BRISBANE VALLEY FLYER

DECEMBER- 2020

BRISBANE VALLEY SPORT AVIATION CLUB INC

www.wattsbridge.com.au
www.bvsac.org.au

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From the Club

Hello everyone,

Just a couple of notices this month. Note that they are quite important so be sure that you take a note of them.

What a year 2020 was,

It started out with issue regarding the 60 Year lease and this was somewhat concerning with a mix of advice from within our membership and also at Watts itself. In the end it all turned out very well and the executive under the majority vote of the members were happy to sign the new leases. We now have a long term security over our sites.

And then Covid-19 struck and did it strike. We had to cancel all meetings after March until July. After July we were only allowed to hold a meeting with up to 10 members only.

The July, August, September and October meetings were very well attended with the maximum of the 10 people in attendance. This was allowed after we setup our Covid-19 safe plan. If you are attending the clubhouse at any time please sign the book on the table and use the hand sanitizer provided. By singing the book will be able to perform contact tracing if needed. (Not just big brother watching)

The usual BBQ was held after the meeting and this was seen as a great time to catch up with our old friends.

We are hoping that all of our members have survived the Covid-19 crisis and we are hoping to see you all at future meeting.

The Annual General Meeting has been postponed until March as under the approval of the Office of Fair Trading as we would not have the numbers for the meeting. We will give everyone ample notice of the AGM when it gets closer.

During the time that we could not attend the meetings the committee has been busy doing odd jobs around the clubhouse and the hanger. This included mowing the club house area, the hanger area and also the area around the public toilets and the water tank to help out Watts Bridge.

The yearly membership renewals have been sent out to all members and most have returned there payments. A small number of our members have opted not to renew their membership this year. They will be missed and I hope that they can return in the future.

I would like to thank the committee and all the members that have helped me through the year, without them it would have been impossible to get through the year.

The Xmas party is to be held again this year and I am looking forward to see you all there, it is to be held on **Saturday 12th December**.

For those that will not be attending the Xmas party I would like to wish a merry and safe Xmas and new year. Do not get to merry.

Notice - 2

The BVSAC Christmas Party is scheduled to be held on the second Saturday in December. That date being the 12th of December.

All the best

Peter Ratcliffe

BVSAC President

The Art of Flying,
(and Why it's so Different to the Art of Piloting)

By Rob Knight

Pilots, Aviators, Fliers, Aeroplane Drivers, these terms would all seem synonymous but that's only to the uninitiated. While they are all supposed to be people that operate the controls of an aircraft, there are worlds of difference separating the actual concept of these nouns.

In the sixty years since I had my first "ride" in the back seat of a 90 hp PA18 Cub, I have seen people who would fit into all these positions yet could not provide to me confidence in their competence to demonstrate adequately their abilities in the actual art of flying. Sure they do everything right, they operate the aircraft faultlessly, they manipulate the controls faultlessly, their decision making is flawless, yet they still appear as fish out of water. They are not part of the machine. They cannot be as one with the air and the aircraft. Everything they do is because they have reasoned the necessity of the action and it is for a purpose – it is mechanical, a response to get a result that is almost mathematical in its precision. Yet they are still not one with their environment.

So what sets the magical aviating artists apart? It seems to be their ability to feel a special rapport with the airframe and the engine. The aircraft responds to their control movements with a subtlety unseen in the non artists. They manage to achieve max rate turns with less control inputs – their rudder use is effortless and proves to be exactly what is appropriate to balance the adverse yaw – the ball is not consulted to check for no slip or skid. Altitude is maintained because the exact amount of changing back pressure appropriate to the bank angle is applied, but as it is needed and not after the VSI indicates a correction is necessary. The roll-out is smooth. Aileron and rudder are applied simultaneously as needed to smoothly roll the wings level and for the aircraft to stop the roll-out in the perfect wings level attitude, with the nose in exactly the right place to freeze the altimeter and its more sensitive VSI colleague.

An air traffic controller instructs the pilot to climb to a new altitude and without apparent effort the horizon sags below the nose and the RPM increase, all without apparent effort. The pilot just glances at the panel to confirm that what he wanted, he has in fact got. Then, as the altimeter hands approach the desired new level altitude, the nose gently sags and the engine noise softly diminishes as the pilot resets level flight.

Within my sixty years of aviation exposure, I have been instructing for forty six, and was examining for seventeen, and in that time I have literally flown with thousands of other people. Some were pilots already qualified; some were students on their first air experience scared to dip a wing in case they fell out, and the rest somewhere in between. All would say they aspired to being possessors of this magical art of flying but only about 2% at most ever achieved it. In those sixty years, I've had plenty of time to think about why so few ever achieve it and why this cannot be taught, only encouraged.

The essence of what I was saying above is that pilots exhibiting their art of flying, handle themselves and the aircraft apparently without effort. Their control movements are precise and there is no over-control that requires a subsequent remedy to correct, Just the right amount of control input, be it aileron, elevator, rudder, trim, or throttle, to achieve the desired response from the aircraft. It is this ability for precision that the art of flying takes its form. These pilots communicate with their

aeroplanes. Their aeroplanes "talk" to their pilots, and their pilots "listen". Being in a two-way communication allows far greater understanding of what an aeroplane wants, and what it needs to get the best out of it, and that's what these pilots are getting, to the frustration of other pilots who lack the inherent skill to emulate them.

Some will snort in derision at this point in this piece and believe that I am too old and am delusional in this but let me assure you that I am not. Flying an aeroplane as an art form really does exist. Let me explain.

To communicate with your aeroplane you must have some form of communication line and this can only come via the only interface between the human and the machine – the controls. For thousands of hours I have watched pilots struggle with control, holding the stick in a clenched fist and fighting with the aircraft using all their forearm and shoulder muscles. Forearm and shoulder muscles are for heavy lifting and pugilistic activities: they are clumsy and non precise, there can never be finesse in using such muscles. How does a surgeon hold the scalpel, not in a fist, which should have you screaming that you had to leave for a dental appointment you were looking forward to. Instead, the scalpel is held between the thumb and index finger, balanced with the middle finger underneath - exactly how an aeroplane's controls should be held. As forearm and shoulder muscles lack precision, they also lack the ability to give delicate feedback to the nervous system there aren't enough nerves located to feel and provide feedback. Of course there is some, like lifting a log feels heavy, but there's no fine response to the use of these muscles. They are simply too coarse. Also there is little feel in the skin of the hands as they are wrapped around the stick, like a murderer's hands around the throat of their victim. There are simply not enough nerve endings to give feedback that the brain can recognise easily and without ambiguity. In other word, response for an aeroplane's control feel through the forearms, shoulder muscles, and clenched fingers is always muted and muffled, and so is virtually impossible to read with certainty.

Is this how you want your surgeon to hold the scalpel as he operates? Why not? 'Cos there's no precision in a fist except for punching!

Holding the scalpel to operate with precision – in the fingers NOT the fist. The fingers are not wrapped around the instrument

Again I hear ridicule. "Ya can't fly a 'plane with jus' ya fingers", I can clearly hear.

"Well yes you can", is my informed and experienced reply. As a student in the Piper Cub I learned in, the instructor would snatch the stick during flight and if he didn't feel it free in his hands I got a rocked for holding the stick in my fist. Learned early can mean learned best.

Probably the heaviest controls of any aeroplanes I have flown are Cessna 206/207s and PA32 Cherokee Sixs carrying out an overshoot with a full load on board and full flaps. There is a device fitted to both these aircraft (and almost all others, I might add) to remove such control pressures. It's called the TRIM. This is one of the most underused pilot aid devices fitted to aeroplanes. Few pilots, without forceful instruction during the initial training, naturally use this device to its full potential. In this situation is absolutely necessary. A properly trimmed aeroplane (of the non-military fraternity) can be flown with the on the back of the stick or yoke, and finger spread on the across but

not around the front as shown in the image below. It's only at this point, with this technique, that the real art of fly can be achieved. An aeroplane in flight should only be in one of two stages in regard to trim: either in trim, or being trimmed by the pilot. No other condition is permissible for competent piloting, and certainly not when the art form of flying is being examined. You can't fly an aeroplane with your fingertips if it is out of trim. Doing PPL and CPL flight tests, the examiner can request the controls at any time the aeroplane is in steady flight and if that aeroplane is not trimmed correctly it's a mark against the candidate.

Holding the controls in your spread fingers.
None are wrapped around the stick, they don't need to be except to satisfy the nervous fears of the pilot.

Using the precision digits (fingers) instead of bulk-force arms and shoulders, opens a communication line that, if you have never tried it, will be a real eye-opener. Take a steep turn for example. Rolling in with aileron using fingers will, with practice, make balancing adverse yaw with rudder more precise.

"BS", I hear. But it's true. The improved "feel" you will have using your sensitive fingers controlling the ailerons will, with practice, give you a far better guide to how much rudder you will need and your dependence on the ball will reduce from a visual directive for immediate rudder correction to a reassurance check that you've got it right. It's very satisfying when you reach that stage in your art development.

Then, when in the turn, back pressure will be needed to maintain the increased angle of attack to maintain height. Hauling the stick back with insensitive arms and shoulders makes it hard to get it right whereas, the correct and necessary backpressure is a mere finger squeeze away. The delicacy and finesse of the finger muscles in making small and delicate back pressure adjustments will give great precision to the amount of back pressure being applied which, in turn, makes it far easier to regulate the back pressure to suit and maintain the specific angle of attack needs required to maintain height. In a steep gliding turn, using fingers makes it far easier to maintain the attitude for the correct airspeed. Arms and shoulders provide over-control actions and are never precise.

But it is in the stalling exercises that "finger-tip" control really excels. Changing the point of contact, the interface, between you and your aeroplane, from a coarse sensitivity to a delicate and precise one, will allow you to "feel" the stall developing through you very fingers. While your clenched fist may have felt the aeroplane "dying" as the stall develops and the lift subsides, fingertips will allow you to read the process like heartbeat, the burble of breaking air being like that of the blips of heart beat monitor in a hospital: you can almost count them in some aircraft. Listening to your aeroplane through your fingertips will give you information that you never previously held, and this will give you the ability to apply hitherto unrealizable precision to your flying. Naturally, you'd not want to change your trim when carrying out a stall, but as the airspeed falls, so does the stick pressure and I don't recall it ever being an issue, even in Beechcraft Bonanzas as well as the previously mentioned Cessnas and Pipers.

The same exists with the landing flare and float. Properly trimmed for the approach speed required, I don't recall any difficulty flaring with my fingers in any aeroplane type, nor holding off in the float. The falling airspeed in the float reduced the stick pressures enough to be able to do it comfortably.

But wait, you haven't heard it all yet – there's a flow-on effect! With the aeroplane so easy to fly accurately, more time and brain processing is available for the other duties of the pilot. Earlier decision making and better time management automatically follow as the pilot is more relaxed and can more easily think and work ahead of the aeroplane in both geographical terms and time. Where a pilot might be absolutely occupied managing the aeroplane and its systems as well as its spatial location and orientation, the reduction of workload in this very simple way, will ease that pressure across the board. A new and enlightened pilot will be born.

So there you have it. Pilots that exhibit the art of flying do so through the fine, precision control available via fingers and not fists. This will require frequent and accurate use of the trim which eliminates the need for white knuckled fists to be wrapped around a control stick or yoke, slowly strangling it to death. Someone being strangled is unable to speak – watch any murder-mystery on TV.

Thus you can now see that piloting is a merely crude manipulation of the aeroplane's controls to achieve safe flight. It doesn't have to be neat or tidy: it just needs to not result in an accident. Whereas, if you wish to excel at the art of flying and apply a more subtle approach to your controlling of the aeroplane, you, too, might find the aeroplane will delight in your listening and behave better. Also, your passengers will enjoy your flying more, and will be less prone to airsickness.

But wait – there's more. Don't charge off and try it ad hoc. Take an instructor with you. He might just see your success and try it too. That way the word might get spread around a little quicker.

Happy Flying

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The 1966 Demise of the Warbird of my Dreams

By Rob Knight

From an article By Christian Gelzer

June 8, 1968, just two days short of the first annual anniversary of my first solo, my dream aircraft, the NAA's XV Valkyrie, the very personification of sleekness, the very image of low drag design, something a sky-bound 20 year old could look at and dream over crashed from 30,000 feet into an American desert.

The XB-70 Valkyrie in flight. Note the in-flight, droopable wing tips that allowed the aircraft to ride on its own supersonic shock wave.

One of the US's worst kept secrets, even in the back blocks of northern New Zealand, interested people had heard of, seen images of, and read of the performances of the nearest thing to the starship enterprise of the day . . And then silence. The world moved on without news of this aircraft and for several years there was little said. Then the news came out that the flying prototype had suffered a mid-air collision with a chase/photography plane and everyone had been killed. Then the project had been scrapped. Initially I thought the crash had lead to the abandonment of the project but later news gave the cancellation as the result of improved Soviet anti-aircraft missiles. There-in lay the demise of the most beautiful aircraft in the history of aviation and the design was laid to rest.

Built at a cost in today's money of around US$5.2 billion dollars, the North American Aviation XB-70 Valkyrie was the prototype version of the planned B-70 nuclear-armed, deep-penetration strategic bomber for the United States Air Force Strategic Air Command. Designed in the late 1950s by North American Aviation (NAA), the six-engined Valkyrie was capable of cruising for thousands of miles at Mach 3+ while flying at 70,000 feet (21,000 m).

The ill-fated June 8, 1966 formation flight centred on the XB-70, flanked by a T-38A, F-4B, Walker's F-104N (orange tail), and an YF-5A. NASA photo. In 1961, President John F. Kennedy signed an initiative endorsing the development of an American supersonic transport – SST for short – capable of flying three times the speed of sound.

As part of that initiative, NASA's Flight Research Centre (today the Dryden Flight Research Center) at Edwards Air Force Base, Calif., began flight experiments with a Navy A-5A Vigilante in 1963, exploring landing approaches of such a high-speed aircraft in a crowded air traffic environment. Pilots flew the aircraft on approaches to Edwards, but also into Los Angeles International Airport for more realistic simulations of integrating an SST into landing patterns in a high-volume commercial airport.

The next phase of the effort would involve North American Aviation's XB-70.

The Valkyrie, as it was named, was enormous for its time: its cockpit was three stories in the air, its delta wings stretched 105 feet and it was 185 feet long. Six General Electric YJ93 jet engines could propel the plane at speeds up to Mach 3, three times the speed of sound. Weighing a half-million pounds due to its stainless steel rather than aluminium construction, the Valkyrie was designed as an intercontinental bomber and it featured an advanced aerodynamic design, including canards and drooping wing tips. The program was cancelled before the aircraft went into production; however, leaving two prototypes that became research aircraft.

Long 'n' lean, the XB-70 in flight

The Air Force planned to turn over the second XB-70 to the Flight Research Center in June 1966 for a NASA SST research program. But before it did so a photo shoot was planned. Like many other Air Force aircraft, the XB-70 was powered by General Electric jet engines, and the manufacturer wanted a group formation photo of those planes.

On June 8, 1966, an F-4B Phantom, a YF-5A Freedom Fighter, a Lockheed F-104N Starfighter, and a T-38A Talon formed up on the huge, white XB-70 over California's high desert near Edwards. The photo chase aircraft that day was a Learjet owned by singer Frank Sinatra. Flight Research Center chief pilot Joe Walker, who had flown the X-15 rocket plane, the Lunar Landing Research Vehicle and many other unique research aircraft, was flying one of the center's F-104s just off the Valkyrie's right wing.

Without warning, Walker's F-104 was suddenly drawn in toward the bomber. His aircraft clipped the right wing tip, rolled up and over, struck the XB-70's right vertical fin, sheered off most of the left vertical fin, and exploded into a ball of fire as it glanced off the left wing. Walker died instantly.

Walker's F-104 burning after clipping the starboard vertical fin on the XB-70

"Mid-air! Mid-air! Mid-air!" yelled one of the chase pilots over his radio.

For 16 seconds the XB-70 continued to fly straight and level. Then the experimental bomber began a slow roll into an inverted spiral; portions of a wing broke away and fuel began streaming from the stricken aircraft.

Eject! Eject! Eject!" yelled another chase pilot, as the airplane began falling away toward the hills north of Barstow, Calif. North American Aviation pilot Al White managed to eject, although he was severely injured in the process. Air Force Maj. Carl Cross could not get out, however, and died in the crash.

The crash investigation pointed to the wake vortex of the XB-70's wingtips as the reason for the F-104's sudden roll over and into the bomber. Not much was understood about wake vortices at the time, although they are now recognized as very powerful and potentially deadly mini-tornados trailing from an aircraft's wingtips. Regardless of the cause, in less than two minutes, the Air Force and NASA had lost two aircraft and, much worse, two talented test pilots.

Although not as capable in performance as the aircraft that crashed, the remaining XB-70 was pressed into service. It flew for another two years conducting sonic boom research in connection with the SST program until it was retired when that program was cancelled.

In early 1969, NASA research pilot Fitzhugh Fulton and Air Force Lt. Col. Emil "Ted" Sturmthal ferried the surviving XB-70 to Wright-Patterson Air Force Base, Ohio, where it remains on display today at the National Museum of the U.S. Air Force.

Specifications (XB-70A)

North American XB-70A Valkyrie Ser. No 62-0001 on display at Wright-Patterson AFB in Dayton, Ohio.

General characteristics

- **Crew:** 2
- **Length:** 185 ft 0 in (56.39 m)
- **Wingspan:** 105 ft 0 in (32.00 m)
- **Height:** 30 ft 0 in (9.14 m)
- **Wing area:** 6,297 sq ft (585.0 m^2)
- **Airfoil:** Hexagonal; 0.30 Hex modified root, 0.70 Hex modified tip
- **Empty weight:** 253,600 lb (115,031 kg)
- **Gross weight:** 534,700 lb (242,536 kg)
- **Max takeoff weight:** 542,000 lb (245,847 kg)
- **Fuel capacity:** 300,000 pounds (140,000 kg) / 46,745 US gal (38,923 imp gal; 176,950 l)
- **Powerplant:** 6 × General Electric YJ93-GE-3 afterburning turbojets, 19,900 lbf (89 kN) thrust each dry, 28,000 lbf (120 kN) with afterburner

Performance

- **Maximum speed:** 1,787 kn (2,056 mph, 3,310 km/h)
- **Maximum speed:** Mach 3.1
- **Cruise speed:** 1,738 kn (2,000 mph, 3,219 km/h)
- **Combat range:** 3,725 nmi (4,287 mi, 6,899 km)
- **Service ceiling:** 77,350 ft (23,580 m)
- **Lift-to-drag:** about 6 at Mach 2
- **Wing loading:** 84.93 lb/sq ft (414.7 kg/m^2)
- **Thrust/weight:** 0.314

(It's only got two seats so I wonder if RA-Aus would give ne a dispensation for its being over-weight?)

------ ooOOoo ------

An Auster Goes it Alone

Adapted from an article by Dave Gampfer

Photo: Kimberley Dunstan RAN 1958-67, kindly sent for the Unofficial RAN Centenary 1911-2011 Photostream

On her Coronation cruise in 1953 HMAS Sydney shipped two Auster Autocar J-5G aircraft home from the UK for use as communications and training aircraft at the Royal Australian Navy Air Station at Nowra, south of Sydney. For 10-years they served variously with 723, 724 and 725 Squadrons.

The Auster Autocar J-5G is a single-engine, four-seat, high-wing monoplane, built by Auster Aircraft at Rearsby, Leicestershire. Based on a 1940s Taylorcraft design, it used a four cylinder, air-cooled, 155 hp Blackburn Cirrus Major engine, giving it a range of 500 miles and a top speed of 116 mph. The Auster was a popular civilian light-aircraft, which was adopted by the military as an AOP/artillery spotter among other things.

At RANAS Nowra the Austers looked out of place among the high-powered fleet-air-arm aircraft, but they were useful aircraft. Seemingly, the main role for the Auster was to do the jobs ‘real’ aeroplanes didn’t do. Also pilots no longer posted to squadrons could keep-up their flying time and 'refresh'. As such it was not unusual to see an Auster, piloted by someone 'a little rusty,' doing ‘kangaroo hops’ down runway 21, then flying around Nowra Hill and repeating the performance. But the Auster was a sturdy, reliable little aircraft and they performed well.

Anyway, life wasn’t always dull for the RAN Austers - because one was involved in a bit of excitement - along with two Hawker Sea Fury aircraft. The date in question was 30 August 1955 and the excitement was caused by a runaway civilian Auster Archer J-4, which had taken off from Bankstown airport, without anyone at the controls. Apparently the pilot had dismounted to restart the engine by hand. One flick of the propeller - and away went the Auster down the runway and into the sky.

Needless to say the situation was causing the authorities some dismay. But one of the RAN Austers from Nowra was making its way to nearby Schofields aerodrome and the pilot, Commander J. Groves, offered to trail the runaway Auster, which was heading across town towards Sydney CBD. After watching the errant Auster for over an hour, the RAN Auster had to break-off from the chase as it had been airborne for more than three hours.

Meanwhile, with Sydney radio stations broadcasting minute-by-minute reports on the Auster's progress, the excitement on the ground was nearing fever-pitch. In a bold stroke the authorities called the RAAF who scrambled a Wirraway from Richmond airbase to shoot down the delinquent Auster.

By now the pilotless Auster had managed to fly across the city to Manly where it turned north towards Palm Beach. Flying into a steady breeze the Auster gained altitude - to around 9,000 ft. Here the air tends to be cold and as the gunner in the rear of the Wirraway was to find out, it was very cold. In fact so cold he was unable to change magazines on his Bren gun after his initial shots failed to stop the Auster.

With the Wirraway retiring from the scene, the RAAF sent two Meteor jet-fighters from Williamtown to intercept the Auster. Very soon the Meteors caught up with the troublesome Auster. However, because the Auster was only doing about 60 knots, the pilots found it difficult to position for a shot. Adding to the frustration the first Meteor's guns jammed - having fired only a few rounds. And the second didn't shoot at all

Meanwhile, at the RAN air-station at Nowra, south of Sydney, two Sea Fury aircraft had returned to base after firing rockets at Beecroft Range. The Sea Furies, from 805 squadron, were piloted by Lieutenants Peter McNay and John Bluett. Both of their aircraft were quickly loaded with 20mm ammunition and the pilots were told to fly to Sydney.

Flying north the two RAN Sea Furies arrived on the scene shortly after the RAAF Meteors broke-off their engagement. As a precaution, to ensure the Auster Archer was empty, McNay lowered his flaps and undercarriage, slowing his prop-driven Sea Fury - to check the cabin – as a report had been received that a schoolboy might be onboard

Ensuring it was empty; McNay repositioned his Sea Fury behind the Auster, now flying at about 10,000 ft and some distance out to sea. McNay fired a short burst from his 20mm cannons - hitting the Auster and knocking it out of a turn. Bluett, in the other Sea Fury, then fired from a beam-on position, causing the Auster's cockpit to burst into flames. Badly damaged, the Auster nosed-down in a slow spiral. McNay followed with another burst from his cannons, sending the Auster crashing into the sea

This was handy work on the part of the RAN pilots, not least because the navy Auster was nearby when the Auster Archer took-off from Bankstown. Pilotless from around 8.30 am the Auster was airborne for over three hours. When the Sea Furies arrived it was 11.35, by 11.42 the Auster was destroyed - hitting the ocean about five miles off the coast. The remarkable thing is the runaway Auster was airborne for so long - and fortunately not involved in a major accident

The RAN Austers were small as fleet-air-arm aircraft go - but big surprises come in small packages. By 1963, the RAN had withdrawn their Austers from service, disposing of them soon after. However, one of the Austers was rediscovered and is now housed at the Fleet Air Arm Museum, near Nowra, about 2-hours drive south of Sydney...

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The Ultimate Jet-Ski

Collated by Rob Knight

An XF2Y-1 Sea Dart in flight

It was pure James Bond: A supersonic fighter that took off from and landed on water. Just three years after World War II, Convair (Consolidated Vultee Aircraft Corporation) of San Diego, California, entered a U.S. Navy contest to build a water-based interceptor. Its XF2Y-1 Sea Dart was a midnight blue, delta-wing, twin-engine, supersonic jet with retractable skis for landing gear. The engine intakes sat high to avoid sea spray, giving the craft the appearance of a bodybuilder with rippling shoulder muscles.

Right away, the Sea Dart was treading water. Underpowered by a pair of Westinghouse non-afterburning J-34 engines, each coughing out 3,400 pounds of thrust, the jet stayed stubbornly below Mach 1. Worse, it bounced hard on the waves, and the resulting vibrations jack-hammered the pilot. Convair's chief test pilot, E.D. "Sam" Shannon, reported that at near-takeoff speeds, the vibrations impaired his vision. Shannon did take off in the XF2Y-1 for the first time on January 14, 1953 — accidentally — on a high-speed taxi that went airborne for about 1,000 feet. The official first flight took place three months later, on April 9.

In August of the following year, Convair test pilot Charlie Richbourg flew a second Sea Dart, the YF2Y-1, powered by stronger Westinghouse J-46 afterburning turbojets, each with 6,000 pounds of thrust, through the sound barrier in a shallow dive at 34,000 feet. The Sea Dart became the only seaplane ever to go supersonic. But even with the more powerful engines, it never broke the sound barrier in level flight.

About to alight on its skis

By then, the Navy was coming around to the realization that carrier-based jets were an all-around better option than seaplanes. In the midst of this shift, on November 4, 1954, Richbourg made a high-speed pass in the Sea Dart for some reporters and Navy brass assembled along the San Diego Bay. Rocketing by at 575 mph, he lit the afterburners. The kick from the high-mounted engines pitched the airplane's nose down. When Richbourg tugged back on the stick to correct it, the jet entered a divergent, or progressively severe, pitch oscillation, and broke up almost immediately. The accident killed him and the rest of the dwindling support for the program. Though the Navy granted the Sea Dart three more years of experimental status with dual and single skis of various designs, it cancelled orders for production versions.

Convair pilot B.J. Long, the Sea Dart's lone surviving test pilot, recalls his final flight, made on January 16, 1956. "It just about broke my back," he says by phone from his home in southern California. Taking off on the calm water of the bay, he flew out to open sea, where the test called for setting the seaplane down in swells ranging from six to 12 feet. As he did so, his helmet smashed the

A shower of spray and we're away....

interior of the cockpit with such force that he thought he tasted blood (later, he found that the impacts had driven mucus from his sinuses into his mouth). The ensuing takeoff was almost catastrophic. Keeping the nose high to avoid piercing the waves, he ricocheted off their crests, a ride that slammed him ruthlessly at 9 Gs and left him dazed as the airplane took flight.

Now 86, he says a heart attack and bypass surgery late in life are unrelated to his 187 landings in the Sea Dart. "But that final flight," he jokes, "that gave me my brain damage."

The aircraft was built in Convair's San Diego facility at Lindbergh Field and was taken to San Diego Bay for testing in December 1952. On 14 January 1953, with E. D. "Sam" Shannon at the controls, the aircraft inadvertently made its first short flight during what was supposed to be a fast taxi run; its official maiden flight was on 9 April.

The underpowered engines made the fighter sluggish, and the hydro-skis were not as successful as hoped; they created violent vibration during takeoff and landing, despite the shock-absorbing oleo legs they were extended on. Work on the skis and legs improved this situation somewhat, but they were unable to resolve the sluggish performance. The Sea Dart proved incapable of supersonic speed in level flight with the J34 engines; not helping was its pre-area rule shape, which meant higher transonic drag.

An XF2Y-1 in flight with hydro-skis extended

The second prototype was cancelled, so the first service test aircraft was built and flown. This was fitted with the J46 engines, which performed below specification. However, speeds in excess of Mach-1 were attained in a shallow dive with this aircraft, making it the only supersonic seaplane to date. On 4 November 1954, Sea Dart BuNo 135762 disintegrated in midair over San Diego Bay during a demonstration for naval officials and the press, killing Convair test pilot Charles E. Richbourg when he inadvertently exceeded the airframe's limitations. Richbourg was a 31-year-old Navy veteran of the Second World War. He was quickly pulled from the water but did not survive the airframe breakage. He was buried in St. Augustine National Cemetery in Florida.

Even before that, the Navy had been losing interest (problems with supersonic fighters on carrier decks having been overcome) and the crash relegated the Sea Dart program to experimental status. All production aircraft were cancelled, though the remaining three service test examples were completed. The two final prototypes never flew.

Despite the fact that the airplane was officially retired and had not flown since 1957, at least one F2Y was still in storage as of 1962. As a result, it was redesignated YF-7A under the 1962 United States Tri-Service aircraft designation system.

The last of its kind

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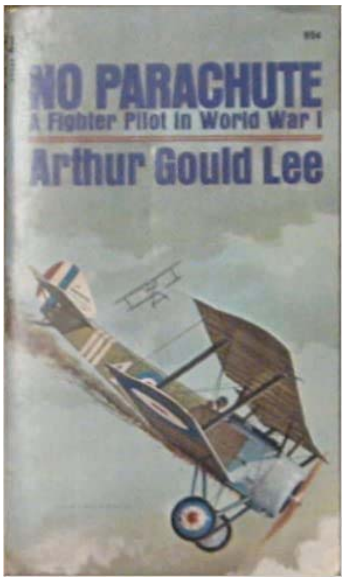
Book Review

Book Title: **No Parachute**

Author: Arthur Gouild Lee (WW1 memoir)



No parachute is the memoir of Arthur Lee and deals with his time as a fighter pilot flying across the German lines in France during World War One

'NO PARACHUTE' is uniquely authentic: a collection of letters written by a young pilot with the Royal Flying Corps (RFC) 1917. He depicts breathless dogfights between Sopwith Pups and Albatross fighters, the eerie sensations of flight that are associated with low flying in a Sopwith Camel, the bitter cold of high altitudes in an open cockpit, the frantic panic of engine failure behind enemy lines .. It's a vivid anecdotes of air fighting in the latter stages of the First World War.

I found the book easy to read with no tendency to put it down. I was involved the whole way through it, Still available on EBay, I see that good condition copies can be bought for just a few dollars.

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FLY-INS Looming

13 Dec 2020	Murgon (Angelfield)	Burnett Flyers Breakfast Fly-in
14 February 2021	Murgon (Angelfield)	Burnett Flyers Breakfast Fly-in

Harry's Joke:

As a boy I recall clearly sitting down to lunch with a large bowl of tomato soup in front of me. My younger sister, normally quiet and demur, asked my Father if you could eat bugs. My father snorted and told her brusquely the topic was not for discussion during lunch so she should shut-up. I wondered at her faintly mocking smile as she graciously complied with Father's wishes.

After the meal, my Father broached the subject and asked why she wanted to know if bugs were OK to eat? She replied in her soft voice that it was because she had seen a green caterpillar drown in his soup and sink, and she wanted to tell him it was there before he ate it.

Father was quiet for the rest of the meal which he sat out – he didn't want anything more.

The Night Before Christmas - Aviation Style

'Twas the night before Christmas, and out on the ramp,
Not an airplane was stirring, not even a Champ.
The aircraft were fastened to tie-downs with care,
In hopes that come morning, they all would be there.

The fuel trucks were nestled, all snug in their spots,
With gusts from two-forty at 39 knots.
I slumped at the fuel desk, now finally caught up,
And settled down comfortably, resting my butt.

When the radio lit up with noise and with chatter,
I turned up the scanner to see what was the matter.
A voice clearly heard over static and snow,
Called for clearance to land at the airport below.

He barked his transmission so lively and quick,
I'd have sworn that his call sign was "Old St. Nick"
I ran to the panel to turn up the lights,
The better to welcome this magical flight.

He called his position, no room for denial,
"Old St. Nick One, turnin' left onto final."
And what to my wondering eyes should appear,
But a Rutan-built sleigh, with eight Rotax Reindeer!

With vectors to final, down the glideslope he came,
As he passed all fixes, he called them by name:
"Now Ringo! Now Tolga! Now Trini and Bacun!
On Comet! On Cupid!" What pills was he takin'?

While controllers were sittin', and scratchin' their head,
They phoned to my office, and I heard it with dread,
The message they left was both urgent and dour:
"When Santa pulls in, have him please call the tower."

He landed like silk, with the sled runners sparking,
Then I heard "Left at Charlie," and "Taxi to parking."
He slowed to a taxi, turned off of three-oh
And stopped on the ramp with a "Hi, ho-ho-ho..."

He stepped out of the sleigh, but before he could talk,
I ran out to meet him with my best set of chocks.
His red helmet and goggles were covered with frost

And his beard was all blackened from Reindeer exhaust.
His breath smelled like peppermint, gone slightly stale,
And he puffed on a pipe, but he didn't inhale.
His cheeks were all rosy and jiggled like jelly,
His boots were as black as a cropduster's belly.

He was chubby and plump, in his suit of bright red,
And he asked me to "fill it, with hundred low-lead."
He came dashing in from the snow-covered pump,
I knew he was anxious t' start drainin' the sump.

I spoke not a word, but went straight to my work,
And I filled up the sleigh, but I spilled like a jerk.
He came out of the restroom, and sighed in relief,
Then he picked up a phone for a Flight Service brief.

And I thought as he silently scribed in his log,
These reindeer could land in an eighth-mile fog.
He completed his pre-flight, from the front to the rear,
Then he put on his headset, and I heard him yell, "Clear!"

And laying a finger on his push-to-talk,
He called up the tower for clearance and squawk.
"Take taxiway Charlie, the southbound direction,
Turn right three-two-zero at pilot's discretion"

He sped down the runway, the best of the best,
"Your traffic's a Grumman, inbound from the west."
Then I heard him proclaim, as he climbed thru the night,
"Merry Christmas to all! I have traffic in sight."

The End

What the Hell is THAT – An Edgely Optica

The Edgley EA-7 Optica is a British light aircraft designed for low-speed observation work, and intended as a low-cost alternative to helicopters. It first flew in 1979.

The aircraft has an unusual configuration with a fully glazed forward cabin, reminiscent of an Alouette helicopter that provides 270° panoramic vision and almost vertical downward vision for the pilot and two passengers. The aircraft has twin booms with twin rudders and a high-mounted tailplane. It is powered by a Lycoming flat-six normally-aspirated engine situated behind the cabin and driving a fixed pitch ducted fan. Due to the ducted fan, the aircraft is exceptionally quiet. The aircraft has a fixed tricycle undercarriage with the nose-wheel offset to the left. The wings are unswept and un-tapered. The aircraft is of fairly standard all-metal construction, with stressed skin of aluminium.

The Optica has a loiter speed of 70 knots and a stall speed of 58 knots. The project began in 1974 with a company, Edgley Aircraft Limited, formed by John Edgley who, with a small team, designed and built the original prototype.

The Optica, powered by a 160 hp Lycoming IO-320 engine, made its maiden flight on 14 December 1979 when it was flown by Squadron Leader Angus McVitie, the chief pilot of the Cranfield College of Aeronautics.

The Optica was upgraded to the more powerful Lycoming IO-540 and entered production in 1983. Edgley Aircraft Limited obtained its initial Civil Aviation Authority certification on 8 February 1985.

A total of 22 Opticas have been manufactured, and construction of a 23rd begun but not completed. Ten aircraft were destroyed in an arson attack at the factory

Keeping up with the Play (Test yourself – how good are you, really?)

1. In the southern hemisphere, if the wind speed increases is it likely to change direction and if so, which way
   A. No, the direction is likely to remain constant.
   B. Yes, the direction will change by veering.
   C. Yes, the direction will change by backing.
   D. Yes, the direction is likely to change by backing or veering.

2. Magnetic variation is:
   A. The angular difference between true north and north as indicated by the compass in a specific location on the earth's surface.
   B. The angular difference between true north and magnetic north as indicated by the earth's magnetic field in a specific location on the earth's surface.
   C. The difference between what a compass actually indicates, and what it should indicate.
   D. The difference between what a compass actually indicates, and what it should indicate, caused by residual electrical currents in the aircraft.

3. Compass deviation is:
   A. The difference between magnetic north and true north.
   B. The compass error caused by the widening of the meridians as they progress towards the equator.
   C. The angular difference between an actual position and the position flown for using a compass heading.
   D. The difference between what a compass actually indicates, and what it should indicate, caused by extraneous electrical currents in the aircraft.

4. Which of the following causes an aeroplane to turn when banked?
   A. Lift and thrust combined.
   B. Yaw.
   C. The horizontal component of lift
   D. The ball being centred.

5. If your heading is 045, how long will it take to complete a rate 1 turn onto your reciprocal?
   A. 30 seconds.
   B. 60 seconds.
   C. 120 seconds.
   D. 240 seconds.

See answers and explanations overleaf

Answers: 1, C, 2, B, 3, D, 4, C, 5, B.

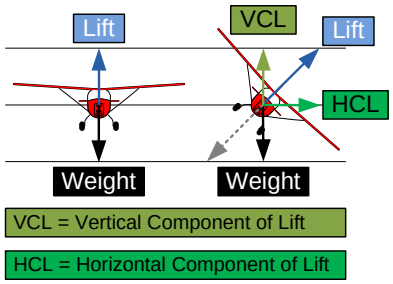
If you have any problems with these questions, See Notes below or call me (in the evening) and let's discuss them. Rob Knight: 0400 89 3632.

1. C is correct. In the atmosphere, if the wind speed changes, a force called coriolus will cause a directional change to that wind. In the southern hemisphere a decreasing wind speed will cause the wind direction to veer and vice versa. The reverse also occurs and an increasing wind speed will cause the direction to back. For this reason, when the wind speed increases after the passage of a cold front, the wind backs and this "backing" is taken as the sign of the passage of the frontal surface. In the late afternoon after a hot day, just on dusk, the wind speed will usually decrease because of the reduced thermal activity in the atmosphere. At this time, the reduced wind speed will be accompanied by the wind veering.

2. B is correct.
   Magnetic variation, sometimes called magnetic declination, is the angle between magnetic north (the direction to which the north end of a magnetized compass needle points) and true north (the direction along a meridian towards the geographic North Pole). This angle varies depending on position on the Earth's surface and it changes over time.
   https://en.wikipedia.org/wiki/Magnetic_declination

3. D is correct
   Magnetic deviation is the error (measured in degrees) induced in a compass reading by local magnetic fields, which must be allowed for, along with magnetic variation if accurate headings are to be calculated
   https://en.wikipedia.org/wiki/Magnetic_deviation

4. C is correct.
   As indicated in the sketches on the right, when banked, the lift produced by an aeroplane's wings is inclined to the vertical and can be considered as two vector force components. The vertical component supports the weight while the horizontal component pulls the aeroplane around the turn



5. B is correct.
   A rate one turn provides a yaw rate of 3°/second. Thus, for 180°, it will take 60 seconds (180/3=60). Obviously the angle of bank required to achieve this yaw rate will be determined by the TAS and the angle of bank can be calculated (somewhat loosely) by the following formula.
   Angle of Bank for Rate 1 turn = $\frac{\text{TAS}}{10} + 7$
   i.e. for TAS of 150 knots..... 150/10=15. 15 plus 7 = 22. So angle of bank required = 22°.

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Aircraft Parts and Tools

Item	Condition	Price
VDO Volt Readout instrument	Brand New	**$70.00**
Toolpro 3/8 drive Torque Wrench	As new	**$50.00**
Altimeter – non-sensitive with subscale in "Hg.	Brand new, in box	**$50.00**

Headsets

AvCom headset. Functions perfectly	Excellent	**$150.00**

Contact Rob Knight at either kni.rob@bigpond.com, or call **0400 89 3632**.

Vehicles for Sale

Ute-back Trailer

The rear end of a Ford Courier ute, covered with a Courier fibreglass canopy. Very robust, good tyres, complete with spare - on Land Rover hubs and wheels.

Tows very well: Excellent condition.

For quick sale - $2100.00 ono

Contact Rob Knight - **0400 89 3632**

Rowing scull for sale

4 man crew plus coxswain.

Fibre glass hull with wood trim.

Sale includes four oars and accessories.

As is condition.

For further details contact

Bob Hyam. 07 5426 8983

$1950

Aircraft for Sale

¾ scale replica Spitfire **$55,000 neg**

This aircraft is airworthy, flown regularly, and always hangared. Registered 19-1993, it is powered by a 6 cylinder Jabiru engine (number 33a-23) with 300 hours TTIS. The airframe has logged a mere 320 hours TTIS. This delightful aircraft recently been fitted with new mounting rubber, a new alternator, and regulator, an new fuel pump and jack stands

.It handles superbly and is available for immediate collection or delivery by arrangement.

Kept at Kentville in the Lockyer Valley, interested parties should contact either:

Kev Walters on Tel. **0488540011** or

William Watson on Tel., **0447 186 336**

The Swamp – Ding Duck

By Gary Clark.

Aircraft For Sale

$ Make Me an Offer$

Cobham Cobra

An opportunity to buy a unique aircraft.

I now have a Foxbat, and can't to afford to keep 2 aircraft. The Cobra was advertised for about a year in Sport Pilot, with many enquiries, but no resulting sale. Rather than continuing to spend on hangarage and advertising I decided to de-register it, remove the wings, and trailer it home to my shed. I don't intend to ever fly it again so, make me an offer. It provides very cheap and enjoyable flying.

It is a one-off design, a single seater with a fully enclosed cockpit. It has a 24 foot wing-span, and is powered by a VW engine that provides sporty performance and superb handling. The airframe has logged 653 hours and the engine 553 since installation. It is easy to start, but requires hand-propping.

To see it in action go to
https://www.youtube.com/watch?v=V5Qx4csNw_A&list=PLpBv2A6hk66Tg9DiCsjEtt4o4o8ygcTju&index=1&t=22s

It cruises at around 80 knots at 11-12 litres/hr. The tanks hold 48 litres so it has a very reasonable range. For my approaches I use 50 knots on my initial approach down to 40 knots on short final. You will want a fair bit of tailwheel time.

For further details contact Tony Meggs on (02) 66891009 or tonymeggs@fastmail.fm

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