

JOYSTICK JOTTINGS



ISSUE NO. 6 / AUGUST 2020

Royal Queensland Aero Club, Building 25 Qantas Avenue, Archerfield Airport Queensland

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Coming events

Saturday 12th September 2020- Battle of Britain Dawn Patrol

Sunday 25th October 2020 – Annual General Meeting

November 2020 – To be advised

Sunday 13th December 2020 – Christmas Drinks

Editors Update

Thank you so much to our contributors. I am keen to receive contributions from other Members and friends for future editions. These could include articles for students, pilots, adventurers and readers. If you have an aviation story and any photographs from a flying adventure, learning to fly, or other items that would be of interests to your fellow club members please send to me. It could be a story of a flyaway, the challenge of a conversion to a new type/rating/endorsement, first flight, the experience of an aircraft purchase and ownership. Other stories might include a visit to an air show, your flying

experience in light aircraft in another country such as New Zealand , PNG, Alaska as a pilot or a tourist, a ferry flight or a trip with friends.

Please forward your articles and ideas, letters to the Editors and any upcoming areas of interest to the following email address: editor@rqac.com.au or call Heather on 0458 555 289

Safe flying, **Heather Mattes**



RQAC President's Update

Since the last edition of Joystick Jottings in May 2020 RQAC has been in hibernation for most of the time to comply with the relevant Government Regulations with a suspension of flying and social activities. We were able to re-open for the first event since the shut down with a BYO BBQ Lunch on Sunday 21st June at the Clubhouse with attendance numbers inside the regulated limit. The Board of the Club has met regularly to continue to manage the business of the Club.

Enthusiasm for the Friday night bar openings appears to have waned so we will not open up regularly but instead at a time associated with other planned activities on an adhoc basis with notice of the events to members provided by email, website and Facebook.

A significant issue facing the Club is our tenure at Building 25. As some members may be aware our tenancy is on a month-to-month basis. At the time of writing we understand that an agreement has been reached between the Archerfield Airport Corporation and the Tisdall Aviation Group for the development of a new facility that encompasses the areas currently occupied by Building 25 and the adjacent Hangar 4 to its immediate south. Construction of the new facility will involve the demolition of both buildings. Accordingly, RQAC will need to vacate Building 25 when notice of impending demolition is given. The Board has been looking at options on the field for re-location but nothing appears to be available at the time of writing along the lines of the current premises at Building 25. We will keep you informed of developments.

Many clubs of all types have faced significant difficulties due to trading restrictions during the pandemic, including some of the more prestigious city clubs who have had their cash reserves significantly depleted and are forecasting significant losses for the FY19/20. At the July Board meeting we reviewed the RQAC FY result and I am able to report that prior to audit it appears that we will be in the black with a small profit for the year.

It is important to note with the challenges facing many organisations including RQAC that we remain flexible on modes of service delivery to members in these times. Accordingly, the events that RQAC will be able to provide to members may well look different to what you have been familiar with in the past. Upcoming events include the long established Battle of Britain Dawn Patrol this time on Saturday 12th September 2020. Looking further ahead the Annual General Meeting is programmed for Sunday 25th October and the Christmas Drinks for Sunday 13th December. We look forward to seeing as many members, family and friends as possible at these events.

Glenn Cuffe
President

RQAC SUNDAY BBQ

Sunday 21st June 2020 provided the first opportunity in recent months for a club function with the easing of Stage Two restriction on the 12th June 2020. The event was a BYO BBQ for members, family and friends at the clubhouse which was a good excuse to give it a spruce up after being idle for a few months.



The lunch time event was held in some glorious weather after a foggy start to the day around Archerfield and the western suburbs. Of course with the easing of restrictions we were in competition with the members' desires to exercise their new found freedoms in lots of ways and this enabled us to stay in side the cap of 20 attendees and facilitated appropriate social distancing by utilizing the balcony and well as inside.

It was a great opportunity for plane talk and to welcome a couple of newer members to the group. The next event on the plan is the ever popular Trivia night set down for Friday 7th August and this time one of the set of questions will be non-aviation to appeal to partners and friends who are welcome to attend this fun event. We hope to see you there.

RQAC MEMBERSHIP

Enquiries: secretary@rqac.com.au

RQAC club needs new and renewing members, please ask fellow aviators to join and get involved
Membership fees are \$85 per annum plus a one off \$50 joining fee
Membership renewal for 2020/21 is due by 30 June 2020, please renew your membership soon.

The Royal Queensland Aero Club is one of the oldest aero clubs in the world and membership is available to all persons who hold an interest in aviation whether you currently fly, used to fly or would like to fly.

Full membership– \$85 membership fee plus one off \$50 joining fee
Persons over 18 years of age and entitled to full membership privileges including voting, bar, social and future benefits

Second Officer– \$35 membership fee

Persons under the age of 18 who want to belong to a Club and who have interest or enthusiasm for all things aviation

Founding membership– \$1,000

This category is open to all persons who wish to join the Club and make a financial commitment to the Club. A founding member will have the same rights and privileges as an ordinary member but will be titled "Founding Member". They will not be required to pay any further membership fees until the expiry of 10 years from the date of joining at which time the annual membership fee that applies at that time will become payable on an annual basis.

Membership Process

If you would like to apply to become a member of the Royal Queensland Aero Club please download the Membership Application form on the website and scan and email your completed form to **secretary@rqac.com.au** or mail to us at **P.O. Box 380, Archerfield QLD 4108**.

Upon receipt of your membership application form and payment of the fee, you will be contacted confirming that your membership form and fee have been received. Your nomination for membership will then be put forward at the next board meeting and you will be contacted after the board meeting advising whether nomination has been successful or otherwise. If your nomination has been successful, you will receive a confirming letter which will also enclose your member pack in acknowledgement of you becoming a member of Royal Queensland Aero Club.

BRISBANE AIRSHOW July 3-4, 2021 - Celebrating Airforce 100.

Whether you are a pilot, aviation enthusiast or a family looking for a day or weekend of outdoor entertainment, The Brisbane Airshow 2021 will be set in the stunning Somerset region 60 minutes from Brisbane at the Watts Bridge Memorial Airfield.

Dedicated to the men and women who have served in our armed forces. The show includes Warbirds, World War 2 fighters, Jets, Helicopters, Aerobatic Displays, Skydiving, Military Vehicles Hot Rod Cars, The Somerset Business Expo, Live Music and Gourmet Food and tasty Beverages. Every aircraft has history | Every pilot has a story.

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A whole new bag of tricks

Over the last decade, aviation has seen a lot of change. It's not just the aircraft that have changed, but the way we fly. The introduction of new technologies and procedures has made flying safer than ever before. However, with these changes come new challenges. Pilots and crew must stay up-to-date on the latest regulations and procedures. This is where Flight Safety Australia comes in. We provide the latest information on aviation safety, including new technologies, procedures, and regulations. Our articles are written by experts in the field, and our quizzes and close calls provide a fun and educational way to learn more about aviation safety. Subscribe today to stay on top of the latest in aviation safety.

Distraction
In flight, distractions are everywhere. From the cockpit to the cabin, there are many things that can divert a pilot's attention away from the aircraft. This is a major concern for the Civil Aviation Safety Authority (CASA). In a recent report, CASA identified that pilots are often distracted by in-flight entertainment (IFE) systems, mobile phones, and other electronic devices. These distractions can lead to human errors, which can have serious consequences. To reduce the risk of distraction, CASA has introduced new regulations and procedures. Pilots are now required to use a 'sterile cockpit' procedure during critical phases of flight, such as takeoff and landing. This means that pilots must focus only on flying the aircraft and communicating with ATIS. CASA also encourages pilots to use IFE systems responsibly and to avoid using mobile phones while flying. By staying focused and following these regulations, pilots can ensure the safety of their flights.





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BILL HART

Australian Pilots Licence Holder No. 1



William Ewart Hart (Bill), a pilot and dentist, was born at Parramatta NSW on 20th April 1885. He was educated locally and at aged 16 was apprenticed to a Mr Maxwell, a Parramatta dentist. Hart was registered to practice as a dentist on 26th June 1906 and had surgeries at West Wyalong, Newcastle and Sydney.

In September 1911, Hart met Joseph Hammond who was touring Australia as a demonstration pilot for the British and Colonial Aeroplane Company and bought a Bristol Boxkite from him for 1333 Pounds. Hart received some tuition from Hammond's mechanic and flew solo on 3rd November 1911. He completed flying tests on the 9th, 11th and 16th November conducted by the Aerial League of Australia. He was presented with Licence No. 1 dated 5th December 1911 to qualify as a pilot or airman as it was known in those times in Australia. The licence had to be sent to the UK for ratification which took some time and it was superseded by the Federation Aeronautique Internationale's Certificate No 199 issue by the Royal Aero Club of the United Kingdom on the 29th March 1912.

Hart's started his post licence aviation life by being sued for his exploits. His low flying exploits resulted in inducing a herd of cattle in western Sydney to stampede causing property damage and mayhem and he was heavily fined.

He was then fined for being a public nuisance for another low level exploit. To top it off, he managed to crash land in a Chinese market garden wiping out most of the lettuce crop. Landing at the Agricultural Showground at Moore Park in Sydney was quite a spectacular feat, but the take-off later in the day was a near disaster as he narrowly missed crashing into the surrounding billboards and hoardings.

In August 1912 Hart constructed a two-seat monoplane which he successfully tested at Wagga Wagga, but wrecked it in a serious accident in a field at what is now RAAF Richmond Airport on 4th September 1912 and was quite badly injured. In January 1916 he enlisted in the Australian Imperial Force as a Lieutenant with No 1 Squadron, Australian Flying Corps. He went to Egypt and Britain where he was an instructor, but the AIF eventually deemed him to be medically unfit and was returned to Australia and promptly discharged.

Hart returned to his day job as a dentist in King Street, Sydney to which he was better suited. At the outbreak of World War 2 he tried to join the RAAF but was rejected as medically unfit and passed away on the 29th July 1943 from heart disease. The RAAF flew an overhead salute at his funeral as a tribute to his aviation pioneering spirit.

By Glenn Cuffe

KISS

What's critical in flying is to be able to sort out the very important things from the ones that aren't.

At certain times, some things are important, while others are less so. When things get tense in the cockpit, it makes good sense to do the really important things first. That takes clear thinking, a cool head and the ability to focus on the priorities. We have all heard the advice, Keep it Simple Stupid, KISS. It's a simple and safe rule of thumb, especially when under the pressure cooker. So, how might it apply to flying?

Flying by its nature is a complex business and involves a large amount of information and learning. So why make an effort to Keep it simple. The answer is easy. When things start to fall apart, simple is definitely better. Under pressure it is very difficult to remember/recall everything you have processed and learnt. By prioritising and simplifying, it is easier to quickly recall and respond.

For most pilots, visions of broken aircraft, unforecast bad weather, systems breakdown and passenger anxieties are all too familiar generators of demand and pressure. Despite these, there are definite steps you can take to prioritise tasks, focus and simplify your thinking and flying in ways that will lead to improved safety, confidence and enjoyment.

Imagine you're flying over water and the engine fails. The first thing that pops into your mind is what do I do now. Simplifying and thinking ahead are the keys to safely and successfully coping with unexpected situations. KISS. It's plain stupid not to think, ahead of time, about some of the things that could happen and decide how to handle them. Practice imagining something going wrong and working out how to solve the problem. There may be one or three things that can be done. And you only need one of those to save you.

I don't try to remember everything but I do write myself checklists for many things, including checklist for emergency situations and normal situations which act as reminders. Often I will look at these at odd times or use them when imagining a difficult scenario such as fire in flight, engine failure or a caught in bad weather scenario. Make everything you envisage doing familiar because you have been there in your mind before. Keep the important things in your mind and organise for simplicity.



Use the manufacturer's checklist and add other requirements that you personally want ensuring that the checklist remains simple. Use a checklist to prepare for a flight which may include simple things

such as maps, pens, first aid kit, headset, weather report and consider the available resources for flight planning. A well-prepared and planned flight reduces workload in the flightdeck and allows you to aviate, navigate and communicate without additional pressure. In addition, consider your flight path in-depth, as you are flight planning. That is, take pre-planning to another level. Ask yourself these sort of questions, what kind of terrain will I cross, where can I land In an emergency, what if the weather unexpectedly turns bad, what if I am above cloud and cannot get down or what icing levels must I consider. What are the alternatives and are they viable?



Are your charts and ERSA current and cover the whole area of flight and the areas either side? Are you really sure on your fuel status and have you considered the effect of unforecast headwinds? Are you really proficient and physically fit to fly this aircraft on this route? Then consider the “big picture”. Am I satisfied that I trust myself to fly my family/friends and get there safely? Is this a good plan and am I totally satisfied with my preparation or am I setting myself up for bigger problems. In fact, you should have anticipated most problems so that in the air you are prepared.

Say to yourself, On my worst day, can I pull this off. If the answer is NO, rethink, replan, refocus or don't go.

All this thinking, checking analysing and planning is actually pre-planning. In fact, by doing it you're becoming your own safety manager. If you're starting to believe that flying really is 95% “head” and only 5 % “hands” that's really good.

SABRE ENGINE AND THE LAPCAT A2 AIRCRAFT

Concept and Development

SABRE - Synergetic Air Breathing Rocket Engine

The acronym seems a lot easier than the full word description but the meaning of “sabre” as a sword that cuts through things and can be thrust is an apt description of this emerging research propulsion technology.

Why Sabre? Well I am sure you have all experienced long haul flights in the modern jet era. Most current jet aircraft cruise between Mach .80 and .85 which is adequate for short haul and maybe even medium haul of about 6 hours flight time. As you get into the upper medium and long haul flight range of 10 hours plus, the journey becomes tiresome even if you are lucky enough to be at the pointy end. I am sure we can all recall some long haul horror trips across the globe. Jet speed has not increased in 50 years, just the distance we can go.

Supersonic and Hypersonic

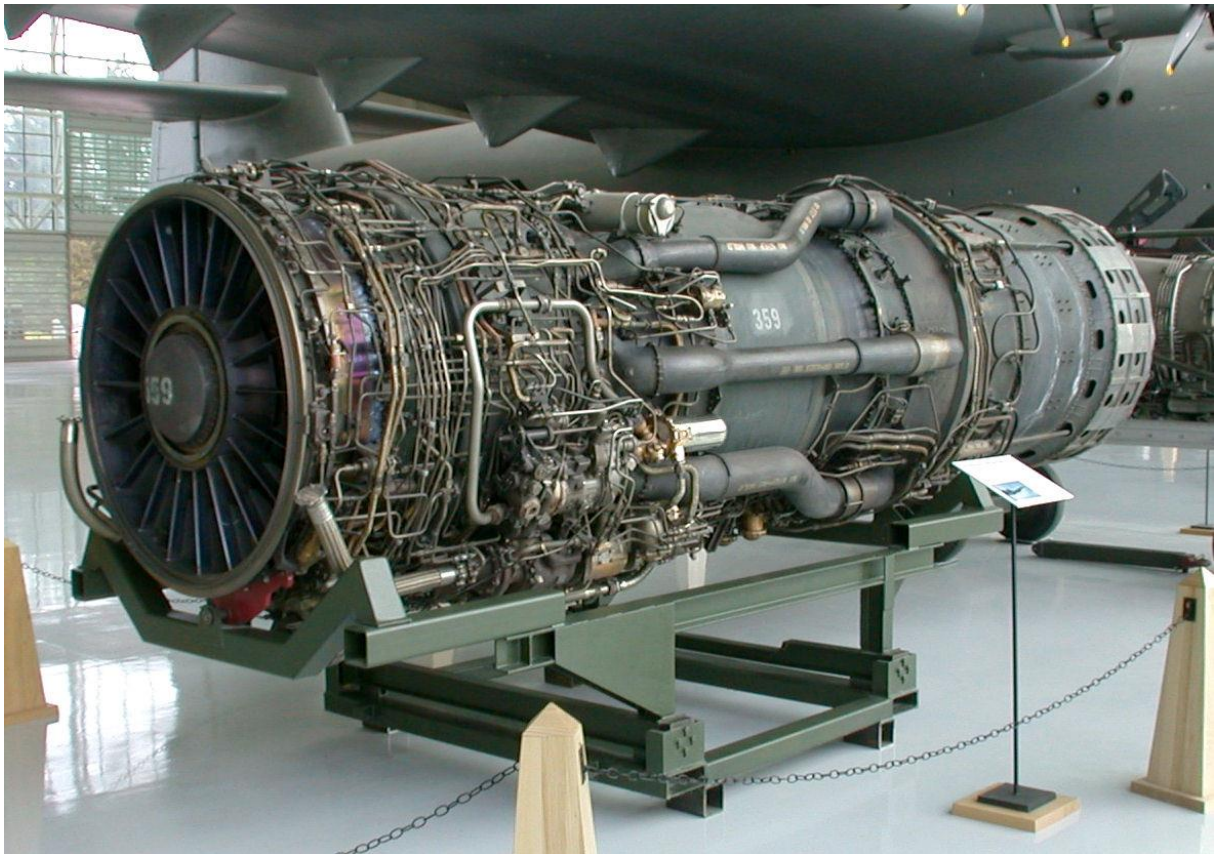
Concorde when it was around was a supersonic aircraft and cruised at about Mach 2 for around three hours and made a London Heathrow to New York JFK a 3.5 hour trip compared to the subsonic jet trip of around 7.5 hours. That said, it had a small cabin, about the width of a Dash 8, held about 100 passengers in one class and tiny windows but had the best quality food and beverages and the best cabin crew that British Airways and Air France could find but it came at a high price with around a 25% premium on top of the First Class Airfare. It operated at around 60,000ft and had a range of about 3900 nm, about the same distance as the first generation long haul jets. The Russians developed something similar, the Tupolev TU 144 and operated it commercially but it was never a success. But both were all about speed and cutting down the trip time. Boeing did a lot of concept and design work on their SST which was planned to carry around 300 passengers but the project was cancelled when they repositioned their efforts into subsonic aircraft.

Around the same time, but not revealed until much later, Lockheed secretly developed the supersonic SR 71 “Blackbird” Reconnaissance aircraft for the USAF. It cruised at Mach 3.2 and operated at about 85,000 ft and could be air-to-air refuelled at lower altitudes.

So, the quest for speed has always been in the minds of engineers both from an airframe and a propulsion perspective. While the airframe challenges are many the core is to have a propulsion technology that gets you going fast and better still into the hypersonic speed range of Mach 5 + that would enable a trip of say Sydney to London to be done non-stop in around 4.5 hours. How good would that be?

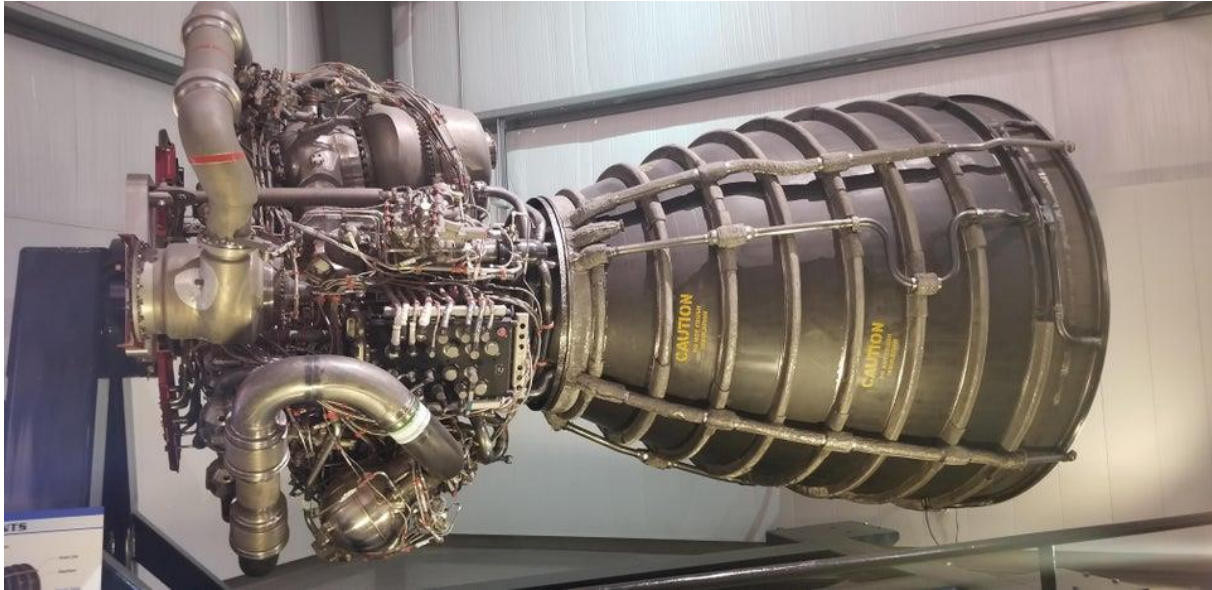
The research and development for the turbojet engines such as the Rolls-Royce/Snecma Olympus 593 that powered Concorde and the Pratt and Whitney J58 that powered the SR71 Blackbird was done in the mid 1960s but valuable lessons were learned on supersonic intake geometry, metallurgy and in the later case fuels. Scramjet (Supersonic combustor ramjet) research which began in the late 1990s, including the University of Queensland HYSHOT Project, has further advanced knowledge of high speed propulsion.





Development of the Aerojet Rocketdyne RS-25 for the reusable NASA Space Shuttle first launched in April 1981 and more recently the Merlin engine used in the Elon Musk inspired and recently developed SPACE X rocket have expanded the knowledge of propulsion for hypersonic speeds (Mach 5 and above) and that required to accelerate through the designated Karman Line at 100 km above earth, the defined boundary between the Earth's atmosphere and what is considered to be the transition to space. All this research and development brings us back to the work currently underway on the SABRE engine designed for future hypersonic airliners and low Earth Orbit vehicles.





SABRE and SCIMITAR Variant

The SABRE is a concept under development by the UK based Reaction Engines Limited in Abingdon, Oxfordshire for a hypersonic precooled hybrid air-breathing rocket engine. The engine is being designed to achieve hypersonic flight up to 100,000 ft at Mach 5 in the Scimitar variant as well as single stage-to-orbit capability at Mach 25 to achieve low Earth orbit in the Sabre variant.

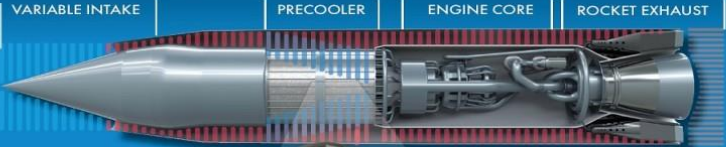
The cut out diagram illustrates the various stages of the engine.

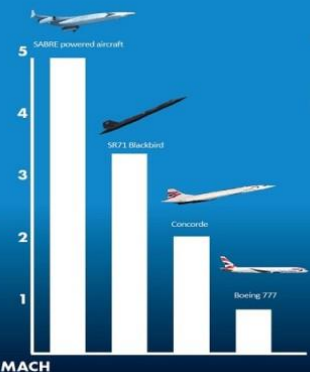
A MAJOR BREAKTHROUGH IN AEROSPACE TECHNOLOGY

Reaction Engines has successfully tested its innovative precooler at conditions representing airflow at five times the speed of sound, marking a significant milestone in the development of its SABRE™ engine and paving the way for a revolution in hypersonic flight and space access

SABRE - SYNERGETIC AIR-BREATHING ROCKET ENGINE

VARIABLE INTAKE
PRECOOLER
ENGINE CORE
ROCKET EXHAUST





Aircraft	Mach Speed
SABRE powered aircraft	5
SR71 Blackbird	~3.5
Concorde	~2.5
Boeing 777	~1.5

PRECOOLER – HOW IT WORKS

- At hypersonic speeds air entering the SABRE engine is heated to over 1,000°C
- The precooler consists of thousands of thin walled tubes, through which super chilled coolant is passed
- The wall of each tube is thinner than a human hair allowing cooling of the 1,000°C airflow in less than 1/20th second – faster than the blink of a human eye

FAST FACTS

- Demonstrated 3.8 MW of heat transfer – equivalent to the power required for 4,000 homes
- Contains over 42km of tubing – the length of a marathon race
- Enables SABRE to operate at five times the speed of sound – more than 1.5x faster than the SR-71 Blackbird aircraft and 2.5x as fast as Concorde

SABRE DEVELOPMENT PROGRAMME

CORE TESTING

FLIGHT DEMONSTRATOR

NEXT GEN SPACE LAUNCHERS

HYPERSONIC AIRCRAFT

REVOLUTIONISING MULTIPLE INDUSTRIES

HIGH PERFORMANCE JET ENGINES

MOTORSPORT

ENVIRONMENTALLY EFFICIENT COOLING

HYBRID ELECTRIC AIRCRAFT SYSTEMS

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The design comprises a single combined cycle engine with two modes of operation. The air-breathing mode combines a turbo-compressor with a lightweight air precooler positioned just behind the inlet cone. At high speeds this precooler cools the hot ram-compressed air which is at around 1000 Celsius on entry at Mach 5, which would otherwise reach a temperature that the engine could not withstand, leading to a very high pressure ratio within the engine. In air-breathing mode a bypass system directs some of the air through the precooler into a compressor which injects it into a combustion chamber where it is burnt with fuel and the exhaust products are accelerated through

nozzles to provide thrust. The remainder of the intake air continues through the bypass system to a ring of flame holders which act as a ramjet for part of the air breathing regime. A helium loop is used to transfer the heat from the precooler to the fuel and drive the engine pumps and compressors.

After shutting the inlet cone off at Mach 5.14, and at an altitude of 28.5 km (about 94,000 ft) , the system can then continue as a closed-cycle high performance rocket engine burning liquid oxygen and liquid hydrogen from on-board tanks allowing a hybrid spaceplane to reach orbital velocity after leaving the atmosphere on a steep climb. Due to the static thrust capability of the hybrid engine, the aircraft can take off from runways under air-breathing mode, much like a conventional turbojet. As the aircraft ascends and the outside air pressure drops, more and more air is passed into the compressor the effectiveness of the ram compression drops. In this fashion the aircraft is able to operate to a much higher altitude than would normally be possible. At about Mach 5.5 the air-breathing system becomes inefficient and is powered down, replaced by the on-board stored oxygen which allows the engine to accelerate to orbital velocities of around Mach 25 in those aircraft variants intend for low Earth orbit.

Development

Development on the engine has been underway since 2008 when the deflection nozzle designed to overcome the problem on non-dynamic exhaust expansion was tested. In 2010 successful tests of an oxidiser (both air and oxygen) cooled combustion chamber were conducted. Throughout 2011-12 the heat exchanger technology was tested validating that the heat exchanger could perform as needed for the engine to obtain adequate oxygen from the atmosphere to support low altitude, high performance operations. As well the cooling technology of the engine was deemed successful. By 2018/19 a rocket engine test facility was approved for development at Westcott in Surrey, UK and is expected to be completed by late 2020 with tests on a quarter sized ground test engine to then commence.

LAPCAT A2 HYPERSONIC AIRLINER

The Reaction Engines LAPCAT A2 is a design study for a hypersonic speed airliner intended to provide environmentally friendly, long range, high capacity commercial transportation. Reaction engines estimate it could be developed into a working aircraft with 25 years once there is a commercially viable demand for it.

Development

The aircraft is intended to have about a 10,500 nm range with good subsonic and supersonic fuel efficiency, thus avoiding the problems of first generation supersonic aircraft. The top speed is projected to be Mach 5+. The propulsion systems calls for liquid hydrogen as a fuel, which has twice the specific impulse of kerosene, and can also be used to cool the vehicle and the 1000 C air entering the engines via the precooler.

Engines

The LAPCAT A2 is planned to use the Scimitar engines related in technology to the SABRE engine intended for space launch but in this application adapted for very long distance, very high speed sub-orbital travel below the Karman Line.

Conventional jet engines have the issue of when air enters the engine it is compressed by the inlet, and thus heats up. It needs much more power to compress that heated air by the engine's compressor section, which reduces the compressor's efficiency dramatically. In addition this means that high-speed engines need to be made of materials that can survive extremely high temperatures. In practice, this inevitably makes the engines heavier and also reduces the amount of fuel that can be burned, to avoid melting the gas turbine section of the engine. This in turn reduces thrust at high speed.

The key design feature of the Scimitar engines is the precooler, which is a heat exchanger that transfers heat from the incoming air into the hydrogen fuel, This greatly cools the air, which allows the engines to burn more fuel even at very high speed, and allows the engines to be made of lighter, but more heat susceptible materials such as light alloys. The engine inlet diffuser also has to slow the incoming air to subsonic speeds because if the air moved through the precooler and compressor at

supersonic speeds, it would cause damage to them. The rest of the engine has high bypass (4:1) turbofan like engine features to give it good efficiency and subsonic quiet exhaust velocity at low speeds. Unlike the SABRE, the A2's Scimitar engine would not have the rocket features for speeds beyond Mach 5 required for low Earth orbit.

Design



The A2 design could fly for example from London Heathrow into the North Atlantic then reaching Mach 5 across the North Pole head south over the Pacific Ocean to Sydney. The great circle route is not used in this example because the route travels mostly over land. The sonic boom can cause discomfort for people on the ground, which was why Concorde was prohibited from flying supersonically over land.

The aircraft is projected to be 139 metres long in a rocket shape tradition dictated by the aerodynamic laws of hypersonic flight. A Boeing 747-400 is 71 metres long or an A380 at 73 metres long. The Lapcat A2 wing span is just 43 metres compared to the wing span of 64 metres for the B747 and 80 metres for the A380. It would weigh in at about 400,000kg, and could take off and land on current airport runways. Noise is estimated to be 101dBA at 450 metres lateral. Internal noise would be comparable to modern jet liners. The aircraft would carry around 200,000kg of liquid hydrogen fuel and have 4 engines.



The Lapcat A2 design calls for 300 passengers plus baggage and does not have passenger windows. It has a shield that covers the flight deck windows in the hypersonic speed range. This is because the heat generated by the hypersonic airflow over the fuselage puts constraint on window design which would make them too heavy as well as a potential source of hull leaks with the depressurisation hazards being critical at around 95,000ft without all on board wearing a space suit. The solution to having no passenger windows is to provide in today's technology a flat panel displays for passengers, showing images outside from the front, port, starboard and below either individually or any combination in real or synthetic vision. The designers are pitching the cost per seat at what would be the current Business Class range if it were here today.

Will it happen?

The key issue for this type of aircraft making it to market will be the perennial one of development and production cost to produce an aircraft that will have market acceptance by the passenger travelling in the middle of this century. Let's hope speed is towards the top of the priority for passengers. While it seems a long way off before we may see a Lapcat A2 type aircraft flying it is worth remembering that when Concorde first flew in March 1969 we were still travelling around in turboprops like the Bristol Britannia and Lockheed Electra and the first generation jet aircraft like Comet and Boeing 707. Making that paradigm shift to Concorde and remembering what it was capable of just 50 years ago seems all that more remarkable in retrospect

By Glenn Cuffe

SHUTE HARBOUR – HAMILTON ISLAND TRIP 2020



Short Final into Shute Harbour

With the COVID-19 worldwide pandemic reigning havoc on all of us, our long planned travel to Hawaii for May had to be cancelled. We had been planning that trip for 2 years, I had completed all of my FAA Airman paperwork, paid all the fees etc to get my FAA PPL licence too - the only thing remaining was my face to face interview. I had lined this up to be done on my trip to Hawaii as well as my BFR and flights around the island. This was to be a lead up to my trip to Oshkosh 2020, where I had organised to do my float plane training and fly in and land at the seaport. So, as the weeks past after my planned travel, it was apparent that my Oshkosh trip would not come to be.

As there had been a few of us had holidays and plans to travel to Oshkosh, I figured we should still do something that involved relaxation and flying. I suggested to a few of my flying mates that we go to Shute Harbour as I took Nicky (my wife) last year for the runway dinner and this year's event had been changed to their 70th Anniversary in 2021. I showed my flying mates the complex pilot requirements, the potentially challenging circuit from my photos and videos of last year, needless to say I received very quick yes responses.

So I set off and started quickly planning for our trip up there, checking dates and we came up with a Thursday to Monday that suited the majority. I

contacted Lee at Whitsundays Aviation Village Estate (Shute Harbour Airport) and booked Lot 25 Hangar house: <https://www.whitsundayairport.com.au/air-park/residents-information/hangarhomerentals/>

So more planning followed and many phone calls to plan out our mission and goals. We came up with a few must do's and a few nice to do's.

1. Fly into Shute Harbour (must do otherwise long walk from another airfield)
2. A flight into Hamilton Island (must do bucket list item)
3. A flight around the reef (must do bucket list item)
4. A boat ride out to Whitehaven Beach (nice to do but will be dropped if it interferes with above items)
5. Helicopter (nice to do but could end up costing a lot)
6. Day trip into Airlie Beach.

So we thought that looks like a simple set of requirements, oh how we were wrong...

We started looking at day trips out to the beach, looks straight forward, Fridays are the main day they do their trips so that would work well, so we decided that Saturday would be the day for Hamilton Island. The catch there was that no one at Airlie Beach had any contact from the island, or knew when they would be opening (given the whole island is about tourists and COVID had put a stop to that), so we found it very difficult to get any information whatsoever. I finally got onto the manager of the airport and was advised that we would be able to land and take a look around on the Saturday, we just had to

complete the online arrival booking form and we would be good to go. However, a few days later we submitted our forms, only to get a call that we would not be allowed to land, there was going to be their first RPT traffic that day and they didn't want the extra workload of us coming in. After a lot of back and forth, we had the compromise of landing on Friday morning 9am, take some pictures and leave. Not allowed to leave the airport GA area. So we took it, better than not landing, that's for sure.



This put our boat trip out due to not running on Saturday, after some discussion we were able to get Ocean Rafting to hire a RHIB for just us. This turned out to be the best way to do the trip, we set the times and where we wanted to go, there was also beer, cider and wine onboard for purchase at reasonable prices.

Thursday Trip up: Most had a similar plan to get up there, leave early (6:30-7:30am) and enjoy lunch up at Shute Harbour. We decided to stop at Rockhampton for fuel and comfort (bio-break). It was a very gusting, sloppy x-wind landing, and one that took a little more work for some than others depending on what it was doing at the time.

Departing Rocky, straight to Shute Harbour took us right over Mackay, at 6500'. I had a nice flight right across Mackay and into Shute Harbour. I called about 30mins out to advise we were inbound, got the latest info and was able to do a right base for RWY 14. I taxied straight up to Hangar 25, shutdown and the fuel truck came over and topped us off. Put the plane away ready for the morning's flight. A BBQ dinner at the Hangar house had us all sharing awesome stories. Such a different group of people from all walks of life, brought together for a common love of aviation.

Friday Flight into Hamilton: With the early morning trip across to the Island, we decide to break the day up and do the reef flight in the afternoon. The flight over to Hamilton Island was a very quick 11 nm trip. A very stunning approach straight in for some of us, with a few of the others taking the scenic approach. Photos of the group, with some banter and fun. The departure was just as stunning, over water around the island.

Flight around the reef: We spent the night before planning our Reef flight, what we wanted to see and the sort of flying we were planning to do. 40 nm over water was definitely a big consideration for all of us, so the extra planning and thought was definitely warranted, I know that everyone says the engine doesn't know it's over water, but without any good options for ditching to a bit of land, everything counts. I set the GoPro and 360Fly camera up to capture this flight. It was just the best experience,

flying around the reefs, I had my wife and a photographer onboard so I knew this was not only a very important flight but going to be an exceptionally memorable one for them.

Saturday Boat Trip: Upon boarding the RHIB we knew it was going to be a great day, the skipper was awesome. He knew his stuff and knew how to make the 2x 250hp outboards perform well and throw us around for some fun. We headed out around Whitsunday Island and within a few minutes we had whale sighting, so we approached as close as we were allowed. Whales are such inquisitive animals and the mother and her calf came up to us. Nicky called out that whales were within a few feet of the boat.

Next up was a walk across a lookout for those of us who were inclined to do so. I remained on the boat and relaxed with a cider. After the walk, snorkelling was next up, a quick trip over to an inlet shelf where we were treated to some of the great life on the Great Barrier Reef. For lunch we headed over to Whitehaven beach, such a stunning beach, white sand and so inviting.

(Mishap: Robin went off to the long drop to get some TP to blow his nose, unfortunately he had his apple iPhone in his jacket pocket, as he reached for the TP, he heard the sound of something falling and bouncing back and forth down the long drop... With signs up saying not to put anything non food related down there we came to the conclusion it was ok as the iPhone is an apple, apples are food, so it was food matter...)

Sunday: A day of chilling and walking around Arlie Beach, we caught a maxi taxi into town and then walked to the harbour, several went off and walked the harbour enjoying the boats and after we had a nice lunch and awesome discussion about planes, wings, lift and of course: Bernoulli's theorem vs Newton's third law. We did thoroughly enjoy this and even better was the when the Spencer-Scarrs debated it.

<https://www.scientificamerican.com/article/no-one-can-explain-why-planes-stay-in-the-air/>

by Kaine Sherood



AVIATION MENTORING

Jack Lynch MBE, Wing Commander RAAF (Ret'd)

Since the beginning of the 2015 Griffiths University academic year, I have been a volunteer Aviation Mentor for some Aviation Degree students in Brisbane. As extensive as the courses are, there are numerous 'Human Element' aspects of aviation, on which immensely valuable practical advice can be provided by highly experienced Aviation Mentors. Ideal such Mentors being active or retired Military, Regular Public Transport (RPT) and General Aviation (GA) pilots; with vast experience on multiple types of aeroplanes and helicopters.

My background includes over twenty years as a Royal Australian Air Force (RAAF) pilot on helicopters, fixed wing and swing wing; plus another twenty years GA as a Commercial Pilot flying numerous single and twin aeroplanes, and some single helicopters.

As a RAAF pilot I flew Winjeels, Vampires, Iroquois helicopters (including extensive Gunship operations in the Vietnam War), Macchis, Sabres, Mirages, RF-4C Phantoms (Exchange Instructor with USAF), F-111Cs, and RF-111Cs (Including RF-111C Project test flying). My first post-RAAF flying job was four years as PC-9/A Production Test Pilot with manufacturer Hawker De Havilland (HdeH) at Bankstown. Time at HdeH included hardship tasks of flying the company Baron 58, Tiger Moth and Drover. After HdeH, I settled in Toowoomba with my own small Aviation Services business doing Aerial Photographer (pilot & photographer), Freelance Charter, Consulting, Homebuilt Flight Testing, and contract Commuter RPT in numerous GA singles and twin. During the Airservices introduction of The Australian Advanced Air Traffic System (*TAAATS*), I did a 4-month contract project as Air Traffic Control Simulator Pilot at Brisbane Airport.

In addition to GA and Commuter flying, I was a civilian member of Defence at the Army Aviation Centre Oakey QLD for three years in Airfield Management, Landholder Liaison (for helipads), Search & Rescue, and Aviation Safety.

My 6500 hours overall flying experience, plus engineering, leadership, staff and numerous RAAF and other relevant training courses, provide an ideal background for Aviation Mentoring of students in essential practical elements that are not included in any academic syllabus.

For me personally, Mentoring is an immensely rewarding way of passing on much hard won knowledge and experience, and an effective way of 'paying forward' the rewards and privileges of an extremely enjoyable career in aviation.

My approach to Mentoring is to keep it simple and as practical as possible. I do not usurp the teachings of academic lecturers or flying instructors. I hasten to add the necessity for a Mentor to keep ego well under control, and to avoid unnecessarily diverging into telling 'warries' that might be great fun, but also might not be relevant to the students immediate needs in the current session.

AVIATION MENTORING GUIDELINES

During our mentoring sessions I will not undermine any of the teachings of GU Lecturers or Flying Instructors. My primary aim is to provide guidance and information in the sphere of Human Elements gained throughout my 54 years of flying, instructing, leading, and Command at various levels in the RAAF, plus during my own small aviation business post-RAAF.

The following list of guidelines forms the basis, but is not exhaustive:

- Encouragement and Inspiration during training
- Passing on a mentor's experiences – especially relevant to the Human Elements of Normal Operations and Emergencies
- Discussions on Leadership /Management / Technical / Command experience
- Answering questions
- Providing perspective
- Celebrating successes
- Personal Development
- Advice when considering an important decision
- Help with choosing a school or instructor
- Purchasing an aircraft
- Emphasising importance of deep technical/engineering knowledge beyond formal training
- Going for that next rating
- Independent Help when needed
- Overcoming plateaus that occur in training
- Keeping motivated during and after training
- Just listening
- Support and encouragement for dreams
- Encouragement to set goals and go for them
- Provide ideas on how to achieve goals
- Counselling when needed and/or recommending seeking assistance from the Faculty.
- Constructive Critiquing when needed
- Reinforcement that safety is the priority

MENTORING 2020

In this section I will use my work with my primary 2020 student to further describe my approach to mentoring. We will call him Jay.



I was formally matched with Jay by the Faculty, via an online Zoom-type session that lasted for 90 minutes. That session was very valuable for sharing each other's backgrounds and getting to mutually understand our approach.

Jay is 19 years old, and is studying a degree incorporating Aviation and Engineering. His primary goal upon graduation is to apply to the RAAF for pilot training. His logical option is a career in Civil Aviation. We meet every two to three weeks over coffee in the Brisbane CBD. Our sessions can go for up to two hours. Two days prior to each meeting I get Jay to email me a background summary of his academic and general life activities since our last meeting. As the main basis of our session I get him to provide a list of questions that he wants to address. This has proven to be a good way to keep the subject matter in line with Jays needs.

On the eve of our meeting I send him a Session Outline Plan that include my brief answer notes and references on his questions, that we will discuss in detail the next day. I aim to cater specifically to Jay's questions in a way that is relevant to his current course academics; and to his membership and leadership roles in academic, vocational, and social organisations.

Below is an example of an Outline Plan based upon Jay's submission two days in advance.

“JL / JAY MENTORING SESSION OUTLINE PLAN
24JUL20

(Non-bold from Jay. Bold from me)

My questions for this week are tailored towards applying for the Chair position and the internship

I'm looking forward to our meeting this Thursday! To brief you on what's been happening.

- Unfortunately XXXX 2020 has been cancelled due to concerns around COVID-19. As a result, the committee has been disbanded, and the Chair has decided to step down due to personal reasons. I've put my name forward to be considered for the role and the applications will open within the next month. I've had a meeting with the 2020 Chair and discussed the role and what it entails.
- I've applied for a Summer internship with XXXX to allow me to see the sustainment world of aviation and hopefully flight test, as well as getting exposure to current RAAF personnel.
- I'm doing a mock interview with XXXX through XXXX on Wednesday night.
- Could you please discuss the structure of an RAAF squadron? I'd love to learn more about the breakdown and responsibilities at various levels (i.e. role and responsibilities of the CO and the squadron as a whole, XO, Flight Leaders and Flights etc.). If I'm successfully in my Chair application, I'd like to structure the committee like a squadron, and I believe being able to demonstrate my intentions would be beneficial in an interview!

(Organisation Chart was provided)

What were considerations you had to make when planning a mission as a maintenance test pilot and then as a test pilot leading the program for the RF-111C? I'm really interested in planning, execution and then debrief.

- Deep aircraft and systems knowledge and pilot / crew expertise**
- Knowledge of maintenance organisation structure, procedures, and language**
- Aircraft Maintenance Log history and pilot's description of the problem**
- Detailed briefing with Engo / Specialist Tech Staff, and pilot if needed, on inspections / tests conducted**
- Verify the problem**
- Define ground and flight test points and procedures to establish analysis of the problem and the fix.**
- Establish A/G radio comms for inflight discussion / modification of testing**
- Record data for tests carried out**
- Detailed debrief with Engo / Specialist Tech Staff**
- Write up results in Maintenance Log – language!**
- Release aircraft**
- Brief Sqn crews if necessary**

Were there any special considerations you had to make when dealing with contractors (for example when in the USA evaluating the RF-111C?). Were there any cultural or systematic differences you had to overcome compared to working with colleagues in the RAAF. Even insights into your dealings with other services (such as your time with the Army) would be valuable to learn off.

- Detailed understanding of System Specifications**
- Language & Culture / Tact v Strength + Positivity + Forcefulness + Honesty**
- Deep Operational and Technical understanding of systems function & operations**
- Financial Aspects**
- Company – save money > max profit**
- RAAF – meet Spec! – Co spend money to fix!!**
- Compromise?**

How is it as a pilot, when communicating with engineers, were there any issues you encountered between the two worlds and how did you overcome this, especially in a testing environment when trying to explain why a system may not be feasible in the cockpit.

- Detailed and deep technical understanding of aircraft and systems**
- Extra Courses + Time in the hangar with tech staff**
- Regular briefings to Tech Staff on how the aircraft and systems are used**
- Get to know each other's language**
- Discuss in detail before writing in the Maintenance Log**
- Follow through on fixes”**

LATENT EXPERIENCE AND MENTOR OPPORTUNITIES

There are numerous active and retired aviators from all sectors of Australian Aviation with immense latent experience and knowledge gained through many decades of hard work and dedication to their careers. I am of the firm view that any of us with such backgrounds have a professional obligation to the nation, and more specifically to young Australians just now embarking on the academic phase of the Aviation Career about which they are passionate.

I challenge every reader who is a pilot with the knowledge and experience required to be an Aviation Mentor, to think back to your embryo days, and to consider what it would have been like to have a former RAAF Wing Commander, a former QANTAS 747 Captain, or a very experienced GA Instructor and Charter pilot as your personal Mentor.

My years of Mentoring have been extremely rewarding and satisfying. I have also learnt much from the students. What better way to maintain one's interest in aviation, while providing priceless advice to a budding aviator.

If I have been successful in prompting (= shaming) any reader to take up the challenge to become an Aviation Mentor, please contact me on:

Mobile: **0418795522** Email: jacklynchr@bigpond.com





JINDABYNE AERO CLUB AND AERODROME

Jindabyne Aero Club owns and operates the Jindabyne Aerodrome in south-east New South Wales. Jindabyne overlooks Lake Jindabyne near the Snowy Mountains, in Snowy Monaro Regional Council and is a popular holiday destination year round, especially in winter. This is due to its proximity to major ski resort developments within the Kosciuszko National Park, including Thredbo, Perisher and Charlotte Pass.

Jindabyne Aero has about 100 members and is slowly growing with an energetic board chaired by Rolf Theile. There are nine hangars at the aerodrome housing numerous aircraft types. The aerodrome can also get quite busy being home to fire fighting helicopters. The Jindabyne Community Airstrip is a unique facility in the heart of the beautiful Snowy Mountains.

AIP Australia

13 AUG 2020

FAC YJIN - 1

JINDABYNE **ELEV 3400**

NSW
362536S 1483606E
AD OPR Jindabyne Aero Club, PO Box 60, Jindabyne, NSW, 2627. PH 02 6456 2237 INFO PH: 0400 196 115: 0429 406 129. Fax 02 6456 5143.
Website: www.jindabyne-aero-club.org.au.

FULL NOTAM SERVICE NOT AVBL
UTC +10 YJIN
VAR 13 DEG E UNCR

REMARKS
Landing fees: Ultra light \$5.50/landing, GA up to 2 tonne: \$8/tonne, \$8 MIN, over 2 tonne: \$22/tonne MTOW; overnight PRKG \$10/ACFT. For latest INFO please refer to the website.

HANDLING SERVICES AND FACILITIES
AVGAS AVBL at bowser on TWY between RWY 30 and 37. Self service, MC, V and Skyfuel.

PHYSICAL CHARACTERISTICS
RWY 12/30 Unrated Gravel.
RWY 09/27 Grass.

ATS COMMUNICATIONS FACILITIES
FIA MELBOURNE CENTRE 120.75 Circuit Area

LOCAL TRAFFIC REGULATIONS
All visiting HEL to park on N side RWY 30.

FLIGHT PROCEDURES
Right hand CCTS RWY 27 and 30.

CTAF 126.7

ADDITIONAL INFORMATION

1. Animal hazard exists.
2. Caution: High ground to W.
3. Caution: TWR southern side of the airfield.
4. Severe TURB in W wind conditions.

CHARTS RELATED TO THE AERODROME
WAC 3470.

'Eagle Eyes Gliding' operates out of Jindabyne airstrip and offers introductory glider experience flights over the local area, including Jindabyne and the Snowy Mountains. These flights are conducted in a Dimona H-36 two seat motor glider by an experienced gliding instructor. The flights are intended to give the passenger the experience of gliding flight in a beautiful mountain location. Flights are conducted under the Gliding Federation of Australia.





Dimona motor glider

The location has stunning scenery and flights are often conducted over the Kosciuszko main range to provide an eagle eye view of the mountains, lakes and local wilderness.



Looking west over the mountains and blue lake in the centre.



Jindabyne and Lake Jindabyne



Depending on the weather conditions soaring and extended thermalling can often be experienced to give the passenger a taste of what engine off flying and gliding offers. Flight times and route can be customised to the individual.



It is just an illusion!!

For NVFR, are three landings in the past three months enough?

How many NVFR pilots regularly practice basic instrument flying techniques?

Finally, how many pilots are aware of the illusions that can afflict a pilot's senses?

NVFR flying is a risky business and must be taken seriously. Seventy five percent of our daylight orientation is visual. At night this is seriously degraded and we are forced to rely on senses more prone to dangerous illusions and even our visual cues can be seriously effected by illusions. All pilots suffer from illusionary effect, it is how we identify and handle them that is critical.

Somatogravic illusion

The next time you fly on a Boeing 737, close your eyes on take off. On rotation you will think that you are going vertically up and about to stall. The hairs in the inner ear of the vestibular system are forced back by the accelerating fluid sensing a pitch-up, the rotation increases the sense of climbing. At night, the loss of runway reference and other visual cues will create the same sense of over rotation and a strong desire to push forward on the control column and in reality into a descent.

It s essential that at night, the artificial horizon, VSI, altimeter and airspeed indicator are checked for appropriate climb performance.

Runway illusions

During the day, visual cues assist in determining the correct glide path, notwithstanding the runway dimensions or slope. At night, without glide slope indication runway dimensions and slope can significantly effect the pilot's glide path judgement. To assist in preventing illusionary effects of appearing too low on wide or down-slope runways or too high on narrow or up-sloping runways, the ERSA should be consulted to provide the visual picture to expect. A normal three leg approach with constant altimeter reference checks around the circuit will provide the information required to establish the normal approach path.



The Black Hole illusion

The black hole illusion has resulted in many CFIT accidents over the years and until the last few years was the least understood. This illusion is the major reason why straight in approaches at night to an airfield without glide path information should be avoided. Many airfields in Australia fulfil the criteria for potential black hole illusions. The approaches devoid of light over water or land with the township lit up at the back of the field. From a distance it is difficult to establish a normal glide path, falsely opting for a constant perceived angle of approach to the airfield. In reality, the runway perspective will change on a constant glide path. The diagrams below demonstrate this illusion. And show why landing short is often the result of the black hole illusion.

The general rule to avoid this illusion is to conduct a normal three leg minimum approach.

Night light visual illusions

There are numerous light illusions that can effect a pilot's judgement. These include:

- Autokinesis – A solitary light can appear to move around the sky. This is a result of the use of the rods within the eye for night vision. Avoiding light fixation and proper scanning of the sky will avoid this phenomenon. Helicopters landing on a single light source are most susceptible to this effect.
- Windscreen refraction – as we look at a straw in a glass of water, rain on the windscreen will refract the light up to 200 feet per nautical mile causing the illusion of being too high.
- Rain Showers – rain showers cause lights on the approach path to be magnified and closer than they really are creating an illusion of being too high.
- Clear Nights – will make distant lights appear closer than they really are.
- Distant lights – differentiation between star light and ground lights is difficult and can create a false horizon. Towns on the horizon can also appear as stars giving an illusion of the aircraft being nose up.

Right-hand circuit effects

Pilots are normally used to viewing a runway on downwind through a constant point of the side window. Viewing a runway on a right hand circuit requires an adjustment in the position of the runway through the windscreen. This can cause the illusion of being too high and causes a descent to a height where the point in the windscreen is closer to the normal position viewed through the left windscreen. The BASI report on the Monarch accident at Young alluded to this illusion as a possible contributing cause.

Focal Trap

The human eye naturally focuses at between 50-100cms or close to the distance from the eye to the windscreen of an aircraft. Dirt or rain can cause the eye to focus on this point and distant light sources can be incorrectly estimated. This can affect distance judgements on straight in approaches, or on right hand circuits looking through the right hand window. Continual eye movement and refocusing on the navigation lights can reduce the effects of this illusion.

Preventing accidents at night

Flying at night demands respect and the following rules should be observed:

- confirm rate of climb attitude and airspeed on instruments;
- climb in the circuit until reaching the lowest safe altitude prior to departure;
- establish altimeter checks approaching critical descent altitudes;
- on approach maintain minimum safe altitude until within 3 NM of the runway;
- complete at least three legs of a circuit;
- use airfield approach aids where possible; and
- ensure the aircraft is stabilised on approach.





Air Travel & DVT

As someone who is now required to medicate for Deep Vein Thrombosis (DVT) the presenter is acutely aware of its dangers. Having first experienced DVT after a long overseas flight the second event occurred following a road trip with the consequence being a life long requirement to take blood thinning medication which in itself has its own dangers. The following provides a detailed awareness of DVT and its dangers and how to combat it.

What is Deep Vein Thrombosis (DVT)

DVT is a condition where a blood clot (thrombosis) forms mainly in the deep veins of the legs. These clots can be present without symptoms or signs but may give rise to swelling of the affected leg, sometimes accompanied by pain (particularly when the foot is flexed upwards) and local tenderness. This swelling should not be confused with the commonly experienced swelling of both lower legs during a long flight, which is due to inactivity and soon disappears after leaving the aircraft.

DVT is not dangerous in itself but complications arising from it may occasionally be life-threatening. Complications occur when a thrombosis breaks away from the wall of the vein to which it is attached and is carried along with the blood flow in what is called an embolus. If the embolus reaches a blood vessel through which it cannot pass, it blocks the vessel. The consequence of such a blockage is called an embolism. The most serious of these occurs in the lungs (a pulmonary embolism) giving rise to chest pain and breathing difficulties, and in the worst case, death from respiratory failure.

People at Risk

While there is no conclusive evidence that travel, particularly flying, is a specific risk factor for developing DVT, medical research indicates that a number of factors, extrinsic and intrinsic, increase the risk for the development of DVT in some groups within the population. The degree to which these factors predispose personnel to the formation of DVT is subject to speculation; however, it appears that a combination of several of these factors may significantly increase the risk of formation of DVT.

Extrinsic and Intrinsic Factors

The potential extrinsic (external) risk factors for DVT associated with travel by air, road or rail are:

- increasing duration of travel;
- the cumulative effect of multiple trips;
- immobility and seat comfort, which may be compounded by obesity or height;
- restriction in leg room;
- seated posture, including when asleep;
- wearing of tight undergarments or movement restricting clothing;
- dehydration;
- alcohol consumption; and compression of the major leg vein by the edge of the seat.

The intrinsic (internal) risk factors are:

- increasing age over 40
- pregnancy;
- cardiovascular disease
- former or current malignant diseases;
- blood disorders leading to increased clotting tendency;
- personal or family history of DVT;
- recent major surgery or injury, especially to lower limbs or abdomen;
- oestrogen hormone therapy, including oral contraception;
- heart failure; and
- varicose veins.

Avoiding Development of DVT

Personnel with any of the above risk factors should consider seeking medical advice before travelling for more than three hours non-stop. Further, personnel undertaking any form of travel in excess of three hours non-stop are advised to take the following action to avoid the development of DVT:

- drink fluids such as water and juices frequently;
- avoid excess of alcohol and caffeine containing drinks both before and during travel;
- avoid smoking
- avoid crossing legs when seated;
- stand and stretch arms and legs, walk around as often as possible
- move legs and feet for three to four minutes per hour;
- wear loose fitting comfortable clothing when travelling; and
- do not use sleeping medications to induce or prolong sleep during travel.

Aspirin and other blood-thinning medications and support stockings are not recommended unless clinically indicated on a case-by-case basis on the advice of a doctor.

Symptoms and Complications of DVT

DVT may not cause symptoms until the blood supply is severely interrupted. Personnel experiencing any of the following symptoms should seek medical advice as soon as possible:

- unexplained pain;
- unexplained shortness of breath;
- sudden swelling of lower limbs;
- enlargement of the superficial veins;
- reddish-blue dis-colouration; or
- skin that is warm to touch

Editorial Comment

We seem to be regularly faced with new threats to our health. Blood clotting has been around since the beginning of man, but it has taken the “fall guy” aviation to create the emotion and threats of litigation against airlines.

Research has shown that DVT is not restricted to economy class air travel over long periods but can result from rail or car travel and an extension of this is obviously our own light aircraft. Obviously we are unable to move around a light aircraft but regular exercising of the legs can improve venous flow. This may be achieved by strong stretching and flexing of the feet. A couple of deep breaths will also increase the central venous flow.

PIPER SUPER CUB FOR MEMBERS



Piper Super Cub VH-PYK is available only to members of RQAC and is based at Archerfield Airport. The aircraft is a tail wheel aircraft and the pilot must therefore be endorsed. The

owner requires the member pilot to be checked and obtain a signed competency statement. The designated check pilot is Jeremy Miller who can also conduct tail wheel endorsements. Once checked, the aircraft is available for members at \$220 per hour (including GST). This really makes flying very affordable. To arrange a check flight or endorsement email secretary@rqac.com.au

2019/2020 RQAC Board Members

President	Glenn Cuffe, president@rqac.com.au
Vice President	John McDonald
Secretary	Ian Tait, secretary@rqac.com.au
Treasurer	Lisa Tait
Committee	David Tait Graham Stokes Joanne Green
Patron	His Excellency the Honourable Paul de Jersey AC



AHSA and the impacts of Covid-19!! by Peter Dunn

I am the Secretary of the Aviation Historical Society of Australia (Qld) Inc. which is a group of aviation enthusiasts who until Covid-19 arrived on the scene, used to meet monthly with a guest speaker in the lounge area of the old Terminal Building at Archerfield Airport.



AHSA Meeting at Archerfield Airport

You can find out more about AHSA by visiting our web site at the following link:-

www.ahsaqld.org.au

Besides our monthly meetings we try to have at least one physical outing a year. Our most recent was a bus trip to the Aviation Heritage Centre at RAAF Amberley. Previous visits included a visit to TAVAS at Caboolture airfield, the Heritage Centre at Trade Coast Central at Eagle Farm and a visit to Sir Charles Kingsford Smith's aircraft at Brisbane Airport.



AHSA Visit to Amberley



Visit to the Tradecoast Central Heritage Centre at Eagle Farm



Visit to Smithy's aircraft at Brisbane Airport

A number of our members are pilots or ex pilots. Financial members also receive a monthly newsletter and newsletters from the AHSA groups in VIC and NSW are also circulated to our QLD members. Members are also able to subscribe to a quarterly journal called "Aviation Heritage" which is published by AHSA VIC.

AHSA (Qld) Inc. Members are able to communicate and share aviation related information with other members via a Google Group mailing list that we have established. AHSA (Qld) Inc. is an affiliated member of the Royal Australian Historical Society.

Covid-19 has wreaked havoc around the world and caused people to look for new ways of doing things. AHSA (Qld) Inc. has led the way in pivoting (I hate that word!) to a new way of operating.

We have moved from having one physical meeting with a guest speaker per month to having multiple Zoom meetings per month with guest speakers. We have pivoted (there's that damn word again!) from only Brisbane members being able to attend, to allowing our country members to attend as well via the magic of Zoom. Not only that, we have also had AHSA members from Victoria and New South Wales plus members from the new Tasmanian Aviation Historical Society attend our online Zoom meetings listed below:-.

- 27 Mar - Peter Dunn "Air Defence Systems 1942"
- 17 April - Peter Dunn "Tips and Tricks for online researching".
- 24 April - Peter Dunn "History of the Eagle Farm WWII Airfield area".
- 19 May - Daniel Leahy "Aviation Archaeology in Australia"
- 29 May - Phil Vabre "Solving 'Circe' - 72 year mystery of a lost flying boat"
- 26 Jun - Justin Taylan "Pacific Wrecks"

All of the above presentations can also be viewed on Facebook.



Some of the AHSA members from around Australia on one of our Zoom meetings

Based on RAAF Training Film

THE ROYAL AUSTRALIAN AIR FORCE
(THROUGH DIRECTORATE OF SUPPORT A.A.M.C. AND
DIRECTORATE OF TRAINING R.A.A.F.)

"ALERT"

Narrated by Sqn Ldr George Mocatta (271950) – Ops. 4, Air Staff, RAAF Command in GHQ SWPA (AMP building)

Find "Alert" on YouTube – search for "RAAF" and "Alert"

Peter Dunn

"Air Defence Systems 1942" by Peter Dunn





“Solving Circe” by Phil Vabre

AHSA groups in Victoria and New South Wales have now followed our lead and adopted our approach to using Zoom for their monthly meetings. AHSA NSW had their first Zoom meeting on Wed 3 June with Tom Lockley presenting on Luigi Pellarini and his aircraft.



“Luigi Pellarini’s aircraft” by Tom Lockley

AHSA VIC had their first Zoom meeting on Thu 11 June with Dr. Ellen K. Stoddart speaking on her son’s involvement as a co-pilot in the Perlin 2 Project involving high altitude flying of a glider over Patagonia.

The Friends of the Air Force History and Heritage Group have adopted our AHSA (Qld) Inc. model by holding their first Zoom presentation on 1 May with Peter Dunn covering "Air Defence Systems 1942" which was followed by another one on 5 June with David Lunney presenting on "453 Squadron RAAF".

RQAC members are welcome to attend our physical monthly meetings once they start again after this Covid-19 health crisis and if you would like to participate in one of our future Zoom meetings please contact Peter Dunn via the e-mail address on our website.