American Falls at left, Canadian "Horseshoe" Falls at right)
Toronto CBD with City "Island" Airport centre left

A more peaceful flight needing no communication with ATC (or anyone else) is to take off from Burlington and fly north to see the autumn colours. October is the best month for this as shown in the photo below.

Oshkosh is about five hours flight time away, whether going south or north of the Great Lakes. If one dares to fly directly across the water, it is an hour or so less. Another nice flight is three hours Toronto to Montreal, following the North Shore of Lake Ontario and the St Lawrence River for easy VFR navigation.

Looking forward to being back at Redcliffe in February!

Wayout west

To Kati Thanda (Lake Eyre) and Back

by Harpur Michell

In autumn 2022 Philip Arthur mentioned that he and his wife were thinking about flying way out west to see Lake Eyre after the wet summer and asked whether my wife Anne and I would be keen to accompany them. Having had a fabulous time on previous flying trips to Outback Queensland and Mudgee, amongst others, I immediately said we'd be very keen to do more exploring of far flung parts of Australia. Philip had obviously been researching the itinerary for a while already, because it came together very quickly, with lots of interesting places to visit on our stops. In particular Lake Eyre appealed to us. All the rain we'd had was expected to fill it, and it would be a great opportunity to see the country green and full of wildlife.

Having settled on our itinerary, Philip said Luc George and Scott Underwood would join us on our tour, flying in Luc's Piper. So on Friday 10th of June we set off for St George, the first of four legs that day, making for a very full day of flying, and traversing almost the full width of Queensland to reach the far northwest corner of New South Wales. En-route we flew over the 800m long viaduct on the new Toowoomba Second Range Crossing. No speed limit cameras for us!

After 90 minutes we arrived at St George, where we were greeted by Luc and Scott who had overnighted at St George, braving 2-3 degree temperatures overnight. In fact, we all braved a sunny but breezy and very cold bit of refuelling while trying to be sociable! We quickly got on our way, flying for another hour to Cunnamulla for another fuel stop before making a quick hop to Eulo for lunch.

Toowoomba second range crossing viaduct

After disembarking on the red dirt airstrip, we walked into town. Like many outback towns Eulo is but a shadow of its former colourful self with 48 residents and the Eulo Queen Hotel the sole surviving pub.

Isabel Robinson was the 'Eulo Queen' and apparently a lady of some personal beauty (looks like TV's Mrs Brown to me in this photo from 1886). Isabel had a taste for opals and gentlemen, whom she used to entertain in her bedroom. At the time it was reputed that she had the finest collection of opals in the world. She and her husband ran her business and the hotel and acquired two more hotels in town as well as other businesses. Unfortunately, the 1893 financial crash and subsequent failure of the Queensland National Bank severely reduced her wealth.

We had a hamburger lunch at the pub and did a walking tour of "Montville of the Outback" (hard to believe!) discovering the life-size Diprotodon statue (below). Fossils of the Diprotodon have been found in the Eulo area and are displayed in the Eromanga Natural History Museum.

After a visit to the general store, we hopped back into the Cirrus to fly another hour to Tibooburra. The owner of the Eulo Hotel was a pilot with an extensive flying career for the RFDS, and had told us about Carrawinya Lakes with their huge populations of pelicans (some 10-20,000 roosting pairs) so we diverted some 10 minutes to take a look. The lakes were very full of water and picturesque.

Located in the north west corner of NSW, Tibooburra is over 1,200 kilometres from Sydney and Brisbane, and almost 900 kilometres from Adelaide. In early 2021 the pub was almost destroyed by a huge fire and it was still a building site while we were there. Fortunately, they had commissioned new accommodation out the back prior to the fire, and they were able to restart business in the pub as soon as they could put a roof on and clear the rubble. The hotel owner gave us a lift into town and after finding Luc and Scott already in the bar we settled into our rooms. On our return to the bar we found it was Friday night happy hour. The town has 150 residents and with cheap drinks on offer it seemed they were all there! We decided to have a few drinks to work up an appetite before ordering our meals. Big mistake! Well over an hour after placing our orders (and several packets of peanuts and crisps later to keep body and soul together) we got our food. Hunger is the best ingredient!

The Tibooburra Hotel has risen from the ashes

Next morning the nearby café was closed for breakfast (as was the pub), so we set off for the roadhouse and met Luc and Scott returning to the hotel after having their brekky. We admired the memorial to the Afghan camel drivers while working up our appetites. The memorial is made of painted wire mesh, which has a great texture to it.

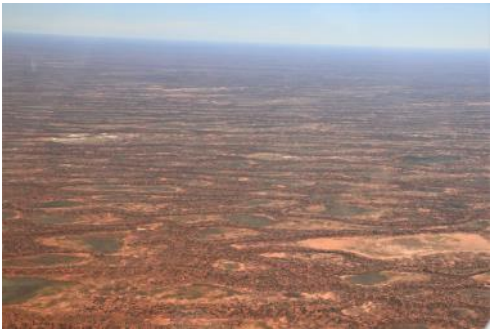
We arrived at the roadhouse just after another foursome who dithered over their order. Eventually we managed to place our order with the rather feeble elderly lady who seemed to run the place and told us that it could take up to an hour for bacon and eggs, so we cut our order down to toast and coffee for four. After half an hour a round of toast and instant coffee was delivered, so we decided against the extra wait for more and went to pay. After some feeble prodding at the till the old lady reckoned it was $32, and Sigi went in with all guns blazing. "$32 for four pieces of toast and four cups of instant coffee! Not on!" Our somewhat intimidated hostess accepted $20 and we hightailed it back to our rooms to wait for our (prearranged) lift to the airfield. After waiting half an hour we discovered the drivers had swapped over and the new one thought they'd taken all the fliers to the airfield already. So about 90 minutes later than planned we arrived at the airfield. Meanwhile Luc and Scott had already departed for Broken Hill, where they would spend the next few days sourcing spare parts for Luc's problem prone Cherokee.

Our next stop was Cameron Corner, the place where the Queensland, South Australia and New South Wales borders abut one another. Needless to say there's not a lot there. As you can see to the right, Anne and Sigi made the most of the "facilities" at the arrivals and departures lounge at the airstrip.

Being such a remote spot, Strine humour was evident in the 'Tri-state' Golf Club where you can hit a ball in three states in one game.

The signposts on the way out of town validate my (English) brother's observation - "Strine is a different language!" We enjoyed a good yarn with Tina in the Cameron Corner Store, partaking of her fudge slice and coffee, while she told us of a recent Covid outbreak nearby, assuring us that the infected parties were all safely isolated. A few days later we heard everyone at Cameron Corner had Covid and when back in Brisbane, Philip discovered he had unfortunately also partaken of some Covid viral particles at this location.

We departed for Marree, admiring how green the Sturt Desert looked. Charles Sturt was a great explorer and the desert was named for him after his third expedition. The first expedition proved that northern New South Wales was not an inland sea, but deepened the mystery of where the western-flowing rivers of New South Wales went. On 7th January 1830 Sturt's party began their second expedition with an eventful voyage down the Murrumbidgee to reach the confluence of the Murrumbidgee and a much larger river, which Sturt named the Murray River. Sturt proceeded down the Murray, until he reached the river's confluence with the Darling, proving that all the western-flowing rivers eventually flowed into the Murray. During his third expedition, the objective of which was to find the 'inland sea', Sturt's health broke down and his surgeon managed the party's return after travelling a total of 3000 miles.



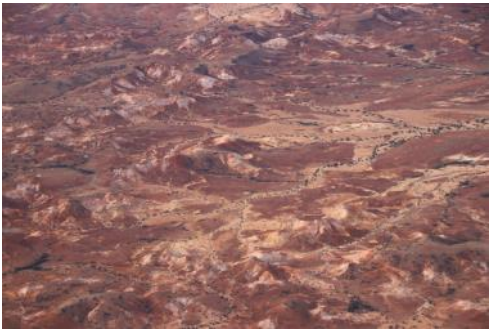
Arriving at Marree we refuelled then hitched a ride into town with a young pilot who was employed by the publican to take passing tourists on joy flights over Lake Eyre. Another hamburger lunch was enjoyed in the sunshine on the verandah of the historic Maree Hotel, overlooking the old Ghan trainline.

Departing Marree, we passed over the 'Marree Man' or 'Sturt's Giant'. It's not certain who created this giant image, but the most likely story is that American forces stationed at Woomera nearby mapped out the site with GPS technology and carved it into the surface using a grader. It was first seen in 1998 and, having faded over the years, locals, with the approval of the Arabana indigenous people, used earth moving machinery in 2016 to restore it to its original glory.

Marree man

Marree pub

A little later we passed over the Anna Creek Painted Hills, a rocky outcrop of large and small hills, that suddenly emerge out of the flat, desert landscape. It is believed that the Painted Hills (photo right, taken mid afternoon) are the leftover effects of 50 million years of climate change. The picture below (from the internet) illustrates in comparison how the colours change especially in the dawn and evening light. Anna Creek Station is the world's largest working cattle station, with annual rainfall of 140mm, and an area of roughly 24,000 square kilometres, which is slightly larger than Israel.



Shortly after, we began our descent into Coober Pedy, our stop for two nights. Coober Pedy (meaning "whitefella's hole in the ground" in the local language) is a small town about halfway between Adelaide and Alice Springs. With a population of around 1,800, it is on the edge of the Stuart Ranges, in a stony, treeless desert (rainfall is 175mm pa). Very little plant life exists in town due to the region's low rainfall, high cost of water, and lack of topsoil. The extreme summer desert temperatures mean that many non-aboriginal residents prefer to live in caves bored into the hillsides, called dugouts. Aboriginals generally do not live underground,

associating it with the dead. The interiors of the dugouts remain at a constant pleasant temperature throughout the year while surface buildings need air conditioning, especially during the summer months, when outside temperatures often exceed 40 C. The relative humidity rarely gets over 20% on these hot days. The town's water supply comes from the Great Artesian Basin.

Back on the ground again we unpacked and, as the sun sank rapidly in the west and the temperature dropped equally rapidly, we attempted to locate our hire car. You see there's no taxis or Ubers in Coober Pedy so you need a hire car to get around. We'd been told the car would be in the airport car park, and the keys in the drop box in the terminal. Well, there was no car in sight and the terminal was locked. Philip rang the Enterprise car hire company and left a brief voice message describing our plight. A call to the resident ARO resulted in us gaining access to the terminal and finding no keys in the drop box. We had no response to our phone calls or texts to Enterprise, so we rang our accommodation provider, the Desert Cave Hotel , who had offered transfers from the airport, to find our car was at the hotel waiting to be washed as it was dirty from the previous hire. The receptionist told us they could pick us up in it in about 30 minutes. That was not what we wanted to be told at 5:30pm as darkness enveloped us and the cold wind picked up. After a fairly firm explanation of the prevailing conditions the hotel agreed to pick us up in their own vehicle pronto, and we'd have our hire car the next morning. Anne and I moved into our underground room, which was at ground level, but dug into the rock. Pitch black and dead quiet at night, it was great for a solid night's sleep.

First sight the next day was of the underground dugouts. We discovered the numerous white and grey pipes protruding from the ground were air vents for the houses below. Next, we came across what can best be described as the best-looking junk yard we've ever seen. The whole place looks like this. Nothing is taken away, as the place is so remote and it is kept in case it can be used for spares or recycled in some way.

We made our way up to The Big Winch 360, a lookout point and café/restaurant over the town, where we stopped for brekky.

The local tourist information centre gave us some advice on which of the many museums, mines and other "places of interest" we should visit. After a moment's deliberation, a spaceship left over from the filming of the 2000 sci-fi film 'Pitch Black' lured us to the 'Opal Cave' where an ex-opal cutter gave us a very interesting guide to mining, selecting and cutting opals. In the 1970's Coober Pedy was the wild west of Australia, with thefts of opals, and incidental murders and gang wars regularly taking place.

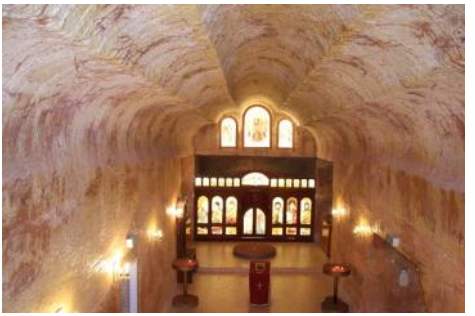
Next was a short drive to the cave dwelling called Crocodile Harry's Underground Nest and Dugout. Crocodile Harry, born Avid von Blumenthal was from Latvia and immigrated to Australia in 1951. Somewhat eccentric, Harry was a crocodile hunter before settling in Coober Pedy. He was a notorious character in town, known for his love of women as well as his bizarre home. The home is decorated with knick knacks and intimate underwear of many of his amorous interests. The home and site were used as a set in many movies such as Pitch Black and Mad Max Beyond Thunderdome.

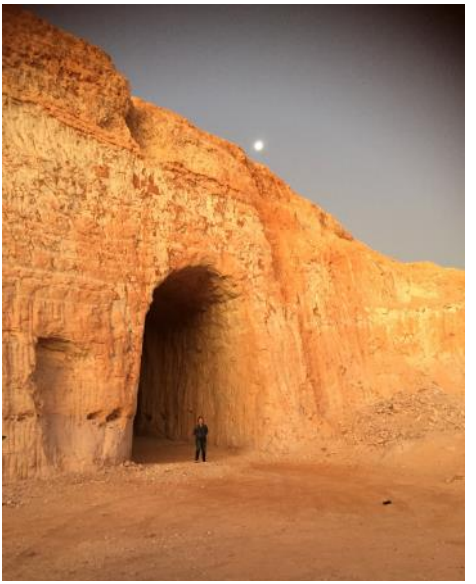
After lunch we joined Aaron Noble from Noble Tours (strongly recommended) as an easy way to be informed about the town and see things efficiently. His tour started with a visit to Umoona Opal Mine and Museum, featuring some Sturt desert peas in the front 'garden'. The visit included a walk through the mine, examining seams of opal-bearing rock and mining conditions, and a museum with displays ranging from dinosaur era fossils to modern day mining equipment and a modern underground home.

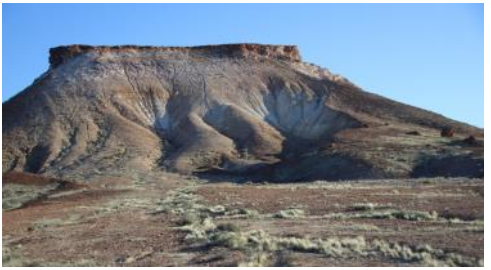
Then we were off to visit the (underground) Serbian Orthodox Church, one of several underground churches in town. The ceiling shape results from several parallel bores being sunk into the rock forming the arched roof. The rock rises out of the flat ground on the outside, so it's effectively dug out of the hillside.

Then it was back into the 4WD bus to view the Dingo Fence - well part of it - that extends 5,614 km from the Darling Downs to west of the Eyre peninsula on the cliffs of the Nullarbor Plain. It was built during the 1880s and finished in 1885. Although it doesn't look it, the fence is 1.8m high to stop dingos jumping it. We then travelled over the Moon Plains (ie moonscape), to 'The Breakaways', a range of colourful low flat topped hills (mesas) which were part of the Stuart Range until erosion 'broke' them away. We spent quite a long-time sipping champagne there, err no, watching the changing colours as the sun went down in the late afternoon. Apparently, the colour changes at sunrise are even more spectacular than those late in the day.

Having regained our strength Aaron took us to his own mine nearby. The rights to mine at Coober Pedy are not hugely expensive, however equipment and operator hire together with diesel fuel rapidly ramp up the costs. As we drove back to town and with the full moon rising in the east, darkness fell, yielding a spectacular sunset.







In the morning we decided to visit Faye's Underground Home and opal mine before our departure from Coober Pedy. Faye Naylor first arrived in town about sixty years ago and, finding a population of about 20 men and no women, thought (according to our guide) "there's money to be made here". She set up a kitchen and provided food and personal services to the miners. After doing well in her business ventures she invited two female friends from Melbourne to join her. On their arrival they found Faye only had one bedroom in the dugout, so Faye presented them with picks and shovels to dig their own rooms (no doors!). Faye also mined her property (see the twin tunnels to the right) and, like many other miners, she was fairly secretive about her findings. However she was gradually able to retire from her other activities and held many parties and social gatherings at her underground home. She retired a wealthy lady and bought a hotel in Queensland.

After a quick bite to eat (no roadhouse old dears here) we dropped off the car at the airport and caught a final view of The Breakaways from 2,500 feet on our departure from Coober Pedy for William Creek. On the way we passed over Lake Cadibarrawirracanna (the second longest place name in Australia) and Anna Creek Homestead on our way.

After a quick lunch at the William Creek pub we took to the skies once again for a short flight over the southern part of Lake Eyre.

While it is 330 km from Woomera, William Creek was in rocket range in the late 1950's and 60's. The Skylark rockets used could reach an altitude of 770 km and were mainly used for scientific applications. The pub has a number of bits of rocket debris souvenired and displayed.

With the Oodnadatta Track (an old Aboriginal track) running right through the middle of it, William Creek is visited by numerous road trains. One pulled into town as we headed to the pub for dinner. We went to the hotel hungry, and found the burgers were definite two handed jobbee's - seriously excellent! Shame on you McDonalds!

The walls of the hotel are interesting, with much of the timber having been repurposed from the old Ghan railway when the line was relocated. There are photos of historic events, notably Sir Donald Campbell and his Bluebird, that broke the land speed record in 1964 at 403 mph (670 km/h) on the dry salt flats of Lake Eyre. Campbell was lucky to avoid an accident as the razor-sharp salt shredded the tyres and left rubber over the seven miles of track

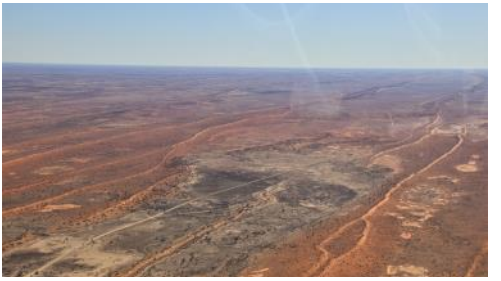
The next day it was time to head back to Queensland. We were off to Birdsville via our own joy flight crossing of Lake Eyre. Our ground crew (right) showed Qantas how it should be done despite the poor old trolley having seen better days. Lake Eyre is 144km long and 77km wide, and at 15 metres below sea level, it is the lowest point in Australia. After all the rain we'd had in Queensland we had expected to see a lot more water in the lake, however the lake has a catchment area from three states and the Northern Territory, not all of which had the soaking Queensland got.

The picture to the right shows how flat the land is, resulting in slow movement of water down the various rivers and flooding as the water spreads out on its way to the lake.

Reaching the northern shore of the lake, we flew along the eastern edge of the Simpson Desert on our way to Birdsville. The Simpson Desert is one of the world's largest deserts of longitudinal dunes. It contains 1,140 parallel sand dunes arranged running south-east to north-west in a closely packed array, with some dunes 200 km long. The dunes are red from oxidised iron particles in the sand and can reach 90 metres in height. Naturally if it is a 'big' or high object someone has to climb it and not only on foot. Many 4WD drivers get bogged in the process. On our descent into Birdsville we diverted slightly to fly over "Big Red" (shown in the picture on the right), the 40 metre high dune where the three-day Big Red Bash music festival is held each year.

Flying into Birdsville it was immediately apparent that the town was cut off to the east and south by the Diamantina River (below right) that had risen nearly seven metres, forcing traffic to travel north. There would have been quite a nice air charter business servicing people who had been held up and needed to get back for medical and other reasons.

Fortunately, the airstrip was dry, and it was not a big walk to the Birdsville Pub (in the background below). We settled into our comfortable rooms at the pub and had lunch in their beer garden before embarking on a walking tour of Birdsville, which didn't take too long.



As we walked past the school the kids flooded out (all three of them) followed by the teacher. We saw the Birdsville sign proudly proclaiming a population of "115 ± 7000" - variations courtesy of the annual races and Big Red Bash. We also saw the road closure sign and the flooded river.

We passed the old Royal Hotel, built around 1883, later known as the Australian Inland Mission Hospital, then AIM Hostel and then Birdsville Nursing Home. While it was the AIM hostel, the Rev Dr John Flynn experimented with transmitting/receiving radio signals as part of his embryonic Flying Doctor and Air Ambulance services. Now a sad ruin, there are plans mooted to restore it.

Next up was a bus trip with Big Red Tours to enjoy drinks and nibbles while watching the sunset from the top of Big Red, a 35km drive west of Birdsville. Fortunately, our 4WD coach managed the climb without skipping a beat. As the crates of refreshments were emptied, we watched the moon rise and the sun sink below the horizon, leaving a truly spectacular palette of colours in the sky.

The not so Royal Hotel

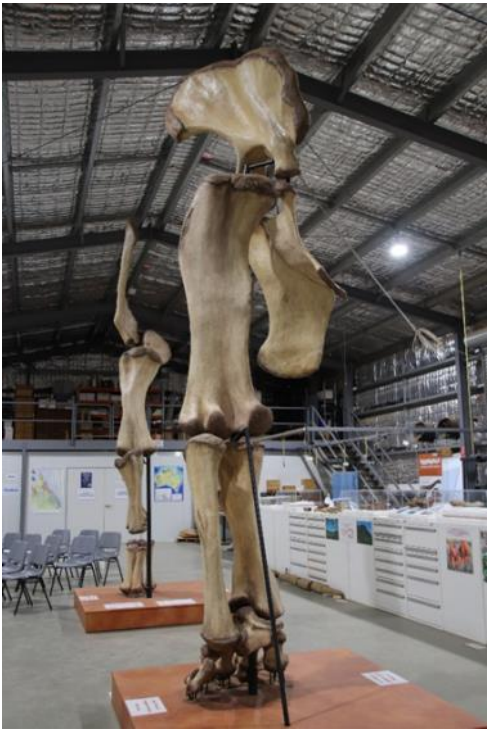
On top of Big Red

Next morning after breakfast at the Birdsville Bakery we boarded MSF and took off again, this time heading to Betoota, the nominal home of the fabled Betoota Advocate (satirical on-line journal), and that intrepid bastion of the outback, the Betoota Hotel (photo right). As the t-shirt says "Where's Birdsville? About 170 km from Betoota". Betoota has a population of 2 or 3 - the pub staff. After Simon Remienko, the previous publican for 44 years, passed away in 2004 the pub fell derelict, until purchased in 2017 by Robbo Haken who has made it his labour of love to restore the old place. He has a fine line in restored vehicles including a superbly restored 1927 Model T Ford, that he used as our taxi to the airstrip on departure, an Allis-Chalmers tractor, trailer and plough. At the back of the hotel there is an old yellow Leyland double decker bus that Robbo's mother told us was the mobile knocking shop driven from Melbourne. As we left Betoota, Robbo and his mate returned to preparing the pitch for the annual cricket match that was due to be held the next day. The 'local' teams fly in from their properties for the match.

Our next stop was at the Burke and Wills Dig Tree on the banks of Cooper's Creek. The area was becoming remarkably green from the rainfall earlier in the year. Burke and Wills led the Victorian Exploring Expedition in 1860 which had vague objectives, but was ultimately successful in its bid to beat South Australia's John McDouall Stuart to complete the first north-south crossing of the continent. At Coopers Creek, Burke and Wills left a depot of supplies and men to wait three months for their return before they proceeded to the Gulf of Carpentaria. The men waited four months before leaving, having buried food supplies with the word 'DIG' and location emblazoned on a nearby tree, without any expectation of the party's return. Ironically Burke and Wills arrived with two exhausted camels at the abandoned depot later that same day. From the pretty but rather sombre site we hopped back into the Cirrus and flew to nearby Innamincka, our next overnight stop and our chance to meet up again with Luc and Scott in a different Piper. They had managed to hire it in Broken Hill so they could meet up with us as the parts for Luc's plane still hadn't arrived. C'est la vie!

Early the next day we all took off to the east. Luc and Scott stopped at the Dig Tree to see the Burke and Wills story themselves, while we flew on for lunch at the Noccundra Hotel, a stopping point on the road from Innamincka to Thargomindah. The hotel's address is 6 Wilson St, however it is the sole dwelling in Noccundra. Today it (and the community hall) is all that is left of Noccundra, which once consisted of 42 half acre blocks and was an important staging post for Cobb and Co coaches and camel trains. Luc and Scott joined us for lunch then it was back into the planes bound for the Eromanga Natural History Museum. One of the museum staff picked us up from the airstrip and drove us to the museum accommodation which was excellent, and a short walk from the museum. Well appointed, new and spacious rooms were complemented with food provided for use on the barbeque and a continental breakfast.

We had a great guided tour of the museum located not far from where fossils of 'Cooper', a Titanosaur (a long-necked Sauropod) dating back 90-95 million years, were discovered. The first fossil was found was by a fourteen-year-old boy named Sandy Mackenzie on his parent's property, who thought that the funny porous looking stone that he found 'was strange'. Two years after Sandy's discovery, his mother, Robyn, came across the first bone of the new species. A replica of Cooper's legs (right) is the main display, though more is to come. Over 30 years' work lies ahead of the archeological team cleaning up bones for examination and display.



A second dinosaur ('Zac') was found by another 14 year-old boy. Although Zac, another species of titanosaur, is smaller than Cooper, his skeleton is more complete, though not on display yet Following afternoon tea we put on our Indiana Jones hats and ventured out fossicking for alcohol for our evening barbecue. One of the museum crew drove us into town where we stocked up on refreshments at the Royal Hotel (below).

That evening we were treated to a fabulous sunset with ever changing colours and cloud formations. The barbecue feast provided by the museum with an appropriately balanced selection of beverages enjoyed around the firepit was a fantastic finale for our catch up with Luc and Scott, who had to head back to Broken Hill the next day to return the borrowed aircraft.

After a very good night's sleep, we were dropped back at the airstrip where we waved farewell to Luc and Scott as they departed to the south. Soon we were in the air east of Eromanga heading for a quick lunch stop at Quilpie. We had a walk around town, and examined the boulder opal altar at the Catholic church. The story goes that the church wished to commission the local stonemason to build an altar similar to a wall he had created. After much searching to find suitable opals, the mason decided it was easier to bequest the wall he had already made. Job done! After a short search we found the Lyn Barnes Art Gallery which unfortunately was closed, so begs another trip to Quilpie, the road train capital of Queensland (many trucking stations in town). On our return to the airport we visited the Amy Johnson display that commemorates her short and unintended visit to the town in 1930.

We departed Quilpie for Charleville, where we were waitlisted for star gazing at the Cosmos Centre. On arrival at Charleville, we took advantage of the local aeroclub's courtesy car for visitors and drove into town to check into the Rocks Motel where we had stayed once before. Then it was off to Harry Corones' stately hotel for a drink. After a meal at the Rocks restaurant, we headed off to the Cosmos Centre (on right) in the dark for their presentation of the night sky, using ultra high-powered telescopes. Fortunately we were ultra-wrapped up, because the temperature fell rapidly and we availed ourselves of their ultra-thick blankets, otherwise we'd have been shivering so much we couldn't have seen the stars.

The next day was Saturday. We dropped off the loan car at the airport and departed on our trip home, making a lunch stop at Surat,

where we also dropped into the Cobb and Co Changing Station. After lunch we took to the air again and, after passing the Tarong Power Station in the distance and Lake Wivenhoe below us we saw the Glasshouse Mountains looking very moody in the late afternoon light. Finally, we made our descent onto home turf having had a great adventure out in the Wild West of Australia and seeing the Outback first hand. Our trip took eight days in total. Just driving the distance would have taken eight days without any time to stop and visit all the interesting places we did so it really impressed me how fabulous it is to travel around this country by light aircraft. It allows us the great opportunity to see parts of Australia we never otherwise would.

All fired up

by Jim Davis

What do you do if your aircraft catches fire? After switching off the fuel most of us get a bit hazy about the next step. Jim Davis tackles the problem square on and comes up with some interesting angles on this scary subject.

The other day I asked a Grade 1 instructor to lend me the fire-extinguisher from his 172 so I could photograph it. It took him a full two minutes to unclip it from its mounting under the seat. And he was standing next to it - not flying the aircraft and groping for it one-handedly under his butt.

A hundred and twenty seconds is a hell of a long time when you are on fire.

The truth is that we are simply not prepared for fires. We don't practise them and we don't give them serious thought. So let's do it now.

First, there are a whole bunch of different things that can burn in an aircraft. And you usually have to find out what's burning before you can put it out. Let me tell you about my first in-flight fire - you will never guess what was burning.

It's New Year's day 1966 in George, South Africa. A large, angry man fills the doorframe of my little office and blocks my view of the Outinequa mountains.

He is not strong on pleasantries. "Are you the only instructor around here?" He is obviously hoping for something better. I confirm that I am indeed the only one and I can see the information gives him no pleasure.

"Well I want to do a conversion on that aeroplane." He points at a sad looking 180 Comanche in an open-fronted hangar.

Despite the humble state of my bank balance I decide I don't want to fly with this man. "Sorry, I can't help you. That's not my aeroplane."

"Well whose is it? Just get hold of the owner and tell him I want to fly it."

"It belongs to Dr. Steyn, and he doesn't hire it out."

"Get him on the phone, man. Let me speak to him."

I dial the number and hand the phone to the odious intruder.

"Steyn, this is Advocate Flash Finnigan." He says his name as if we should recognise it - like Jack the Ripper.

He is barking at the mild-mannered Dr Steyn. "… well I'll get it insured. Goodbye". He slams down the phone and turns to me.

"Give me your phone book." Moments later he is shouting instructions at some cowering insurance broker. And not long after that we're walking across the concrete towards the dejected Charlie India Zulu, with her fading blue and white paint.

We preflight the aircraft inside the hangar because I suspect I will quickly find a reason for not flying it.

Although the Comanche is in a miserable state of neglect and obviously hasn't flown recently I can find no serious fault. Even peering into the gloom of the engine compartment reveals nothing obvious. It has hinge-open cowls like the older Cherokees.

I pull Charlie India Zulu out of the hangar alone while his highness is busy with some more important task. We climb aboard and strap ourselves into the leather seats. A Comanche feels like a sports car. The long bonnet and the gracefully tapered wings tell you that this is a thoroughbred. I normally love flying them, but today I am hoping for a flat battery.

No such luck, the engine springs into life on the third compression and settles into a comfortable rumble and all the needles move into their proper places. I can only hope for a mag-drop at the threshold, but again the bleeding barrister has things his own way.

I don't like the man, and I don't trust the aeroplane. I tell Flash that we will do the entire conversion within gliding distance of the field.

"What's wrong with you, man? Are you scared?"

Shortly after this the wheels leave the grass and we move into that other world. My contempt for this low-life lawyer evaporates.

It is a magic morning - silky smooth and not a cloud to be seen. He gets the gear and flaps up and pulls the power back to 25/25. At my bidding he turns crosswind and then downwind, but we keep climbing.

A calm comes over me as it often does when the troubles of the world recede below. I am relaxed as I look out along the wing and admire its sleekness.

Gradually I notice thin wisps of cloud fleeting across the wing. For a moment I think they are actual cloud, but this is ridiculous because the sky is completely clear. Then I think it must be those vapour trails that the prop tips sometimes flick behind them on dewy mornings. But the prop area is as clear as the rest of the sky. I look again at the wing. The clouds are right in close to the fuselage and getting thicker. I look forward, not at the prop this time but down towards the bottom of the engine cowl.

I go cold. Smoke is billowing out of the engine and streaking away in the slipstream.

I grab the controls and shout "I've got her!" At the same time I yank the throttle back and hurl the aircraft into a tight descending left turn towards the cross runway chucking out the gear and flaps as we go. As we touch down I hit off the master and fuel. We slither to a halt and I am out and off the back of the wing before the astonished attorney knows what has hit him.

Through the open door I can see him unbuckling his lap strap and looking round the cockpit, He seems to have all the time in the world. "What on earth are you doing man?" he calls. In the heat of the moment I have forgotten to explain my actions to him.

"You are on fire." I shout somewhat belatedly.

My words couldn't have had a greater impact. You know how you can't do anything right when you are in a hurry? He shoots out, crashes his head on the doorframe, staggers onto the cat-walk, misses his step, falls off the back of the wing and hits his head again on the tailplane.

I am delighted, but there is no time for celebrations. Huge volumes of smoke billow from the engine. I sprint to the clubhouse, grab an extinguisher and am soon squirting white powder on the flames that flicker in the bottom of the cowl.

The cause of the problem is soon evident. A huge rats' nest has been set alight by the hot exhaust. I didn't see it during the pre-flight because it was too dark in the hangar. I now use a Maglite for preflights - like those CSI guys.

I clear the debris of bits of rag and twigs out of the cowl to find that there is no damage - not even the paint is blistered. We are flying again within an hour.

The point of the story is that each fire is different. Which means you can't deal with it until you find where it is and what's burning.

Aircraft fires fall into five types:

On the ground:

1. An engine fire while you're starting the engine

In the air:

2. A fuel fire
3. An oil fire
4. A cabin fire
5. An electrical fire

We'll look at them one at a time.

ON THE GROUND

If the engine catches fire during start-up, you've probably flooded it.

Continue trying to start the engine, and switch the fuel off.

By doing this you stand a good chance of sucking the flames into the engine, where they will do no harm. If the engine starts let it run until the fuel in the lines is exhausted and the engine dies on its own.

If this doesn't work, get out and use a fire-extinguisher. Although it is tempting to squirt into the air intakes behind the prop, this doesn't get the juice on to the fire, which is almost certain to be under the engine. Get down on your haunches behind the engine and let loose upwards and forwards through the space where the cooling air comes out.

IN THE AIR

Three things that scream out for your immediate attention - you need to:

1. Kill the fire
2. Ventilate the cabin
3. Land as soon as you can

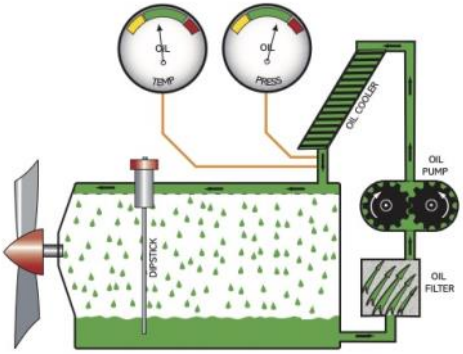
Killing a fuel fire

This is very straight-forward. There are three things to do: switch off the fuel, put the mixture fully rich, and use full power. Switching the fuel off will stop any more getting through the firewall to the engine compartment. And using full rich and full power will make the engine use whatever fuel is in the pipes and the carb, rather than have it feed the fire.

Killing an oil fire

Oil fires make plenty of smoke. If there's a lot of smoke coming out of the engine it is probably an oil fire. But it might not be a fire at all - it could just be oil leaking on to a hot exhaust. You can only give it your best guess at the time.

Have a look at the diagram. The oil lives in the sump which is an enclosed area at the bottom of the engine. It is sucked up through the filter and



the oil pump, which are pretty much enclosed. However after the pump, high pressure oil is fed - often through external pipes - to the oil cooler and sometimes to the CSU (constant speed unit) for the prop.

If any of these external pipes come loose or spring a leak it is quite likely that the spray of oil being pumped out will catch fire - usually ignited by the exhaust.

Now we have a nasty situation - a couple of gallons of oil being steadily pumped out to feed the fire. There is only one way to put this fire out - stop feeding it. And there is only one way to do that - stop the oil pump. As long as the prop is turning, the pump is pumping.

We are now faced with making an informed decision. Is it worth stopping the prop, and probably putting out the fire, at the expense of a slower descent? Let me explain.

If you have never stopped a prop, here is what you have to do. Kill the engine in the normal way, with the mixture and then the mags. Or let it die of starvation by shutting off the fuel. Once you have done that you may be surprised to see that the prop keeps turning – probably at a bit below 1000 rpm. It is windmilling - caused by your airspeed.

To stop the prop you have to slow down – generally to somewhere around stall speed. The answer is to apply full flap and get your airspeed as slow as you safely can. It takes a little while to stop turning - but it will eventually. And when this happens the fire should go out pretty quickly.

There is a potential problem however. Although the prop is unlikely to start turning again at normal glide speed, in your hurry to get down you may allow the airspeed to increase to the extent that it does start turning once more. Of course if the fire has gone out, it probably won't ignite this time - it takes a lot of heat to torch oil, and the exhaust will have cooled off within seconds of the engine stopping.

Depending on circumstances, I would be inclined to leave on full flap to prevent the airspeed running away. But obviously you have to juggle this rapid descent with your other priority – getting to a safe landing spot.

Finally, many engine fires can be avoided by a really good pre-flight. View all oil leaks as potentially dangerous.

Killing a cabin fire

Cabin fires used to be caused by smokers but are now very rare. You may be able to smother the flames with a jacket (more about jackets in a moment) but it won't stop the smouldering. For this you need water, or soft drink or something. Carry a 4 litre plastic bottle of water behind the seats - it will douse a smoldering cabin fire, and it can be very useful if you're forced down in the bush.

Also get yourself a little Halotron 1 extinguisher. These replace the old BCF ones which are now banned, because they do bad things to the ozone layer.

Halotron 1 extinguishers are approved for use in aircraft cabins. They squirt out a foamy, non-toxic liquid that evaporates quickly and leaves no residue. They are great for electrical fires and can even be used on computers without damaging them.

Don't use anything else in the cabin. Powder extinguishers can be toxic and make so much dust you can't see a thing - not even the instruments.

So that's a cabin fire: a jacket for flames, then water, and then Halotron 1 if you need it.

And now a serious warning.

Many popular 'pilot' jackets are made of extremely flammable synthetic material. They burn like hell and melt into your flesh. The same goes for many pilot shirts. Pure cotton or wool are the only sensible answer for flying clothing.

Finally, when you deal with a cabin fire you will be using your hands. If you have ever seen burned hands, you will rush out now and buy a pair of leather gloves. Keep them in your nav-bag for ever more.

Killing an electrical fire

You identify this by the characteristic acrid smell of melting and burning insulation. As 90% of the aircraft's wiring is in the cabin, you will probably see where the trouble is, by the smoke.

An electrical fire is often caused by a short, and it can usually be stopped in its tracks simply by switching off the master - provided you catch it in its early stages. If this happens keep the master off except in dire emergency. The fire is almost certain to start again if you switch it back on.

It is vital to put the master off at the first whiff of trouble. If you leave it too long, switching off won't help.

If you absolutely have to use some electrical circuit - perhaps a nav radio if you are in IMC - then switch everything else off before putting the master on again. If you have those nice old-fashioned circuit breakers - then pull them all out except the one that you need.

Once you have found the bit that's burning - probably behind the panel - then give it a good squirt with your Halotron 1 extinguisher - it can't do any harm.

Electrical fires have occasionally been caused by the starter Bendix failing to disengage after start up. If this happens you should hear the engine making a strange grinding noise. It is worth lifting an earphone to check immediately after start-up.

If it does cause a fire it will happen within minutes so you shouldn't have gone too far from the airfield.

Getting safely on the ground

If you are on fire you will want to get on the ground with indecent haste. The longer you are in the air the more chance there is of being fumigated, burning or suffering a structural failure.

Know the handbook procedure for maximum rate of descent so that this is an option if needed. Getting down quickly could be more important than using the best field. It may help to sideslip if this blows the flames away from the cabin.

Smoke removal from the cabin

If the fire is in the engine compartment, turn the cabin-heat and demisters off. There is only one big hole in the firewall and this is the one that brings in hot air for the cabin and windscreen.

Set the cabin vents as best you can. If your handbook doesn't specify how the vents should be used, you will have to experiment. Also try opening the storm-window and the door (depending on type - some aircraft behave badly with the door open). You want to get a flow of fresh air blowing through the cabin.

In a Cherokee or Comanche you can use your hand through the storm window to scoop fresh air on to your face.

SUMMARY

So that's it. In the cabin you want water, an extinguisher, leather gloves and cotton clothing. In your head you want systems knowledge, and a plan.

About the author: Jim Davis has a passion for instructing. He has been training civil and military pilots for over 50 years. That includes 15,000 hand-flown hours, of which the majority were instructing. He also has a passion for writing and has columns in flying magazines on three continents and is the author of the best-selling training manual "PPL" as well as the very popular "Flight Tests" booklet (see the book review earlier in this edition of AirChat). You can find him at www.jimdavis.com.au.

Another electric aircraft takes off

After years of on-the-ground development, Eviation's all-electric Alice aeroplane quietly took to the air in Washington state on September 27th 2022 for its first test flight.

Test pilot Steve Crane guided the nine-passenger aircraft, powered by two 640kW electric motors, through its takeoff from Grant County International Airport in Moses Lake, a facility in eastern Washington's high desert that's often used for testing innovations in aviation.

When the motors revved up, they sounded like electric grass trimmers. And when the plane flew overhead, the noise was more like a hum than a roar.

Alice flew for eight minutes and reached a maximum altitude of 3,500 feet before landing safely back at the airport.

So how was the ride? "It was wonderful," Crane said. "It handled just like we thought it would. Very responsive, very quick to the throttle, and it came on in for a wonderful landing. I couldn't be happier."

Crane explained that the relatively short flight was intended to be the first in a series of "baby steps" for the test program.

The Alice aircraft - whose name was inspired by the book "Alice in Wonderland" - will come in different variants for commuter, cargo and executive flights. Eviation CEO Gregory Davis said the initial goal is to build a plane with a maximum range of 200 to 300 nautical miles. According to Eviation's stats, Alice's maximum useful load would be 2,500 to 2,600 pounds, and its maximum operating speed would be 260 knots.

Davis acknowledged that the design specifications and capabilities of the production version of the plane may be something of a moving target, due to Eviation's dependence on improvements in battery technology. "It's going to be carbon fibre, it's going to be fly-by-wire, it's going to be electric - so in that respect, it's the same plane," Davis said. "As far as the actual design of the aircraft, I think everything's going to be evolved."

Eviation's majority owner is the Clermont Group, a privately held conglomerate based in Singapore. The plane's electric propulsion system is provided by MagniX, a Clermont corporate cousin that has its headquarters in Everett, Washington. Eviation's partner in the flight test program is AeroTEC, which operates the Moses Lake Flight Test Center. MagniX and AeroTEC have been working together since 2020 to conduct flight tests for a Cessna Grand Caravan airplane that was converted to use MagniX's electric motors.

Sourced from geekwire.com

A weekend in Bundy

by Jaclyn Hope

The much-anticipated Bundaberg flyaway was only confirmed three days prior due to the poor weather conditions earlier that week, but that only added to the excitement for the group who attended the weekend away!

RAC's Vice President, Chief Weekend Away Organiser and my wonderful husband, Sam Keenan, along with Club Secretary Paul Smeath, arranged the agenda for the weekend … only for Sam to then book in his CPL practical exam on the Saturday morning of the weekend away and so sent me along with Ron and Christine Ennis in FRF to do his job for him. Being the dutiful (new) wife that I am, I did this gladly.

When Sam said to me that I had to be at Ron's hangar at 8.45am, he failed to mention that it was 8.45am SHARP, and when Ron was calling me at 8.46am to see where I was (two minutes away) I realised that some people take the 'wheels up' time on the agenda quite seriously.

I assume at this point in the article I should use some sort of technical flying jargon to comment on the flying conditions, flight time, radio frequency, air traffic control etc … but I actually don't really know anything about aviation aside from the fact that I like telling my friends and work colleagues that "my husband is a pilot and has his own plane". So, I'll just say that the journey to Bundaberg was smooth and uneventful. Given Philip Arthur and I did a deal that if I wrote this article, he wouldn't change any of its contents, if you want more details about the flying conditions, flight time etc … you'll need to ask one of the pilots who attended the trip. I can confirm that Ron is an excellent pilot (his landings may be slightly better than my husband's), and that Christine is an excellent hostie and even provided light, in-flight refreshments – dry biscuits and bottled water (it's the healthiest food and liquid I've ever seen Ron consume).

Macadamias Australia

For the readers who haven't been to Bundaberg airport before - there's a lot that goes on there. Big planes, small planes, helicopters, some planes in hangars, some not … slightly bigger than Redcliffe airfield, but not as big as JFK.

We made our way to the taxi rank at Bundaberg airport to head to Macadamias Australia's Orchard Café for lunch and nut tasting experience. My understanding is that Paul Smeath (ROC) was responsible for organizing the transport from the airport to lunch…

After a one hour plus wait on a 32 degree / 90% humidity day - and having learnt from a few locals that there was a Jimmy Barnes concert on, which is why it took so long to get a taxi, we were on our way (one group were actually offered a lift by a friendly local - how good is country hospitality?) By this stage, everyone was very much looking forward to a wine and coffee! Anyway - it made me being two minutes late to Ron's hangar earlier that day seem quite insignificant in the whole scheme of things.

On arrival at The Orchard Café we were treated to a beautiful, long-table lunch, which was set amongst the macadamia trees. We also had the opportunity to sample the different flavoured macadamia nuts which are made on site. Flying must be hungry business - because Ron sampled all the macadamias, had lunch and two desserts.

During lunch, Mike Cahill (MSF) told me that he was able to monitor the flight path Sam had taken for his CPL test. Mike said Sam had only been in the air for 20 minutes and then turned around. At this point, I considered asking Ron and Christine if I could move in with them, as I knew things would be tense at home if the CPL exam didn't go well. Turns out Mike was joking … good one Mike!

Mon Repos

Hinkler Hall of Aviation

We shortly got word from Sam that he did, in fact, pass his CPL!! Sam and his girls jumped in BHN shortly after and joined us all for dinner which was a short walk from our accommodation at the Burnett Riverside Hotel, at Rowers on The River (where I had one glass of wine too many and agreed to write this article).

The next morning, we attended the Hinkler Hall of Aviation, an air museum, which is located within Bundaberg's Botanic Gardens precinct, and celebrates the achievements of Australia's pioneer solo aviator, Bert Hinkler. This place is seriously impressive, and I'd highly recommend it to anyone - even those who may not have much of an interest in aviation. The museum included glide and flight simulators, a movie theatrette with a short film on Bert Hinkler's life, display aircraft and interactive activities. Next to the museum is Bert Hinkler's relocated English home, "Mon Repos" - a small, quaint cottage which visitors can walk through and get a feel for how Bert Hinkler lived in the 1920s. We finished our visit with a quick bite to eat on site at Café 1928, and then made our way back to the Bundaberg Airport in two party buses with disco lights that Paul Smeath had managed to organise after the logistics disaster the day prior.

Prior to flying home, we were fortunate enough to be hosted by Queensland Fire and Emergency Services (QFES) - Rural Operations who have a base at Bundaberg airport. QFES Rural Operations provide fire management for rural and semi-rural communities across most of Queensland. QFES kindly provided us a tour of the facility and the various planes used for fire management and emergency services. They also gave us a free hat! Thanks to Paul Smeath for organising the QFES tour with his firefighting brethren.

At the conclusion of the tour, we departed Bundaberg and headed back to Brisbane, which took about 20 minutes longer than it should have due to a number of us being put in a holding pattern to avoid "meat bombs" (sky divers) - Mark Roberts-Thompson's (NDP) words, not mine. Overall, however, I think everyone would agree that it was a highly enjoyable weekend.

Inspecting the Q400 fire bomber aircraft

The view north from Double Island Point

The ins and outs of ADS-B

by Shelley Ross

We all know it's extremely difficult to spot other light aircraft in the sky until they are really closeby. Often it's only after hearing a radio call and looking intently in the direction where the other aircraft should be that it's possible to identify them. Anything that makes it easier to see and avoid other traffic and increase our situational awareness must therefore be a good thing, right? ADS-B (Automatic Dependent Surveillance-Broadcast) is a relatively recent innovation that has been mandatory on IFR aircraft for a few years now. Shelley Ross says the safety and operational benefits of ADS-B technology really make it a "must have" for any category of aircraft. There are enormous safety benefits of using ADS-B technology to help us to see and be seen by other aircraft and ATC.

"FlyDoc25, traffic is C182 ABC, in your 2 o'clock, four miles, six thousand feet, also inbound Tennant Creek, estimate zero five."

Well, I'm being seen and talked about - how nice is that to hear! I can now respond to Brisbane Centre (and consequently, to FlyDoc25) with my current position, height and intentions. So much for thinking I was out here all alone.

I've learnt so much about ADS-B in the past week that I didn't know I even wanted to know, that I could write 10 pages on the rules, carriage requirements, options, equipment choices and caveats on ADS-B, but I'd lose you all by the third paragraph and you'd be begging me to give it a rest and take you outback instead.

So, while we'll touch on the technology here, I urge you to go seek out CASA's excellent Advisory Circular AC 91-23. There lie the answers to all those questions brewing in your head, particularly if you're sitting on the fence as an aircraft owner wondering, "Is ADS-B worth it or not?"

Can I just say that routine ADS-B users will shout from the rooftops at you to get off that fence. It's that good.

With the huge increase in coverage that ADS-B has offered beyond traditional radar coverage, particularly in remote parts of central Australia, this relatively new technology has won a legion of fans. Initially mandated for IFR operations only, a growing number of VFR pilots are electing to have the technology added to their kit, acknowledging that the enormous safety benefits of being seen by other aircraft and ATC far outweigh any cost considerations, especially when you consider the government rebate that's currently on offer.

How does ADS-B work?

Once properly installed, configured and activated, ADS-B OUT transmits (twice a second) an aircraft's ID, position, altitude, velocity and rate of descent or climb, to ground stations without any external command or actions.

The system depends on equipment, including GPS, onboard an aircraft for this information. The data is transmitted to an ADS-B ground station and then via a communications link to the air traffic control centre. The transmissions are also picked up by other aircraft which have ADS-B IN capability, alerting their pilots to any potential risk of conflict.

Which equipment do I buy?

ADS-B expert Andrew Andersen, General Aviation Advisory Network chair, veteran IFR pilot and aircraft owner says: "What you buy and have installed is dependent on what type of flying you do."

"First let's talk about how it works if I don't want to have certified equipment," Andersen says. "There are legal issues with installing a transponder that isn't certified, but it is legal to utilise a low-cost ADS-B device called an electronic conspicuity (EC) device. Among several non-certified choices, one EC device we hear talked about is the SkyEcho2."

Sky Echo 2

"You can use an EC device in a non-certified aircraft, and the EC device itself is not certified. That sends ADS-B info with a message contained inside it [a flag] that says it is coming from an uncertified transmitter. It is not as trustworthy as the information coming from a fully aviation certified transmitter, so this information is not used by ATC to provide separation."

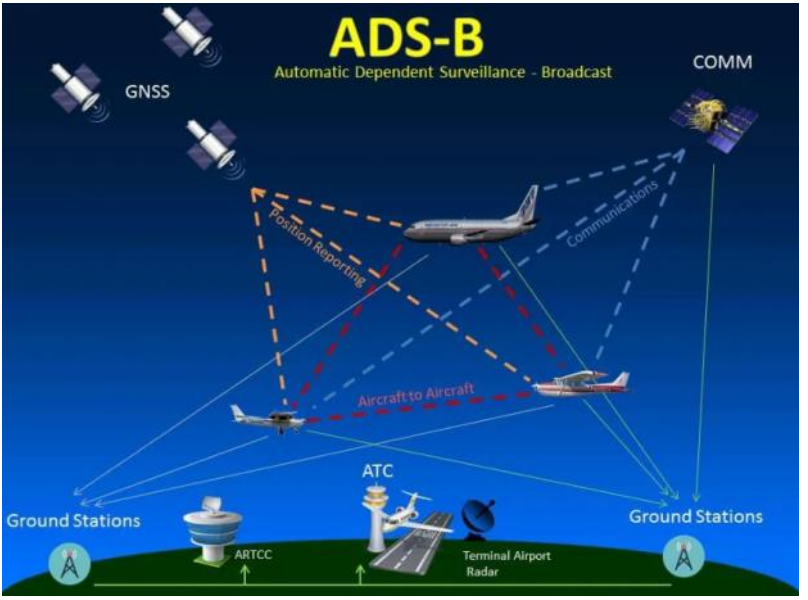
However such a device can alert ATC and other pilots nearby to your presence.

If you are considering installing certified ADS-B in anything, whether it be recreational, experimental, RAAus or GA, and you only plan to fly VFR, the first place to go is a reputable avionics LAME who can advise you on what you need and can then ideally both sell and install the equipment for you.

"ADS-B transmissions are sent through the aircraft's Mode S transponder. Nearly all Mode S transponders now on the GA market can transmit ADS-B. Some of them can also incorporate inbuilt GPS. And those units are effectively self-contained, so you buy a GTX335 or GTX345, say, from Garmin, with inbuilt GPS."

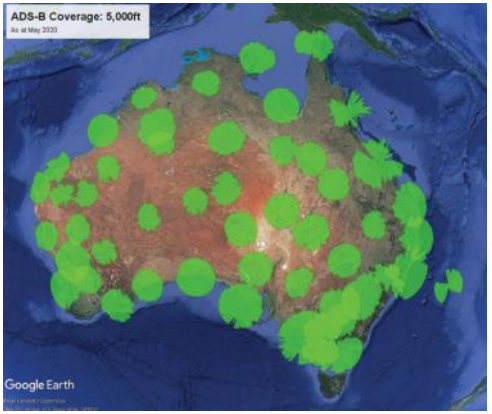
"The avionics guy installs it in the aircraft and it has a panel on the front like every other transponder does, but it uses its own GPS to determine the position of your aircraft. It sends all that info to ATC in accordance with the spec. There's no need to interconnect that transponder with anything else in the aircraft unless the owner wants to."

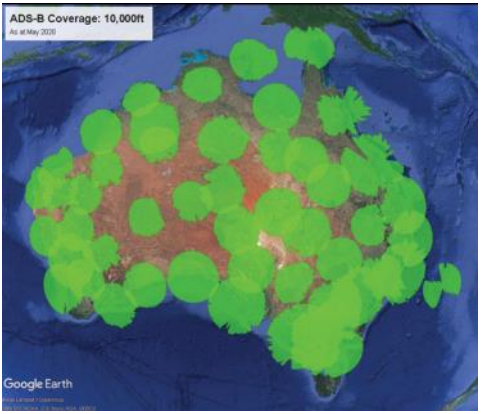
"On the other hand, if the aircraft is well equipped and going to be flown IFR, then it's going to need a performance-based navigation capable system (GNSS) which is going to be certified to TSO C146. Those navigators, in addition to being good at navigating the aircraft, including the capability of flying RNAV approaches, can also be connected to a Mode S ADS-B capable transponder, and used as the information source for that transponder to send ADS-B data to ATC, without the transponder having a GPS."



Coverage

The diagram that hit home to me recently showed the coverage of radar across Australia at various altitudes, compared with the far superior coverage that ADS-B offers. OK, like radar, the coverage of ADS-B improves with aircraft altitude as the transmissions are line-of-sight but, even down at 5,000 feet, it's a hell of an improvement on the traditional radar coverage we've become used to. Loneliness over the Simpson Desert is a very temporary thing now. Happy days.





Happy days also for the potential of being granted a Flight Following service. For example, there's an ADS-B station at Ayers Rock, so if you're inbound to YAYE at A095 or whatever, ATC is going to see you long before those Class E steps. Workload permitting, ATC will be able to provide you that service. ATC computers use a system of priorities and while the aircraft is in radar coverage and getting good radar returns, it'll use radar. When the aircraft leaves radar coverage and flies into ADSB coverage, ATC uses the ADSB information.

Lyn Gray, Head of Operations at Fly Oz Flight Training School in Cowra, NSW, is totally in favour of ADS-B. In Lyn's words: "I'm totally in favour of ADS-B. As Head of Operations, I want to know where all my pilots are! I don't like to go home until I see for myself they are safe. How's that nav going for my newbie? Where are my night flyers? I can open up a program on my iPad like Flight Radar 24 (which uses ADS-B information) and immediately see 'OK, they're only 10 minutes away. Great!' That knowledge is so reassuring. And they're all happy about it too. If the weather is horrid where I see any of my pilots, I can suggest half an hour on the ground somewhere nearby to wait out the next band of weather. I'm giving them some information they can really use."

"Even with VFR aircraft that have ADS-B installed, ATC can give you them as specific traffic, so instead of saying 'Unidentified VFR aircraft', they are now able to call them 'ABC' - and ABC can then respond with their current position, height and intentions."

"Also, if I'm planning an IFR approach, ADS-B gives me a far more accurate position fix on other traffic. I can much more easily choose what I need to do to fit my approach in safely. I can see, for example, a Rex plane coming in and I think 'Ok, if I slow down, drop gear and flap, I can easily fit in behind her' and it all works out."

"For our VFR aircraft that don't have it built in, we've bought SkyEcho devices. You either fully charge them up at home or plug them in to the cigarette lighter or USB outlet in the aircraft, suction them onto a window and they provide the ADS-B OUT capability. We have one in our Arrow, which we take to Canberra a lot for our commercial training. With the rebate being offered by CASA, we're going to use that to buy a couple more, so all our planes have one. An RAAus plane can plug one in. Technology is a wonderful thing - 21st century - let's use it. It's there to keep us safe."

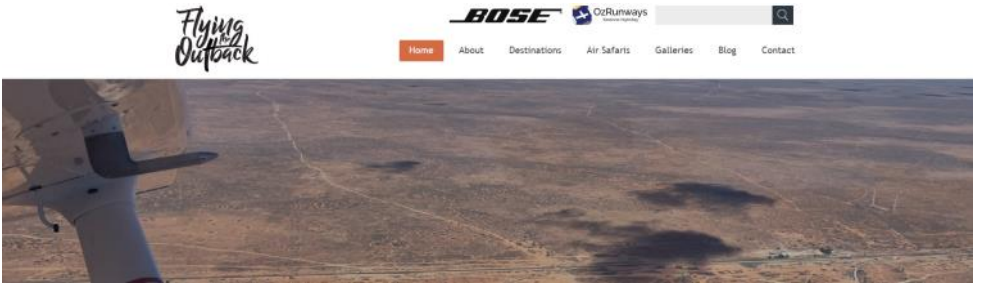
Reprinted with permission from CASA's flagship safety publication, Flight Safety Australia.

Shelley Ross is one of Australia's most well known aviation journalists and advocates of outback aircraft touring. She has been piloting light aircraft in Australia and overseas since 1995.

A commercially licensed pilot with instrument and instructor ratings, Shelley is passionate about outback flying and loves nothing more than to introduce her students and fellow pilots to her big backyard.

Her comprehensive "Flying the Outback" website provides a wealth of information for anyone who wants to explore our great country by air.

www.flyingtheoutback.com.au



Australian Government Automatic Dependent Surveillance (ADS-B) Broadcast Rebate Program

If you act now, up until 31st May 2023 you can claim 50% of the cost of ADSB equipment. There are currently grants of up to $5,000 for Australian registered aircraft to improve safety and efficiency for Australian airspace users. The objective of the program is to incentivise voluntary uptake of ADS-B equipment in aircraft operating under Visual Flight Rules (VFR) to improve safety and efficiency for Australian airspace users.

The program will provide:

- better situational awareness for pilots through improved electronic visibility of nearby airborne VFR aircraft
- enhanced search and rescue capabilities through improved air traffic information
- air traffic controllers with additional and accurate automated aircraft position information of VFR aircraft.

The program funds two classes of eligible ADS-B equipment:

- installed ADS-B equipment that air traffic controllers can use for aircraft separation purposes (referred to as ADS-B)
- portable ADS-B equipment for local electronic traffic information purposes (referred to as ADS-B EC).

What do you get?

Up to $5,000 per eligible aircraft covering up to 50% of eligible project expenditure. Only one grant per aircraft and per device is permitted.

For more information use this link: Automatic Dependent Surveillance (ADS-B) Broadcast Rebate Program

Instrument flying for plonkers (like me!)

by Rob Knight

"Scud running" and flight into IMC is potentially fatal for VFR pilots. Lack of a visible horizon if you enter cloud, or even on flight over water with poor visibility, can easily lead to disorientation that can quickly result in entry to a spiral dive. But how does the situation escalate so dramatically? This article provides an explanation and highlights why you should never enter IMC unless you are thoroughly trained in instrument flying and current. Our Club instructors can provide advanced training in simulated IMC. Ask an instructor to do a series of partial panel exercises with you, along with recovery from unusual attitudes under the hood on a regular basis. Or better yet, sign up for a private instrument rating so that you can legally and competently fly in IMC. See also CASA's videos 178 seconds to live and Flight Safety Australia - Spatial Disorientation

I got my PPL when I was a mere 17 and, in keeping with all teenagers of that age, at the time I felt world-wise and 1000% capable. In reality, I was anything but. At the time I was working on my parent's farm in the Waiotehue Valley, about seven nautical miles SSW of Kaitaia, New Zealand's most northern town, and I worked, read, slept, and saved to do my CPL as soon as I had the funds.

On good flying days I looked wistfully skywards and thought about flying whilst doing the thousands of jobs that arise on a dairy and dry-stock farm and on cloudy rainy ones I still looked skywards but thought about instrument flying. At that time a PPL was all VFR, no instrument training was required and I had never experienced any. However, I still thought about it.

I subscribed to several flying magazines and, from time to time, read stories about the practice which led me to believe two things:

- that instrument flying was easy (from all the apparently successful stories that I read), and
- it was impossible and deadly dangerous (from all the stories where the pilot failed and had a fatal accident).

Totally confused and with no instructor for 150 miles, I could only mull over my confusion. After prolonged and deep thought, I came to conclude that instrument flying would not be easy because it would be hard to believe the instrument readings when bodily sensations countered their claims of attitude situations. However, whilst I would avoid the need to, I firmly believed that I could do it should I ever require to. But then I recalled Vince Draffin.

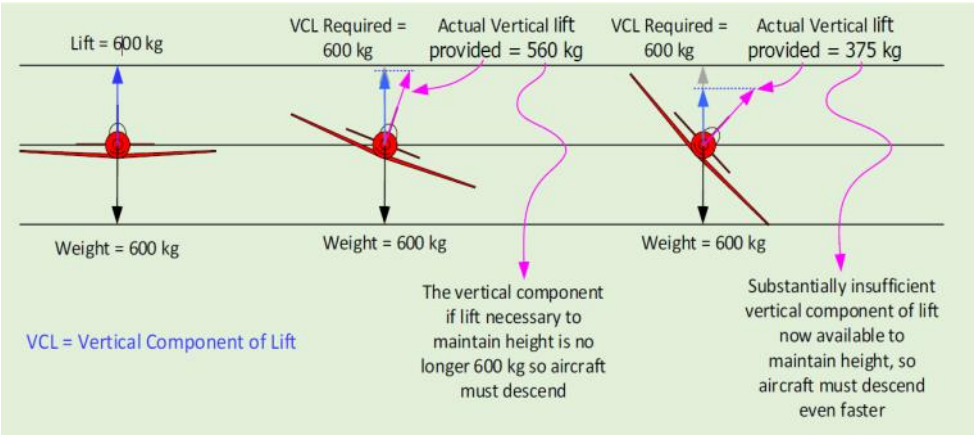
Vince was a young CPL whom I had once met at Kaitaia when my father, then a student pilot, was going for a lesson. Vince was there, in a Cessna 180, on a charter flight to return passengers to Auckland after they missed their RPT Flight. At the time, about 1960, he seemed to be everything that I wanted to be. Then I read that he'd been killed. On a flight from Wellington to Auckland, he had flown into worsening weather and, in poor visibility, crashed into a ridge. If he couldn't fly on instruments in an emergency and climb up to clear the ridge, perhaps there was a flaw in my reasoning!

I suffered a mindset change when I started my basic panel instrument flying in 1969 during my CPL training with the Auckland Aero Club. I drove my instructor so mad with my "flying on the gauges" ineptitude that he threatened to annotate my logbook to the effect that instrument flying was not a natural attribute for me.

Humour aside, I was typical of many other pilots at that time. Until I proved otherwise, I couldn't see that it was impossible for me to operate an aeroplane in cloud for more than a few seconds without entering a spiral dive and killing myself.

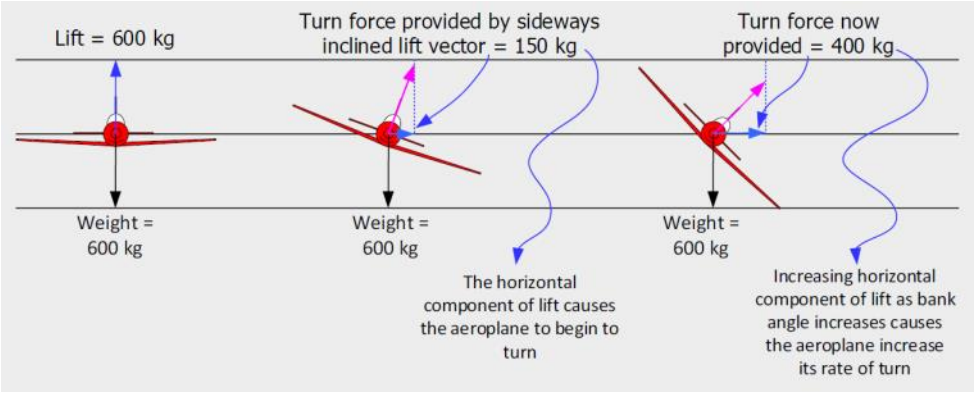
Now I am "on the other side of instrument flight training", I realize that the reason I couldn't understand why my belief was absolutely flawed, was sheer ignorance. I had no idea of the scan speed necessary to read the instruments and digest their indications, let alone act on them to control my aeroplane across all three aircraft axes. Even this ignores the vital need to interpret engine instruments and manage them, too. Let's look at what happens to an aeroplane if no pilot control is exercised to maintain wings-level flight - the most prolific cause of spiral dives in clouds.

If an aeroplane is rolled, even a few degrees to one side, the lift will be inadequate to support level flight and the aeroplane will begin to descend.



A reducing vertical component of lift will set up a descent

At the same time, the banked attitude will incline the lift vector, which then provides a lateral force (the horizontal component of lift) to the side of the lowered wing, and the aeroplane will begin to yaw (turn) in that direction.



A sideways force from the inclined lift vector, now causes the aeroplane to begin and continue to turn

But wait! There's more! Now that the aeroplane is scribing an arc because it's turning, the outer wing will travel faster than the inner wing so it will create more lift and the aircraft will now roll further, and FURTHER increase its rate of turn. But even this is not the end. The banked aircraft will now also begin to slip (also caused by the inclination of the lift vector). Thinking back to your Effects of Controls lesson, I'm sure you're remembering that slip promotes roll. Now you have TWO forces combining to aggravate the aeroplane's desire to roll.

But, as you were also taught in that same Effects of Controls lesson, roll promotes yaw.

You're now simultaneously descending, rolling, and yawing, and the rate associated with each is increasing exponentially.

There are two things that will now impress themselves on the poor pilot: the instrument display, and the messages his/her body sensations are sending to his/her brain.

THE INSTRUMENT DISPLAYS:

- The AH in most light aircraft will have toppled and the horizon bar will be wobbling around the instrument screen only serving as a distraction.
- The altimeter will be unwinding like a catherine wheel fully ignited and burning. The direction of needle rotation will indicate decreasing altitude. The increase in the rate of needle rotation will indicate an ever-increasing rate of descent.
- The ASI needle will already show an excessively high airspeed and it, too, will be indicating an ever-increasing airspeed.
- The VSI will be steady, pegged out on the maximum reading stop, usually -1500 fpm, -2000 fpm, or -2500 fpm, depending on the instrument manufacturer.
- The balance ball will likely indicate a slip, with the ball sitting on the side of the down-wing.
- The tachometer, will show very high RPM, perhaps already in excess of the engine's red line RPM - AND IT, TOO, WILL BE RISING.
- The compass will be spinning on its gimbals, the low centre of gravity of the compass card will cause its indications to be impossible to interpret due to the very high and rising rate of rotation.

A limited panel (AH and gyrocompass blocked out). Displaying indications relevant to a steep spiral dive to the left. Note – missing the magnetic compass.

THE BODY'S MESSAGES TO THE BRAIN:

Unfortunately, these were driven into our subconscious minds at the time we began to walk. Tottering around on two legs soon illustrated that leaning too far forward or backwards resulted in a fall that was painful. Also, leaning too far sideways caused us to fall sideways and hurt our heads and ears. But we could spin around faster and faster until we fell over in a dizzy heap of laughter. Message to brain - pitch and roll are dangerous because too much causes us fall over and get hurt, but you can have as much yaw as you like and it's FUN, FUN, FUN!!!!

Unless reconditioned adequately in our ab-initio training, we tend to carry this propensity for a flawed priority list of aircraft axis movement into our flying habits, and will always be uneasy when the wings aren't level and/or, the nose attitude is high or low on the horizon. But we are completely unconcerned if the nose is yawing all over the sky.

Over many years of instructing, I have seen the same flawed axis priority appreciation exhibited by virtually every instrument student that features in my logbooks. Describing their sequence of actions merely serves to reiterate the sequence that I gave before. The only regular variation is the rate at which things turned to custard, and that was a byproduct of the personality of the student, and the turbulence on the day. So here we go with the sequence:

First, the left wing will begin to sag: just a little - maybe 3 or 4 degrees of bank. The VSI will move a needle-width down to indicate the beginnings of the descent. The nose starts to yaw left. The movement is small and, even with the nose pegged on a reference point, I can see the movement is miniscule. Then the VSI indicates a 20 feet per minute descent and the left wing sags a little further. The nose has now moved a couple of inches left. The changes are accelerating. Suddenly the bank reaches 15 degrees and I wonder why the student doesn't act on the turn needle (or turn coordinator) indication. The descent rate now hits 100 fpm and the bank angle leans to 45 degrees. The nose has now yawed 45 degrees from our original heading.

Then the student reacts, shoving the stick abruptly right and snatching it back. The aircraft rolls right, far too quickly for accuracy, and the beginnings of the G loading are felt. With the non-coordinated ailerons, the nose is now 60 degrees from our original heading. The plot thickens as, with the ball no longer centered, the turn needle is no longer an accurate indicator of where the wings are in relation to bank angle. The student returns the stick to its central position with the aircraft falling out of the sky in a spiralling right turn with an already excessive airspeed.

Recognizing the ball is no longer centred, stepping on it with the appropriate rudder pedal until it centres, corrects it. Now the turn needle indicates more correctly. We are now in a 45-degree right bank, the nose is about 30 degrees below the horizon, and the airspeed continues to rise, as is indicated by the rising engine RPM.

The pilot applies some left aileron but still, typically, uses insufficient rudder to balance.

Any tendency for the aircraft to roll left to recover is offset (to a large extent) by the lack of balancing rudder and any roll rate to the left is low if it exists at all. The pilot responds to the perceived more immediate issues of rising airspeed, rising noise and vibration, and falling altitude by pulling the stick back harder and reducing power. But the altimeter continues unwinding frantically and the pilot feels the even more rapidly rising G loading.

The aircraft continues to roll left and is now vertical. The VSI is pegged out on the stop and the aircraft is closing on its V_{NE}. The severe and still rising G loading makes the pilot think that he's still in a wings-level dive and still he pulls the stick back. But all he's likely to achieve is a high-speed stall in a spiral dive, at or above his V_{NE}. The pilot, panicked (or close to it), has totally lost the ability to appreciate the aircraft's attitude and, with the increasing rate at which things are going wrong, there is no way he can re-establish control. Then the instructor says those magic words, "I have control!" I return the aircraft to a straight and level attitude by closing the throttle, gradually rolling out with aileron, whilst balancing with rudder, and gently easing back on the stick to arrest the descent.

Until I had actually experienced this loss of control for myself, it was impossible (in my ignorance and unwitting arrogance) to have ever understood the ease with which I would lose control of the aircraft. Alas, for too many others, this scenario reflects the last lesson they would ever learn.

The pilot will first feel the rising G loading and will begin to pull the stick back. His/her ears will advise them the airspeed is rising and they may/may not glance at the ASI, but this will affirm their appreciation of being in a dive and needing to pull out of it. Their desire to stop their descent aggravates their decision to pull the stick back further.

WHY, WHY, WHY, does it all go so wrong, and always in the same way?

For several reasons, actually. As I said earlier, without practice, our scan rate is too slow. Also, we stop at each required correction and "fix it" before moving on to the next instrument. This makes our corrections too slow to be effective across the board. The scan and react method that I was taught was to move the controls as little as possible and not to fix any issue all at once. If a wing was low on the turn needle, check the ball was centered so the turn needle was accurate, and then just start a tiny slow roll the other way with minute use of the aileron while balancing with rudder. Hold the controls dead still whilst scanning to checking the attitude (by airspeed and altimeter readings remaining steady) and heading were constant (by magnetic compass indications). Then immediately back to the wings-level issue and either stop the roll by removing the aileron and rudder input, or hold for another scan. Believe me, such an exercise takes more than a little practice and simply cannot be satisfactorily achieved in a few minutes patter by an instructor.

I can hear the sound of rising revolt. Surely this was in the dark ages, what about using an artificial horizon?

If by using the term "dark ages" you mean the late 1960s, you are absolutely right. 1969 to be exact. It was a requirement for all CPL trainees to pass their CPL flight test, instrument flight section, with two parts to the test. One was using a partial panel where the only instruments available to the pilot were the ASI, Altimeter, the VSI (and not all aircraft had one of these), the RPM indicator and the magnetic compass. This was quite important because the artificial horizons of the day would frequently topple and provide just a madly waving horizon indication if roll or pitch exceeded about 60 degrees. In today's world, PPL candidates are also required to undergo basic instrument training but I sincerely hope that it's to achieve the knowledge that instrument flight is not something to take casually. It takes much practice to gain adequate competency, and even more regular practice to maintain proficiency.

With good instruction and lots of practice, partial panel instrument flying can become surprisingly easy and relatively accurate. In reality, its primary purpose is to allow the non instrument rated pilot who has inadvertently flown into IMC to regain control (if control has been lost due to pilot disorientation), to then maintain controlled flight whilst climbing or maintaining level flight and carrying out a 180 degree turn to return to VMC conditions.

Example of full instrument panel for instrument flight, the two central flight instruments are (top) the artificial horizon and (bottom) the gyro compass.

Many of the light aircraft I peek into today reflect similar shortcomings to the Victas and Cessnas that I flew as a student. Their panels sport neither a turn coordinator nor a slip/skid (turn) indicator so there is no way even partial panel instrument flight can be undertaken in them. To me, looking backwards on my flying life, I am convinced that instrument flying in IMC in a single engined aircraft is probably non-habit-forming in the long run. It's a bit like being inside a space invader machine where there are no spare lives. If you stuff up, you're dead. One mistake and it's "game over". Happy flying!

About the author: Rob Knight grew up in New Zealand in the 1950s and 60s with a crazy urge to fly. He became a flight instructor and worked in the industry for many years, eventually as Chief Pilot/Chief Flying Instructor for the Wellington Aero Club. Rob is now retired and living near Amberley. He is the editor of the BVSAC Flyer, the magazine of the Brisbane Valley Sport Aviation Club based at Watts Bridge.

www.redcliffeaeroclub.com.au

07 3203 1777