



Welcome Aviators! It's time for the final edition of our E-newsletter for 2016.

A lot has happened since our last edition, it has been a busy second half of 2016!

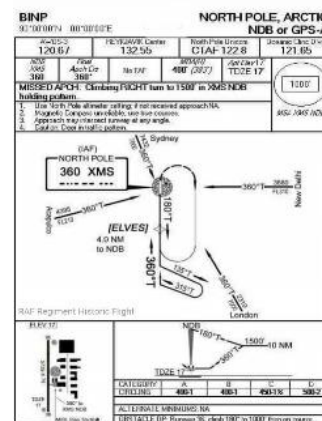
We have had another great Birdsville Fly away, being a slight more wet experience this year. We have had another successful joint Open Day with Basair Aviation College. It was a great day for new and upcoming aviators to see how to start their flying career or hobby, which saw great interest and was a lot of fun.

However, once again our most special event for the year was Wings Night 2016, awarding the achievements of the year and a wonderful opportunity to meet fellow Aviators! A night of great food, beverages, awards, games and prizes, overlooking the Runway intersections of Sydney International Airport, as the sun goes down and the airport lights come alive (a plane spotters dream!).

On that note we are once again looking for the "Photo of the Month"!! Send in your best Sydney Aviators aviation inspired pic, first place will receive a prize each edition and be featured on the front page of the following edition.

Overall, we have seen some changes at Aviators, not just a 737 sim hiding in the back of the hangar, but most of all a general freshening up; including new carpets and floors (come check it out soon)! We have also had a few additions in Piper Warriors and Archer IIIs and are happy to say that we are expecting more.

Our Single Engine Command Instrument Ratings are also in full motion (the North Pole Approach of course a must!) and our Christmas IREX course is nearly half way through.



As you can see it has been a busy year and as 2016 comes to an end, the Sydney Aviators Crew wish you a **Merry Christmas and a very safe start to the New Year 2017!**

A big warm thank you from all of us, we hope you all enjoy the read and look forward to seeing you all around Sydney Aviators soon and if not this year, then in 2017!!!



Over the festive period, we will be running normal hours, except Christmas Day, Boxing Day and New Year's Day, Sydney Aviators will be closed.



HALL OF FAME



Below is a list of Student Flight Achievements. All of these are days that a pilot never forgets and we are so excited to share these moments with our students.

First Solo:



Kevin Hraibi



Mohammed El Sayed



Zurnoob Shabbir



Kevin Tang



Jacob Lebwohl



Sean Sulzberger



Jarrod Davidson



Gary Dolin



Harry Dong



Grant Murphy



Jenna Gray



Claia Conway



Jeremie Saviaux



Peter Nicholas



Matthew Kokshoorn



RPL:



Nathan Muangjai



Anthony Fisher



David Champ



Liam Shearer-Hawkins



Zurnoob Shabbir



Aaron Sipina

PPL:



Phil Chaplin



Ronald Luk

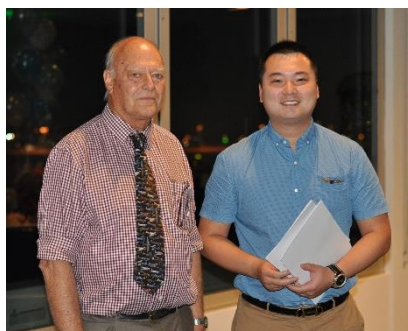


Angat Vora



Thomas Kay

NVFR:



Tom Zhu



Shaun Ryan



WORD FROM THE CHIEF

Dear All Sydney Aviators Clients,

It's not often that I have the chance to see many Sydney Aviators clients, let alone get an opportunity to address everyone. So, when Tessa asked me to add something to the newsletter, I jumped at the chance.

I am writing to you, just having returned from the USA where I was on a trip to secure more aircraft for the company in general. I realise that Sydney Aviators has seen a few aircraft changes in recent times and some of you may have seen your favourite plane come and go. This has been the case with all operating bases for the Basair group and I'm sorry that it may have caused disruption. However, I think it is important that clients know that we are making our best effort to rectify the issues and have more permanent aircraft, as well as newer aircraft for clients to choose from. So, lookout for news in the new year about new arrivals to the SA/Bankstown fleet.

On top of aircraft changes we have had a lot of staff changes recently. Sydney Aviators will always be a starting point for instructor careers, as it is in many aeroclubs alike around the country. However, we endeavour to have a fulltime instructor base that should be your point of contact if you have an issue when booking an instructor for your lessons. The current fulltime SA staff are Ryan, Paras, Perry and I'm pleased to inform you that Tessa is the Sydney Aviators Base Manager. After Adrian was employed to manage our sister company Australia By Air, Martin took over the role as SA Base Manager for a short period. However, Martin unfortunately resigned but fortunately for us Tessa accepted the role. So I'm very excited to be able to work closely with Tessa and the team, to build on the great work that Adrian did at SA. I'm also excited to inform you that Tessa recently completed her instrument training endorsement which now allows her to conduct Single Engine Command Instrument Ratings or PIFR's for any SA clients wishing to improve their skills. Just get in contact with Tessa if you are interested.

Lastly but not least (as I have been given a word limit) I wish everyone a Merry Christmas and a happy New Year. If you're flying over the summer months my advice is always carry a spare bag as the summer storms can catch us out at time. Better to stay overnight and come home safely rather than get a case of the push-on-itis and not come home at all. Stay safe and enjoy the festive season.

Mark Rowell
Chief Pilot



CFI ARTICLE BY CHARLES THOMPSON:

FLYING IN TURBULENCE

Not for Climate Sceptics.

Over the past few months many of you will have noticed the large number of fast moving cold fronts that have been moving through with associated SIGMETS for turbulence. Whether this is due to climate change or not is open to argument, but regardless as pilots we have to deal with these conditions.

So, I thought this would be an opportunity to discuss the safe operation of the aeroplane whilst flying through turbulence.

As pilots, we have been taught to fly the aeroplane in turbulence at the design manoeuvre speed V_a , as our light aircraft do not have a published turbulence penetration speed V_b .

However, is V_a always going to protect us in severe turbulence? Firstly, we need to understand how V_a is calculated.

Normal category aircraft are certified to withstand a positive load factor of 3.8G. Pilots know that during manoeuvres the load factor will vary, for example in a 60° angle of bank turn the lift force required will be twice the force produced by the weight of the aeroplane and its occupants and consequently the occupants will feel twice as heavy during the steep turn with a resultant load factor of 2G. The aeroplane exerts a weight force of 1G (the force of gravity), parked on the tarmac, (indeed as does the pilot standing next to it). Therefore, the design load factor of 3.8G is actually only a 2.8G increase from when the aeroplane is parked on the ground.

Pilots also know that the stall speed of the aeroplane increases by the square root of the load factor. in a 60° angle of bank turn the stall speed will increase by $\sqrt{2}$ which is approximately 1.4, and that means that if the aeroplane stalls at 50 knots in level flight it will stall at 70 knots in the steep turn.



Turbulence can be described as sudden updrafts and downdrafts with consequent changes in the relative airflow. Research indicates that moderate turbulence produces windspeed variations of 15 to 25 knots and severe turbulence variations in excess of 25 knots. It is quite conceivable that we could have a gust that will increase the load factor substantially, and even though the aircraft designer specifies that 3.8G is within design limits it is reasonable to assume that over time these forces are going to put stresses on the airframe structure.

One way we can avoid these stresses is to have the aircraft stall before it reaches these structural limits. In this case the stall is a desirable occurrence because when the aeroplane stalls it loses lift which will reduce the load factor. In other words, we can think of the stall as being a “relief valve” which will unload our wing, reducing the upward bending moment on the wing structure.

The airspeed that guarantees a stall at the limit load factor is the manoeuvring speed V_a . This is determined by multiplying the square root of the limit load factor, ($\sqrt{3.8G}$ for normal category), by the power off clean stall speed.

$$\sqrt{3.8} = 1.95.$$

If the power off stall speed is 50 knots, then the manoeuvre speed will be 97.5 knots. For simplicity sake, why don't we just double the stall speed and make it a round 100 knots.

Pilots also know that there are many factors that affect the stall speed. Firstly, we are not likely to be flying in turbulence power off. Secondly, we may not be at maximum weight and we know that the application of power will reduce the stall speed, as will a reduction in weight. The bottom of the green



arc on your airspeed indicator will give you the stall speed power off at maximum weight and you will most likely NOT be in that configuration. We know that we can fly a heavier aeroplane faster in turbulence than a lighter aeroplane because the heavier aeroplane will stall before the lighter one thus relieving the upward bending stress on the wing.

Wing loading will also affect the turbulence penetration of the aeroplane as a higher wing loading has the same effect as adding weight. Not many people were enamoured of the Tobago as it was heavy and underpowered however it was quite good in turbulence due to its higher wing loading. Clearly a 747 or an A380 is going to iron out the bumps a lot better than a Cessna 152. Weight equates to inertia which in turn equates to resistance to updrafts and downdrafts.

Consequently, the manoeuvre speed V_a , is constantly changing with weight and power application. Therefore, to maintain the exact V_a the pilot would be doing constant mental arithmetic. All too hard. Why don't we make life a bit easier and fly the aeroplane at a speed which guarantees that we won't exceed V_a , say around 1.6 to 1.7 times the stall speed. Is there a risk of an accelerated stall by flying the aeroplane too slowly? Not really. Often when flying in turbulence you will hear a momentary "beep" from the stall warning but it is only momentary. The aeroplane will stall and then unstall so quickly that most of the time the pilot will be unaware that a stall has occurred.

Fly to maintain an attitude. Trying to chase an airspeed under these conditions is a fruitless exercise. We all like to maintain an accurate altitude however it is easier on the machinery to just maintain an attitude and let the aeroplane move up and down with the turbulence. Remember that as sure as day

follows night that every updraft will be followed by a downdraft. Capitalise on the updrafts to gain altitude and if you need to then use power in the downdrafts. The risk of pulling back on the control column in a downdraft is that back pressure increases load factor which is not something you want when you hit the next updraft as it could take the aircraft past the design load factor.

Turbulent conditions are normally

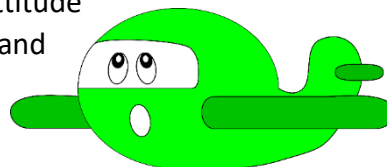
associated with strong winds. Wind behaves like water. If it is flowing over a mountain range or a cliff it will tumble down the lee side like a waterfall with associated downdrafts. If you are flying over a range or a cliff face approach it at 45° so that if you encounter a strong downdraft it is easier to turn away towards lower terrain. Follow ridge lines and avoid sharp drop offs and ravines wherever possible. Fly the upwind side of ridgelines to avoid downdrafts and the downwind side of valleys to benefit from the updrafts.

Pilots assume that turbulence reduces with altitude but this is not necessarily the case. If there is a strong upper airflow there can be occasions where it can be smoother lower down. For example, in the Bankstown training area it can be quite rough at 3000' but relatively smooth at 1000'.

Remember that if you are undertaking a flight test the test officer has the discretion to allow more tolerance for altitude hold in turbulent conditions.

To summarise:

1. Slow down and look after the wellbeing of your machine.
2. Fly slower when light.
3. Fly an attitude and don't chase airspeed.
4. Capitalise on the updrafts.
5. Add power in the downdrafts.
6. Attack mountain ranges and cliffs at 45° so you can turn away if necessary.



Interview with an Instructor: Ryan Baker- Grade 3 Flying Instructor and our most recent full-time member



Tell us a little bit about yourself?

I was born in Sydney and have lived here most of my life. I did spend a few of my formative years over the ditch in a lovely little town called Napier in sunny Hawkes Bay. I am now happily married and the proud father of two beautiful children.

When did you decide you wanted to be a pilot?

I decided I wanted to fly when I was about 8. It all started for me watching a movie called the Battle of Midway, which I used to watch over and over with my grandfathers who both served in the navy during the Second World War. I have been captivated by WW2 aircraft and aviation ever since.

Why didn't you start flying after School?

I thought I was smarter than everyone else and left school at the start of year 11. To the dismay of my parents I went out to make my way in the big wide world. It took me until I was in my mid 20's to work out that I wasn't getting anywhere, I was working a job that I no longer enjoyed and it was time to make a change and do the thing I always wanted to do

Do you remember your first flight and solo Flight?

My first flight was actually in a glider when I was 15. I absolutely loved the feeling of flight and had an awesome experience. My first solo however didn't come till much later 11 years to be exact. The flight was in NFR and Sam Bignell was the instructor who was crazy enough to get out of the aircraft after less than three weeks of flight training.

When did you start flying at Sydney Aviators?

I started flying with Aviators during my training at Basair in September 2014. I started instructing here in May this year and recently went full time.

What do you enjoy most about your role as a Flying Instructor at Sydney Aviators?

The thing I enjoy most about being an instructor is having the opportunity to meet lots of likeminded people who get a thrill out being able to rip around the skies doing things humans were never designed to do.

Tell us something about you that no one else knows?

I'm pretty much an open book I guess most people wouldn't know that I haven't yet given up hope that one day I will be able to walk on the moon.

What advice do you have for students RPL, PPL, CPL?

My advice to all my students no matter what level of training they are at is the same. Never lose the fun, flying is fun, try not to get caught up in the training, the stress of achieving goals and license's, just go out there and have some fun.



SA /BASAIR Supporting MOVEMBER

The Aviators and Basair Crew showed immense team support for an important cause and raised \$695 towards Movember with a moto "To change the face of men's health". Congrats to the team and well done!



Message from the Tower

Summer is fast approaching and with the warm weather we are going to see more of RWY11. This is due to the sea breeze developing during the day, giving YSBK a predominantly north east wind. If you haven't seen much RWY11 there are a few important things to consider:

- Read the TAF and see what time the wind direction is forecast to change. Be advised however that the surface wind often becomes variable prior to a change so the exact time of a runway change can never be predicted.
- If you depart in the RWY29 direction you may be returning in the RWY11 direction. Brief yourself on each.
- There may be a delay inbound, outbound or in the circuit during a runway change.

Arriving and departing in the RWY11 direction is straight forward, but here are a few common things to watch out for in addition to the altitude requirements:



- Inbound aircraft converge for the three runways at a point three miles out, keep a close lookout for other traffic.
 - You could be flying parallel to another light aircraft less than 150m away for three miles down final, or you may be overtaken by a much larger aircraft. Be very mindful of drift on final particularly when turning final from left or right base.
 - The inbound track from 2RN comes close to base for runway 11R. Look out for traffic on wide base in the southern circuit and ensure you don't cut the corner inside of Warwick farm when joining final.
- Happy flying, and if you have any questions don't hesitate to ask!



Birdsville 2016

Early September is my favourite time of the year. The Birdsville flyaway! This year was my 4th trip. With a fresh CPL and stops in Hungerford and Trilby Station meticulously organised by Tessa it was bound to be a routine flight. As it is always CAVOK over the outback I booked the Cessna 206 for some added excitement and to learn to fly a bigger and faster plane. I think it was somewhere on the way to holding point A8 that plans changed from an upwind departure DCT Hungerford to a crosswind departure somewhere up North "just to get around those clouds". Many hours later we eventually landed in Scone and spent the night in a local hotel. Needless to say, Scone is a lovely place and we had a great time!



Next day we managed to head West and kept the DI on Birdsville with lots of clouds around us. Around Innamincka it started pouring. We remembered that according to a famous Argentinian pilot Innamincka is a "must" to stop, so we picked one of the runways below us (hint: put YIMT in your GPS, not YINN which brings you to a station across the river) and landed on red clay. I think the last time I saw horizontal rain was in Scotland, where it is kind of normal. In the outback it is not. Rivers flood, runways get soggy and the evening news show pictures of a wet Birdsville.



While waiting for the clay runway

to dry we enjoyed the Innamincka mini-golf cup and made friends with some helicopter pilots who had flown from Birdsville at 50ft following the road. Despite all the wetness we arrived in BDV just in time for the races. Greeted by our old friend Bob in his fancy red RV6 we felt like arriving home. Unfortunately, after only one short night in the tent underneath TAW's spacious



wings we had to head back to YSBK in a single day. I will never forget the views of the millions of newly formed lakes and sparkling rivers through a green outback. Another experience of a lifetime. I wonder what adventures next year will bring and am counting the days until September!
(Daniela, CPL)



Sydney Aviators/ Basair Open Day

On Sunday 13th November, Sydney Aviators and Basair once again had a successful joint open day. We had guided tours of both campuses, although some gusty winds trial flights running all day, guest speakers, learn to fly presentations, sim sessions, lots of instructors on the ground answering questions and a huge delicious BBQ.

Overall, we have had a lot of interest which is great! A big thank you to all the instructors and admin staff from both Basair and Sydney Aviators, for all their hard work during the day, you guys made it a big success so thank you!

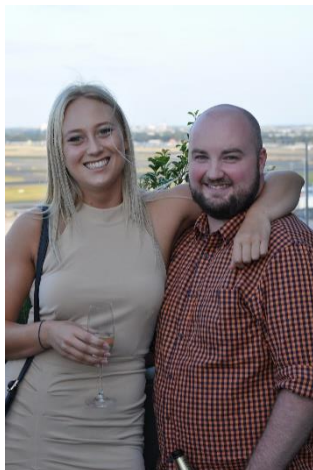
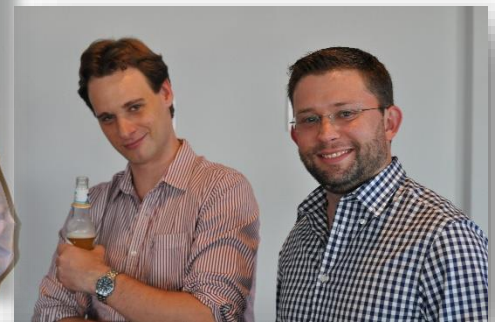
The biggest thank you though is to all the Aviators and future Aviators who attended the day, we really do appreciate the time taken to come down and see us and we had a great time showing you around and pointing you in the right direction, to start your flying careers!! If any of you who attended have any further questions or would like to chat to an instructor, we are always happy to help!

Thank you again to every one for once a great and successful day!



Sydney Aviators Wings Night

On Saturday 3rd December, it was time for Aviators to let their hair down once again and celebrate a great year! As always, a fun night was had at a great location, all about celebrating with the people that make Sydney Aviators what it is, yes that's you! Our beloved students and flyers!



Noticeboard

Australian Light Aircraft Championships

TO BE HOSTED BY LATROBE VALLEY AERO CLUB, TRARALGON AIRPORT,
THURSDAY 30 MARCH – SATURDAY 1 APRIL 2017

Entries are invited for the above Championships and are open to amateur pilots holding a minimum of a current GFPT/RPL and to former professional pilots who have not engaged in commercial or military flying in any form for a period exceeding two (2) years prior to the commencement of the event. All entrants are subject to the Rules of the Australian Light Aircraft Championships 2017.

If you would like to join the team, please contact Tessa at tessa@sydneyaviators.com.au

Avalon Airshow 2017

The thrust and grunt of the latest military heavy metal will take centre stage at the **AVALON AIRSHOW 2017**.

The stars of the show will be state-of-the-art jet fighters, bombers and giant heavy lift leviathans from home and abroad.

See them so close you could almost touch them.

Shudder to the roar of their mighty jet turbines as they perform high octane routines and simulated combat manoeuvres.

Marvel as swarms of attack helicopters join in the fray.

AVALON AIRSHOW 2017 will feature the raw potency and power of modern military aviation. It will deliver air power in action via a totally unforgettable series of flying displays.

(<https://www.airshow.com.au/airshow2017/PUBLIC/index.asp>)



Best photo competition

It is that time again where we are looking for our Sydney Aviators Photos of the month! We will offer a prize for the best aviation inspired pic that you send in, this photo must be taken by you and your camera though!! We want photos taken on your different experiences, fly a way's etc. while flying with us at Sydney Aviators. We will post the top 3 every month, first place will receive a prize!



Only send one photo which is your best, "SA Photo of the month" in the subject line and your name/number to: tcollins@sydneyaviators.com.au





THE ROYAL FEDERATION OF AERO CLUBS OF AUSTRALIA

A.C.N. 008 634 044

(Incorporated in the A.C.T.)

P.O. Box 164 RUTHERFORD NSW 2320
604 New England Highway Rutherford NSW 2320

Tele: 02 4932 0200

Email: rfaca@ozemail.com.au

Webb: www.rfaca.com.au

Australian Light Aircraft Championships

TO BE HOSTED BY LATROBE VALLEY AERO CLUB TRARALGON AIRPORT

THURSDAY 30 MARCH – SATURDAY 1 APRIL 2017

Entries are invited for the above Championships and are open to amateur pilots holding a minimum of a current GFPT/RPL and to former professional pilots who have not engaged in commercial or military flying in any form for a period exceeding two (2) years prior to the commencement of the event. All entrants are subject to the Rules of the Australian Light Aircraft Championships 2017.

PROVISIONAL PROGRAMME

LATROBE VALLEY AERO CLUB

– WEB: www.latrobevalleyaeroclub.com.au
EMAIL Address:
Ivac@latrobevalleyaeroclub.com.au
Jam_Tin@speedweb.com.au
john@kaystreeteyecare.com.au
Address: Airfield Road, Traralgon, Victoria 3844

SUNDAY 26 MARCH 1600
1800

RFACA EXECUTIVE MEETING – Latrobe Valley Aero Club
WELCOME BBQ AT AERO CLUB

MONDAY 27 MARCH 0830
0900
1830

REGISTRATION – **CENTURY INN - 5 Airfield Road Traralgon**
FLYING TRAINING CONFERENCE
CONFERENCE DINNER - CENTURY INN

TUESDAY 28 MARCH 0830
1700

FLYING TRAINING CONFERENCE CONTINUES
HAPPY HOUR – for Conference Attendees

WEDNESDAY 29 MARCH 0830
1300

WINGS INTERNATIONAL
ALAC Practice

THURSDAY 30 MARCH 0800
1800

ALAC PRACTICE
MAYORAL RECEPTION

FRIDAY 31 MARCH 0600
0630
0730
1030
1730

Breakfast
Briefings - Streamer Cutting & Forced Landing
STREAMER CUTTING START
FORCED LANDING START
BBQ at Latrobe Valley Aero Club

SATURDAY 01 APRIL 0600
0630
0700
0900
0915
1000
1030
1900

Breakfast
Formation Briefing
FORMATION FLYING
Aerobatics Briefing
AEROBATICS
Spot Landing Briefing
SPOT LANDING
ALAC PRESENTATION DINNER – TRARALGON VINEYARD