

BRISBANE VALLEY FLYER

AUGUST - 2017



Watts Bridge Memorial Airfield, Cressbrook-Caboonbah Road, Toogoolawah, Q'ld 4313.



John Hilton, 2017's proud Poker Run winner
See page 11.

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Hello Everyone,

Would you believe that the August 2017 edition of the Brisbane Valley Flyer is the 50th publication lovingly crafted by your editor Rob Knight?? That's right the **big FIVE-OH**. It seems like only a little longer than yesterday that Rob and I put our heads together in an effort to take the club's newsletter into a new and more informative direction. And Rob has delivered in spades with each and every issue starting back in March 2013.

In the long history of the club, which spans almost 40 years, there has always been a monthly newsletter. Always! I believe wholeheartedly that those newsletters are a key component of our success and longevity. As the aims and direction of the club have changed over the years, so have the newsletters, keeping us current and relevant to the members. The last 156 editions of the newsletter are available for download from the Watts Bridge Website, and even in that relatively short time period it is interesting to see and reminisce just how much our "brand" of aviation has changed.

"So on behalf of all the members of the Brisbane Valley Sport Aviation Club, I sincerely thank Editor Rob Knight for the considerable time and effort he puts into our monthly newsletter." Thankyou

But: It just gets better and better

Toward the back of each newsletter there is always a Questions and Answers Page allowing us to check and increase our knowledge of aviation. And fair to say some of those questions are fiendishly difficult, sometimes with tricks thrown in for good measure. So Rob is going to attend the August monthly meeting to work through some of the questions that have proven so difficult.

Richard Faint – BVSAC President

Rob Knight – Just drifting.



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Weight and Balance – How to do it?

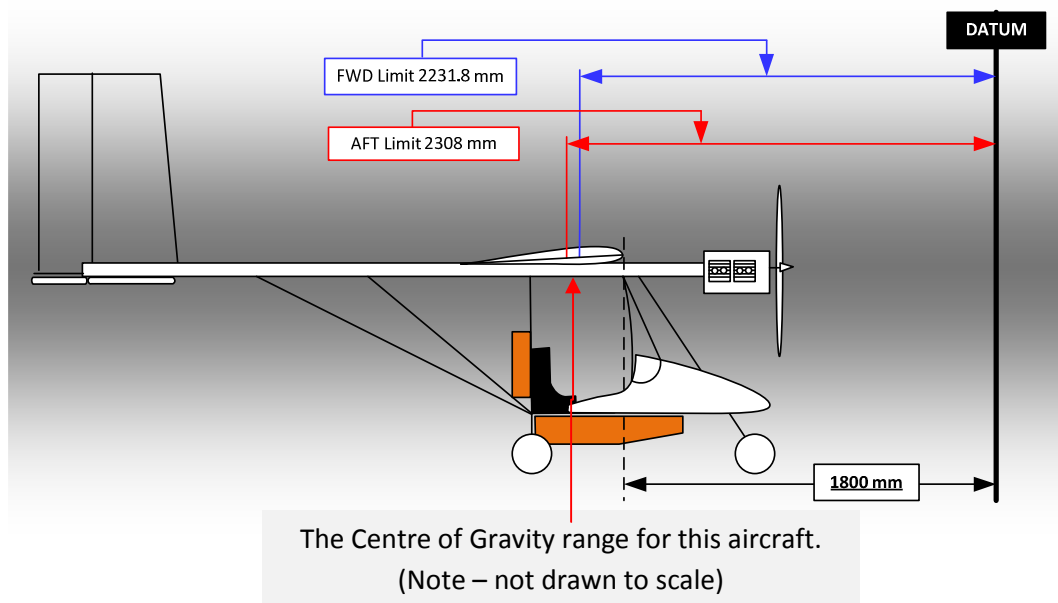
Part 2. By Rob Knight

Last issue we looked at what catastrophic consequences awaits unwary pilots (and their passengers) when flying an aeroplane with the Centre of Gravity outside the aeroplane's design limits. We saw how an aeroplane loaded too far aft could suffer the Centre of Pressure move ahead of the Centre of Gravity and cause an uncontrollable and irreversible nose-pitch up. This, I should reassure readers, is not in any way habit-forming; it is very rare for someone to experience this twice in their lifetime.

But what, really, are the Centre of Gravity limits? These are the forward and aft limits at which the Centre of Gravity must lie for safe flight. They are maximums for the nose-heaviness (forward limit) and tail-heaviness (aft or rear limit) at which the designer believes the aeroplane can safely be flown. Sure, it may fly outside of these limits but the designer says, *"You are on your own now, you are now beyond what I think is safe"*. Seriously - are you really equipped to argue sensibly with the aeroplane's designer and tell him that you know more about his design than he does?

The limits are published in the manufacturer's flight manual for the specific type of aircraft and you will find them in the **Limitations** section. For GA aeroplanes, these are laid out in the manual in a fashion determined mostly by I.C.A.O. (the International Civil Aviation Organisation) based in Montreal (Canada) through the authorities controlling certificates of airworthiness. Thus these are similar between manufacturers. However, for ultralights and kit, or home-built aeroplanes, operating under other than Certificates of Airworthiness, these tight standards do not seem to apply.

To visualise the Centre of Gravity limits, let's look at a very simple example. In this case the Flight manual gives the datum as being 1800 mm ahead of the metal surface of the leading edge of the wing. Note that the datum is the point from which all measurements are taken and from which points the limits are expressed. The forward limit given is 2231.8 mm aft of the datum and the rear (aft) limit is 2308.0 mm aft of the datum. It doesn't matter how big the number are, just so long as we can identify them and use them safely. Let's see what this actually looks like.

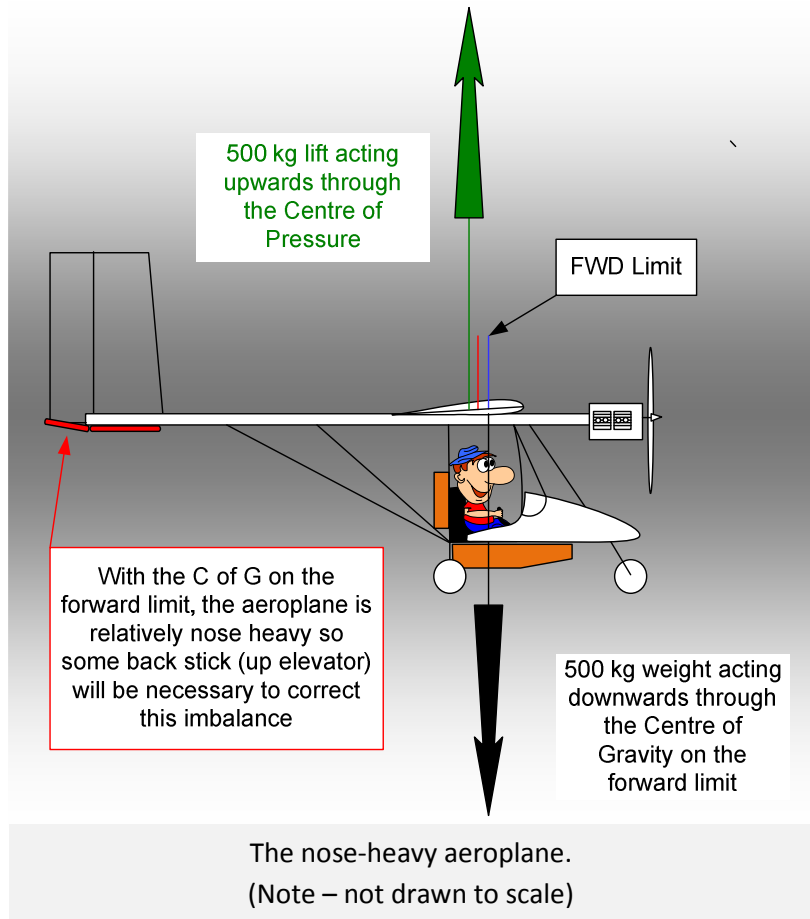


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In the above sketch, the datum and the forward and rear limits are shown pictorially to get a better impression of what we are discussing. Notice that the distance between the limits is just a very small distance along the chord. Compared to the size of the aeroplane, notice just how small the available Centre of Gravity range actually is!

Flying at the ends of the Centre of Gravity (C of G) Range will provide noticeable changes in the aeroplane's handling and performance.

The image on the right depicts the aeroplane with its Centre of Gravity on the forward limit. This position represents the largest arm for the lift/weight couple so it will provide the largest nose-down moment. The consequence is a nose-down tendency. This must be countered by back stick/up elevator to generate a down-load on the tail to hold an appropriate attitude. In normal circumstances this stick load will be removed by the pilot using elevator trim.



The change in flight characteristics will generally be a decrease in pitch up rate and an increase in pitch down. In other words, the aeroplane's nose may be easier to press down than it is to lift up. This is quite logical – the nose-down moment (lift/weight) has an increased arm between the Centre of Lift and the Centre of Gravity on the most forward limit.

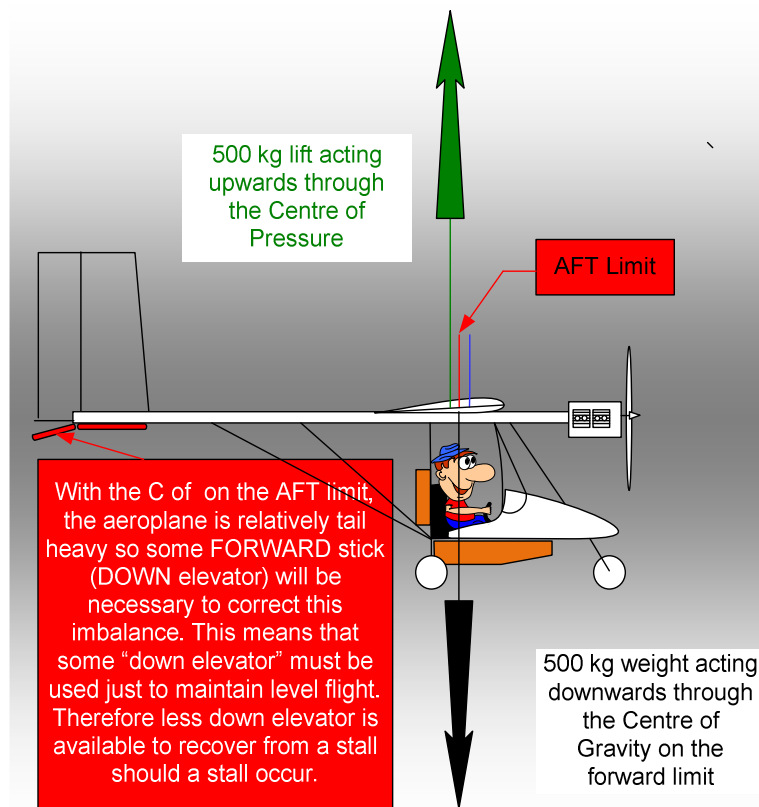
If the Centre of Gravity lies further forward than the FWD limit, the flying characteristics become dangerous, at both ends of the flight. With the Centre of Gravity ahead of the forward limit, the take-off may be difficult if not impossible to achieve. With a nose-heavy aeroplane there may be insufficient elevator authority to rotate to take-off. Too easily, aeroplanes in this situation fail to get airborne and, considering the usual fuel load at take-off, a walk-away crash is almost a miracle.

For those that do get airborne, there is always the landing to come. If the nose was hard to raise on take-off, how much harder will it be to raise it in the flare, when the aeroplane is landing, with low airspeed and reduced controllability. Imagine how it would feel to ease the stick back as the ground

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arrives and have no aeroplane response. Try adding full power to overshoot and see the power just drives the nose-low aeroplane into the runway. This is a bit of a show-stopper, but sometimes the pilot and passenger survive.

In contrast is the case where the Centre of Gravity lies on the Aft (most rearward) limit. Now we can describe the aeroplane as being relatively tail heavy. With the Centre of Gravity no further aft than the aft limit, the aeroplane will be completely controllable and will rotate easily and fly away. After all – it has the designer's guarantee because it is still within the limits.



The tail heavy aeroplane.
(Note – not drawn to scale)

But what if the Centre of Gravity is BEHIND the aft limit? First, the designer immediately withdraws any assurances that may have been made or implied regarding the aeroplane being safe to fly. St Christopher would agree, adding that the pilot is now on his/her own. The tail-heavy aeroplane will require some down elevator to hold any normal attitudes in flight to compensate for its tail heaviness. In light of this, it is possible that, at any time, insufficient down elevator may be available to lower the nose attitude and/or reduce the angle of attack.

And this is the point where the really bad news appears. Depending on the specific aeroplane design, even a tiny

angle of attack increase, perhaps caused by slight turbulence, can send the aeroplane into an uncontrollable nose pitch up, the aeroplane will fall off on one wing, usually the left because of propeller torque, and enter a spin from which no recovery is possible. And all because the pilot has loaded the aeroplane so the normal forces that balance one-another, now act in concert and the puny flight controls are totally inadequate to exercise any authority on the aeroplane. Frightening? I truly hope so because, all joking aside, this situation truly is non-habit forming.

This should provide a basic reason why a thinking pilot would want to know where their Centre of Gravity is before every flight. Perhaps experience tells them that a "normal

Once you're airborne, it's too late to check your weight and balance is within limits, so your guess had better be right. It's hazardous to your health to be wrong.

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loading” of some fuel, average weighted pilot/passenger, and little baggage in the designated area will always see the Centre of Gravity in the design range (between the forward and the aft limits). But when the aeroplane is loaded in an unusual manner, perhaps solo with a tent and camping gear in the baggage area, or doing some maintenance and moving the battery, then knowing the Centre of Gravity position maybe a necessity for life.

So how can a pilot find the position of the Centre of Gravity? In theory, every aeroplane’s flight manual is required to provide the details necessary to ascertain the Centre of Gravity position. While some flight manuals are excellent and this critical information can be determined with ease in just a few minutes, others fail dismally in this regard. I personally don’t understand how the aeroplane manufacturers with a clear conscience, or the aviation authorities who preach safety with every breath, can allow such shortfalls in the necessary details for flight safety. I would also criticise the flight training given to pilots who qualify with the only the barest and sketchiest idea of what they are expected to do to fulfil their duties as a pilot in regard to ensuring the Centre of Gravity is within limits.

In the best cases, the flight manual provides a table which the pilot can use as a template. All the pilot has to do is follow a simple, 3 step processes.

1. Enter the weigh values into their respective boxes and add them to find the total weight of the aeroplane. Of course, the total weight must not exceed the maximum limit for the aeroplane.
2. Multiply each weight by the supplied arm to calculate the moment for that weight and arm. When finished, add all the moments together.
3. Divide the total moment by the total weight. The result is the arm for the aircraft, i.e., the position of the Centre of Gravity

A simple example of one such a table is below. All the pilot has to do is to find the weights relative to each empty weight box and enter them. The empty aircraft weight, arm, and moment are always provided in the table as are the arms for the various other items. Note well that a “best-guess” for weights is not good enough if your life is on the line- only correct, measured weight should be used.

Item	Weight (kg)	Arm (mm)	MOMENT
Empty aircraft	162.30	2270.02	368424.60
Pilot		2190.00	
Fuel Main (Max 40 lit)		2347.00	
Baggage (max 5 kg)		3115.00	
TOTALS			

In this case, let’s assume that the pilot gets accurate weights for himself and the baggage which are 82 kg for himself and 3.5 kg baggage. The fuel weight is calculated from the useable fuel in the tank. Note that unusable fuel is considered to be included in the empty weight of the aeroplane so it

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taken into account in the top line of the table. If the fuel quantity is determined to be 30 litres so, with a relative density of 0.72, this will weigh 21.6 kg

Item	Weight (kg)	Arm (mm)	MOMENT
Empty aircraft	162.3	2270.02	368424.60
Pilot	82.0	2190.00	179580.00
Useable Fuel	21.6	2347.00	50695.20
Baggage (max 5 kg)	3.5	3115.00	10902.50
TOTALS	269.4	2262.814	609602.30

The total weight must not exceed the maximum weight for the aeroplane.

Calculation:

$$609602.30 / 269.4 = 2262.814$$

Aeroplane Centre of Gravity position in mm aft of the datum.

The flight manual for this aeroplane lists the Centre of Gravity limits as being

FWD Limit 2231.8 mm aft of the datum:

AFT limit 2308mm aft of the datum.

All is good. The arm for the loaded aeroplane is 2262.814, and it falls neatly about half way through the Centre of gravity range

How hard was THAT? Now we know, that, at least insofar as the weight and the Centre of Gravity position go – the aeroplane is safe to fly.

HOWEVER, if the sum of the item weights exceeds the maximum allowable weight for the aeroplane – some weight must be removed. If the calculated arm for the loaded aeroplane lies outside the limits, the weight must be redistributed and further calculations done until the arm lies within the limits. If not - THEN DON'T FLY.

Happy Flying

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The Stits Skybaby

The following article was taken from "The Leading Edge" newsletter, Feb. 2012 edition from EAA Chapter 1000.

I started to collect materials to build the aircraft I named the Playboy, and found that aircraft-quality materials, such as 4130 Chromalloy tubing, aircraft-grade spruce, plywood, and hardware, all had to be shipped from Los Angeles on special order because there were no aircraft material distributors in Tucson. It became obvious that if I was going to build airplanes, I needed to move closer to the source of materials. I began researching suitable locations in California, wanting to locate on a main shipping route, but not too close to big city congestion. Riverside had a population of 54,000 people with all the main chain stores, and was on a major highway and rail line 50 miles from Los Angeles. In February 1951 Bob and I drove to Riverside to check it out, and went to a private airport called Arlington Riverside (now Riverside Municipal) where there was just one hangar and the atmosphere wasn't very friendly. We went to another private airport across the river called West Riverside, and found a much friendlier environment. This airport had four hangars and a small cement-block office building, and I was offered a vacant hangar for \$15-per-month, so I took it. We went back to Tucson, gave notice at Grand Central Aircraft, and on March 1, 1951, the Junior was hangared at West Riverside, later named Flabob Airport, a contraction of the first names of its two owners.

During our airshow travels I learned that Arnold Cole, a former member of the famous Cole Brothers Air Show, was living in Riverside. He was Vice President of Pacific Air Races, and was well-involved in the airshow business. I contacted him and made arrangements to meet at the airport to demonstrate Junior in anticipation of adding it to his airshow program. The visibility that day was about a mile in fog. Bob took off and made the usual high-speed pass upwind over the runway, but then carburettor ice formed and the engine lost about 50-percent power by the time he was turning downwind. He couldn't maintain altitude and set it down in a soft field between parallel irrigation channels, but while rolling out, drifted into a channel border and ground looped, damaging the wings, tail, and landing gear.

With airshow income now eliminated, Bob and I went to Pacific Airmotive Corp. in Chino where C-54 Skymasters were being overhauled for the military, and I hired on to the night shift so I could work on my own projects during daylight hours. Rather than rebuild Junior for the fourth time, I decided to postpone construction of the long-planned Playboy and build an even smaller airplane, but this time, a biplane for airshow work.

To reduce the distance the pilot sits aft of the wing centre-of-lift, as with the Junior, I moved the seat forward with the rudder pedals on each side of the well-baffled carburettor. I also decided to avoid a repeat of the carburettor icing problem by installing a second engine primer to inject isopropyl alcohol into the carburettor air box to melt any ice. After two months of design work, I was ready to start building what I named the Sky Baby, and Bob agreed to furnish the Continental engine, assist on the project, and fly



Stits Junior

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the airplane in airshows, again for half of the pay. I designed the CG to accommodate my own weight and planned to do all the flight testing myself. It had long been my policy to test fly each aircraft I made major repairs or modifications to, and by 1950 I'd flown every military war surplus primary, basic, and advanced trainer. However, I hadn't earned a Commercial Pilot Certificate which was required for a pilot to be paid for flying in airshows. We went to Jack Hardwick Aircraft in El Monte, and Bob bought a run-out C85-8 Continental for \$400. During overhaul, I upgraded it to the Continental Racing Engine specifications which were rated at 112 HP at 3600 RPM. Having shared work experience, I kept track of Bob's time spent on the project. Total time was 127 hours during the first four months of the project, which took me thirteen months to finish. The landing gear was built with 4-inch wide by 3/8-inch thick leaf spring for the nose gear and main gear, and during my high-speed taxi tests the leaf spring on the steerable nose gear, positioned 18 inches forward of the main gear, would twist, causing a steering problem. A big airshow was advertised in Detroit, and I wanted to finish the airplane in time, so rather than redesigning and building a new nose gear, I installed a seven pound tail wheel and spring assembly, and removed the 18-pound nose gear assembly. The main gear was moved forward, and this major weight shift reduced the maximum pilot weight to 170 pounds to stay within aft CG limits, eliminating me from flying the airplane.



(Editor's Note: A current website shows photos of the Sky Baby with a caption reading:

"The designer didn't even trust his own extensive flying skills enough to fly the airplane. A veteran pilot named Bob Star (sic) flew the airplane and managed speeds over 200 miles per hour."

Quotes like this are how such misconceptions are spread.)

Except for the final colour coat, the Sky Baby was finished, so we took it to Chino Airport to perform high speed taxi tests and lift offs. I then called Roy Outcen, the CAA representative at Ontario, to ask him to observe our flying, and Sky Baby was issued an Experimental Airworthiness Certificate on June 25, 1952.



Stits Sky Baby.

After all the flying and CAA demonstrations we did at Chino, we took the Sky Baby to Palm Springs to make the first public flight demonstration for the newspapers and magazines. After receiving good press coverage, I got many calls for demonstration flights, but postponed any further flying until the red-and-white sunburst colour coats were finished. We then spent almost every Saturday at Chino performing flight demonstrations for various magazines and movie newsreels. I contacted the airshow management in Detroit and got a contract for Sky Baby to fly at the big three-day show there.

After that show, all the magazines had their stories written and requests for demonstration flights ended, so I decided to retire Sky Baby and start on the long-planned Playboy project which was the main reason I left Michigan. Lester Cole, a former member of the famous Cole Brothers Air Show,

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had asked to fly Sky Baby. He'd never flown anything smaller than a clipped-wing J-3 Cub. A few days before I removed Bob's engine from Sky Baby, Lester Cole, Arnold Cole and I took it to Chino. Lester, weighing about 170 pounds, flew it around the pattern reporting no unusual characteristics. Sky Baby was retired in October 1952 with about 25 hours total flying time, and was later donated to the Smithsonian National Air and Space Museum. The airplane is currently on loan to the EAA Museum at Oshkosh, Wisconsin. In its flying life, the Stits Junior accumulated about 55 hours of flying time, and its damaged structure was eventually scrapped.

Contrary to exaggerated magazine stories giving the false impression that only very skilled pilots



Stits Sky Baby.

could fly Sky Baby and Junior, they were not very difficult to fly. Being short airplanes, directional control on the ground required a little more attention than did longer airplanes, but any competent pilot could easily fly them, with pilot weight being the only limitation. The key word here is "competent." In 1955 I received a letter from a publisher's representative in New York advising me of a new publication called The Guinness Book of World Records, saying I was listed in it, and asking me to buy a copy. After the book was in circulation,

other people built small airplanes to claim the title of "World's Smallest." Some crashed after climbing out of ground effect, and one claimed to have made it around the pattern once, but as of this date, none have been repeatedly demonstrated at air shows or other large public gatherings, as were the Sky Baby and Junior.

It is my opinion that Sky Baby (7' 2" span; 9' 10" length), and Junior (8' 10" span; 11' 4" length), are the world's smallest successful biplane and monoplane. "Successful", means having flown routinely without any accidents or damage caused by design defects.

Webster's Dictionary defines an aircraft as "any structure or machine designed to travel through the air." Therefore, by definition, any structure or machine claimed to be an "aircraft" doesn't actually have to fly, and can claim that title just by sitting in a hangar or museum with a sign on it.

It is also my opinion that anyone who has the courage and ambition to design and build an airplane, whether it flies successfully or not, deserves a lot of credit for his or her efforts.

Ray Stits.

It is worthy of note, in respect of Ray Stits and his genius for light aeroplane design, that the first in the series of Van's Aircraft designed by Richard Van Grunsven, the Van's Aircraft RV-1 was a modified Playboy and the Playboy design led directly to the Van's Aircraft RV-3 and the highly successful RV line of aircraft.

Sky Baby Specs: Length: 3.0m Wingspan: 2.18m Height: 1.5m Wing
area: 3.39m² Empty weight: 205kg MTOW: 302kg Fuel capacity: 19L
Maximum speed: 191knots Cruise speed: 143knots Stall speed: 52knots
Powerplant: 1 × Continental C85, four cylinder, four-stroke, aircraft engine, with water
injection, 112hp, with a 2 bladed aluminium propeller.

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The 2017 Poker Run

The front cover provides a great image of John Hilton holding his newly won trophy for this year's Poker Run, standing with his trusty steed, a T5 Airtourer VH-RQH. Congratulations John.

Some other participating aircraft were:



Bill Finlen in his immaculate Leopard Moth
airborne at Forest Hill



Waiting at Watts Bridge, home base



Quicksilver, airborne at Forest Hill

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Peter Biddle in his Cessna 170A



John Nooyan's Zenith climbing out at Forest Hill



Coffee at Forest Hill



Keith Broughton's B22 Bantam departing Forest Hill



Ken Hulse's Skyranger at Watts

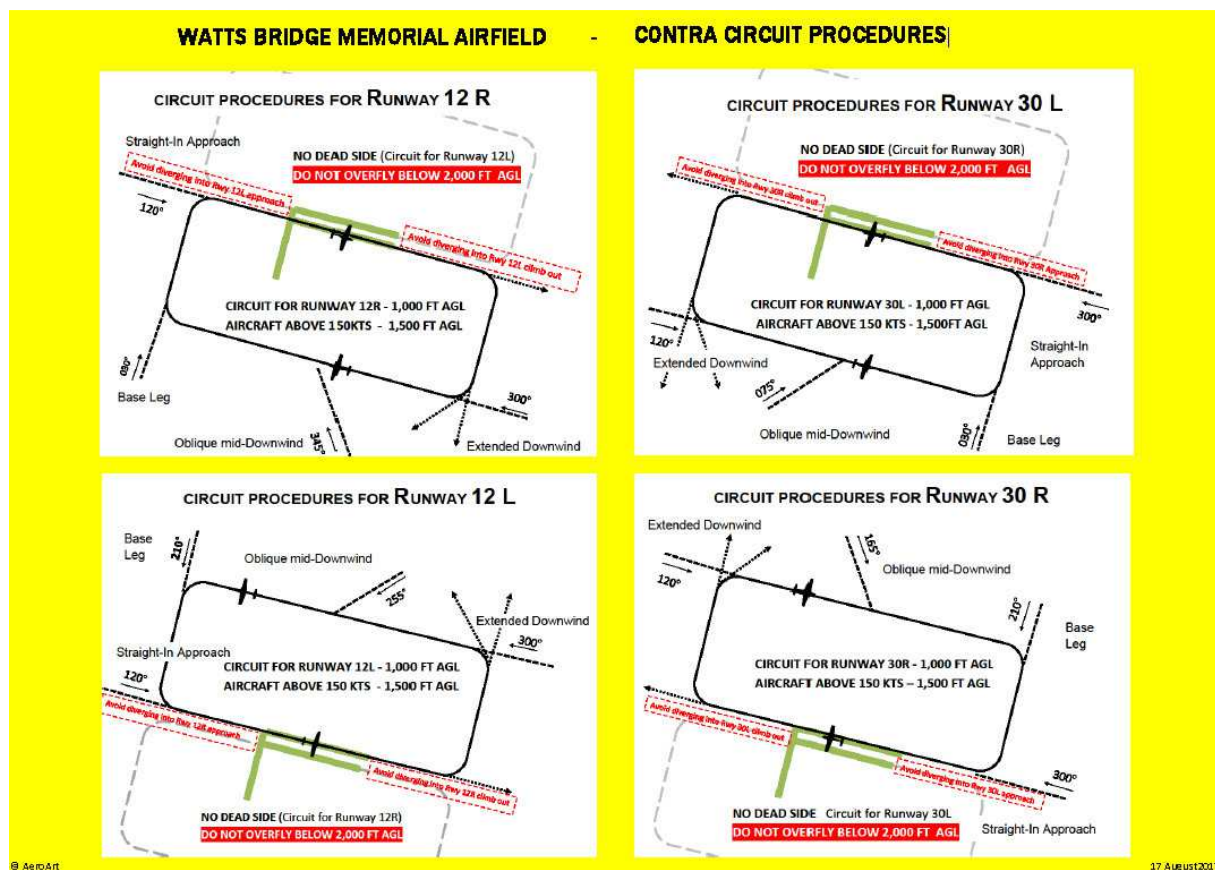


At Watts, awaiting results

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New Circuit Rules at Watts!

To go with the new parallel runway system at Watts Bridge (YWSG) there are some changed circuit rules. Also changed are the ERSA entry details for Watts Bridge to be in the next ERSA issue



These are intended to add to everyone's safety now that there are two runways and the Runway Left circuit traffic must remain separated from Runway Right. Note the 2000 foot overfly height

NOTE

THESE ABOVE DEPICTED CHANGES WILL TAKE EFFECT FROM 17TH AUGUST.

VISIT THE WATTS BRIDGE MEMORIAL AIRFIELD WEBSITE.

**CHECK OUT THESE DETAILS WHERE THEY CAN BE SEEN IN GREATER CLARITY, AND
ALSO SEE THE UPDATED ERSA DETAILS.**

If in doubt, before you fly in, contact the club and get a briefing.

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FLY-INS Looming

August 5	Gympie	Gympie Fly In 5-6 August 2017
Aug 12	Murgon (Angelfield), ALA	Burnett Flyers Breakfast Fly In
August 19-20	Watts Bridge, YWSG	Gathering of Eagles Fly-in

Mystery Aircraft (August Issue)

What's this?



Mystery Aircraft (Last Issue)



Hamilton Metalplane. Designed to carry 6 pax, this aircraft first flew in 1928. Congratulations to Mal McKenzie for identifying this vintage aircraft. It is the only example left flying.

Magic yesterday – fact today

Isn't it amazing how fiction in the middle of the last century (when I was a boy) is now fact? In those now-distant times, fictional books included references to death rays, and people waved magic wands and made things either appear or disappear.

In this, the 21st century, 70 odd years later, we have realized both these past fictions. Most people have a microwave oven which will certainly act as a death ray to any living life exposed to them for even relatively short exposures. And every time I make a purchase and I pay by EFTPOS, my card acts like that magic wand. It conjures my purchase into my possession, money in my bank account vanishes, and the identical sum of money re-appears in my supplier's bank account. If these things are not magic, then please tell me what magic is.



WATTS BRIDGE FLY-IN

Saturday 19th August Twilight Air Display brought to you by

GATHERING OF EAGLES 2017



YAKOVLEV YAK-52



The Yakovlev Yak-52 is a Soviet primary trainer aircraft which first flew in 1976. The Yak-52 was the standard Soviet trainer aircraft for unrelenting aerobatic training and is still being produced in Romania by Aerostar today. This aircraft is the most popular and safest aerobatic aircraft in the world.

NORTH AMERICAN P-51D MUSTANG



The North American Aviation P-51 Mustang is an American long-range fighter and fighter-bomber used during conflicts including World War II and the Korean War. It is widely credited as being the premier WWII fighter, which gave ultimate air superiority to the allied forces.



YAKOVLEV YAK-3 (STEADFAST)



The Yakovlev Yak-3 was a WWII Soviet fighter aircraft and was one of the most feared aircrafts in combat due to their high speed and maneuverability. With these classic YAK-3 qualities, Steadfast was adapted for air racing and successfully holds several world speed and climbing records. Take Steadfast out for an adventure flight and use it to simulate combat missions, adventure missions or low flying strafing.



Time	Aircraft
1600	Yak-52
1615	Yak-3U
1630	P-51

Watts Bridge Airspace will close from 1600-1700 on Saturday 19th August 2017 for a Twilight Air Display
PLEASE NOTE - THE ABOVE PROGRAMME IS SUBJECT TO AIRCRAFT SERVICEABILITY AND WEATHER

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Meet the Watts Weather Station

Watts Bridge has its very own dedicated Weather Station

The intent of the system is to provide in-bound aircraft and WBMA Members/pilots who are intending to visit the airfield, a detailed appreciation of the weather conditions prevailing at the field.

The project relied heavily on the kind efforts of a dedicated group within Watts Bridge and the people primarily involved were:

Dick Smith: Donation

Richard Faint: Project co-ordinator and custom software

Peter Freeman: Custom hardware and installation

Bob Dennis: Donated the flag pole

Watts Volunteers: Installation and cabling



Peter Freeman, and Peter and David Ratcliffe, installing the mast

See below for a screen grab showing where to go on the Watts Website to find all that's on offer.

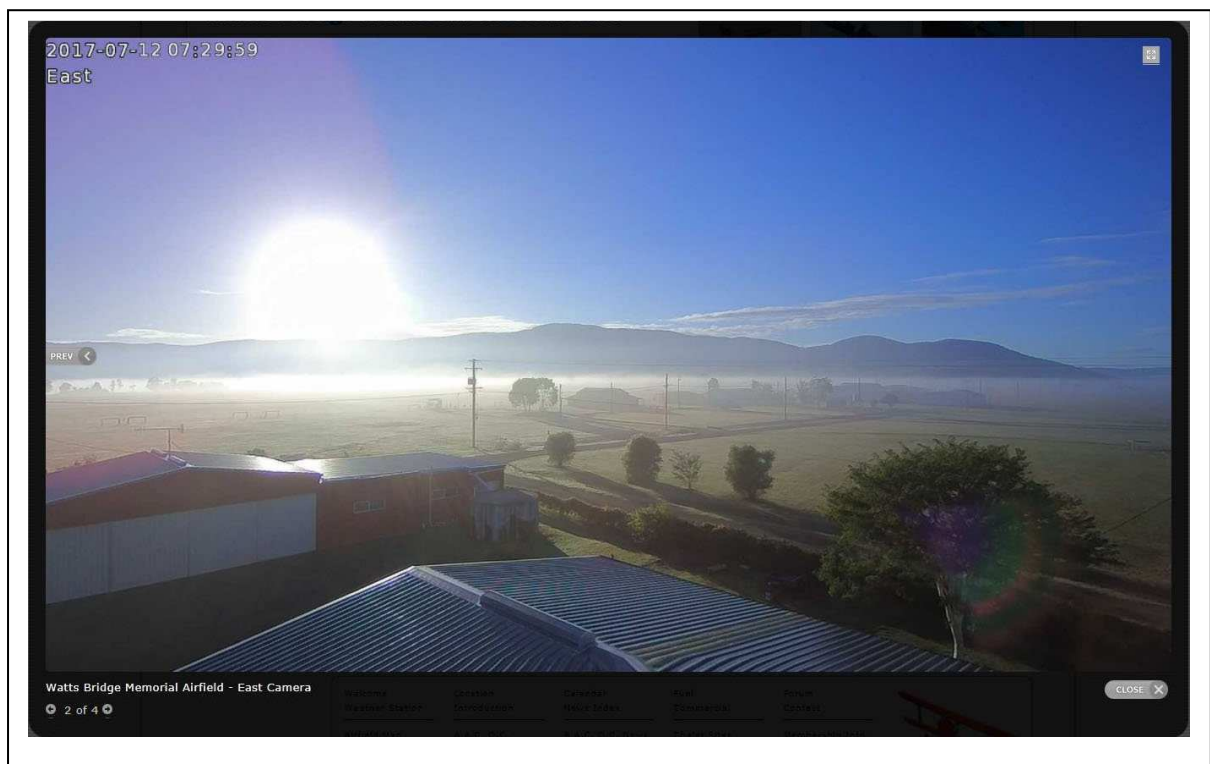


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Some Weather Station pics to show you what you're missing if you don't visit it.

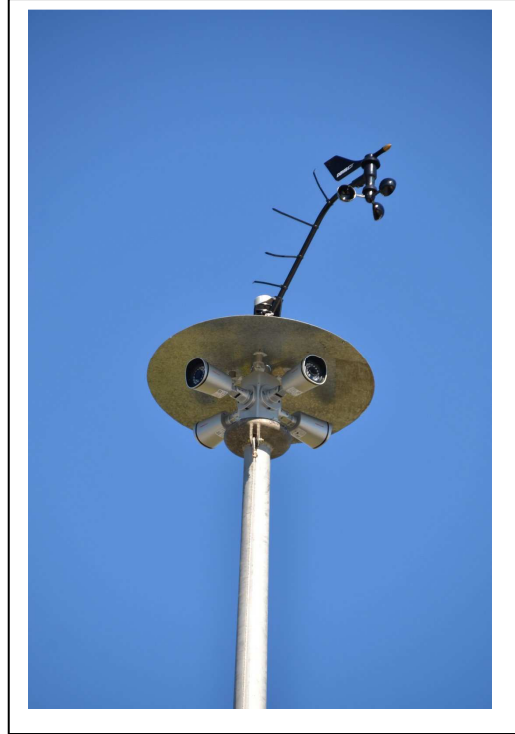


What foggy looks like

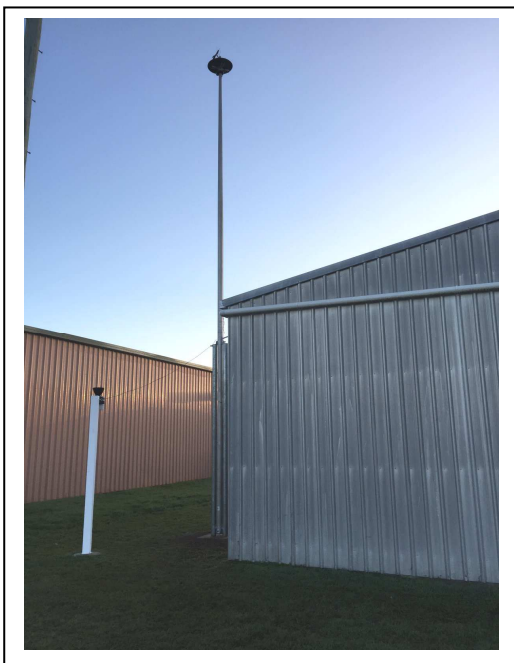


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FOGGY SUNRISE



The mast and its adornment



So there you go members and others. It is up and running, and now it needs to be supported by using it. Just go to the website and follow the prompts.

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

1. Statement: *“Some say that, in level flight, at a constant airspeed, an aeroplane is in equilibrium and its thrust applied = drag created”*. If this is the case, then what maintains the aeroplane’s airspeed?
 - A. The above is incorrect and thrust must exceed drag for airspeed to be maintained.
 - B. The above is correct and airspeed is maintained as a function of the aeroplane’s momentum.
 - C. The above statement is incorrect because thrust and drag are not interrelated in level flight.
 - D. The above is correct and air speed is maintained as a function of the aeroplane’s inertia.
2. In flight, a pilot reduces the angle of attack from 9° to 4°. What effect will this have on the Centre of Pressure? It will:
 - A. Move rearward along the chord line.
 - B. Move forward along the chord line.
 - C. Rise above the active chord line.
 - D. Descend below the active chord line.
3. From the following select the most correct statement.
 - A. The thrust line must always remain above the drag line to give a nose-up couple.
 - B. All other things being equal, a wing with a higher taper suffers more induced drag than a non-tapered wing.
 - C. Carrying additional fuel when gliding in still air will always decrease gliding range.
 - D. Increasing power makes the lift/weight couple less effective.
4. The temperature at an airfield is 20°C and the TAF lists the dew point as 14°C What is the likely height of the cloudbase if the airfield is at sea level?
 - A. 500 feet AMSL.
 - B. 1000 feet AMSL.
 - C. 1500 feet AMSL.
 - D. 2000 feet AMSL.
5. A cold front passes across an airfield. Which of the following options would be the best clue as to the time of the actual passage of the frontal surface?
 - A. The rain intensifies.
 - B. The clouds clear.
 - C. The wind backs.
 - D. The temperature starts to fall.

ANSWERS: 1. D, 2. A, 3. D, 4. D, 5. C

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If you have any problems with these questions, call me(in the evening) and let's discuss it! Ed.

HANGARAGE

A single place hangarage space is available at Forest Hill airfield (YFRH). The airfield gate and hangar are both kept locked to all except key-holders.

Contact Rob Knight on 0400 89 3632

¼ Share for sale - \$4500

A share in a WB Drifter 582 is being offered. The aircraft is based at Lynfield west of Brisbane.

¼ share price of \$4500 (includes hangarage

Contact Kev Walters Tel 0488 488 104



Safety Helmet

The COMTRONICS ULTRA-PRO HP FLIGHT HELMET has a plush fully upholstered liner and beaded foam inner shell. High quality speaker muffs are attached to the chin strap so they can be pulled down tightly against the ears. Compatible with all Comtronics intercoms and radio interface cables (it requires an interface cable particular to your radio type). High quality adjustable boom microphone (from left hand speaker muff). Compatible with push-to-talk control column switches. Black peak visor with adjustable wind flow head cooling vent (not shown in photos). This helmet was imported from the States in 2010 (total cost then about \$1000), and has been stored in a lamb's-wool lined carry bag. It is in good condition. Very comfortable to wear. Real protection if ever (hopefully never) required. Keeps head warm in open cockpits and visors are available from Comtronics (does not have one at the moment, though). Head size extra large (61-63cm).

\$300.00 neg

Interested? – Call Arthur Marcel. Tel.: 3376 5331 L/L home, or 0407 590 513 Mobile.



- Brisbane Valley Flyer -

Aircraft for Sale



Quicksilver GT500 Tandem 2 Seater 582 Pusher in Good Condition. Tri Gear. Enclosed Skin Removable Doors. Analogue Gauges, Icom-A200 VHF Radio. Manual Flaps, Full Elevator Trim. Climbs 1000 fpm at 55kts. 70ltrs carry 3+ hours endurance. Removable Auxiliary 50ltr Tank Customised to fit rear seat. Trimmed up at 5300rpm can cruise 70kts. To steal a quote - "Like a Drifter on Steroids" Engine - 582 Silver Top. TTIS - 382hrs (rebuilt at 292hrs). Also see advertisement on Recreational Flying website.

\$16,000.00

Call Mike Cosgrove on 0414 517 856 or visit www.cypresslodge.com.au

Aircraft Offered for Reluctant Sale



Colby-503, a one-off aircraft based on the highly successful American Pioneer Flightstar. Currently flying most weekends, it has around 200 hours airframe total time and under 30 hours on a rebuilt Rotax 503 power plant. STOL, this aircraft cruises at anything between 45 and 60 knots, depending on the power setting and can comfortably exceed its VNE in a climb. It holds 40 litres in a belly tank and a further 10 behind the seat. A 95-10 aircraft, it's rego is 10-1918, valid until July 30 2018.



A sale would include a purpose-built trailer (uncovered and unregistered), a spare 503 engine (disassembled), and a ground handling tow bar. There are some other assorted spare parts such as a strut, control surface tubing, fuel pump etc.

I currently use a hand-held radio mounted in the cockpit with a head set and PPT fitted on the side-mounted stick.

I am putting my aeroplane up for sale only on the advice of my health professional.

\$5,800.00

So, if you fancy owning and flying a totally unique aircraft, the ONLY one of its type in the world, contact Rob Knight, on 0400 89 3632, or email me at kni.rob@bigpond.com.