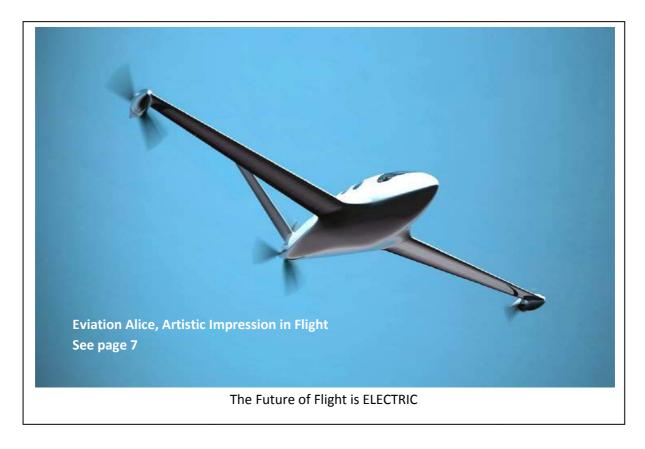
BRISBANE VALLEY FLYER

MARCH-2019



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

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Go AROUND, Part 3

By Rob Knight

In the last two issues I have attempted to provide a basic guide to "Going Around", that amazing procedure that is so simple to carry out but, to some, fatally impossibly to initiate. There is no practical limit to the reasons for a pilot deciding to follow this procedure; it's ideally a precautionary action but also a no less valid remedial one. At anytime there is concern regarding an approach profile, traffic, visibility, stress, etc. a go-around will reset all the circuit defaults, and ease the workload of the pilot, who can then take a more timely and measured look at his or her circumstances and situation.

In this issue I am looking at going-around at airfields where more than one runway is in operation. Such airfields fall into two natural categories:

- 1. where a cross-runway is in operation,
- 2. Where parallel runways are in operation.

In this piece, I am only considering the right of way issues between two or more heavier-than-air, powered aircraft, none of whom is towing anything or involved in an emergency of their own.

Naturally, the complexity of operating at each of these airfields rises according to the current traffic numbers. Where ATC is established, the "Man-in-the Tower" assists by issuing clearances and traffic direction so collisions are avoided - all the pilot needs to do is follow the instructions. However, an uncontrolled airfield, it is an entirely different matter.

For your reference, see the Australian CASA Right of Way rules for aircraft which are found at: vfrg.casa.gov.au/general/rules-for-prevention-of-collision/right-of-way/

However, whilst these rules lay out great advice on many operational situations and requirements, the operation of an aircraft around an uncontrolled airfield where there are conflicting runways cannot be specifically covered. Where applicable to taking-off/landing/circuit issues, these rules function solely on the basis that interacting aircraft are using the same runway to operate. However, all is not lost – just look upon it as an exercise in self-preservation and avoid conflict. Of course, to avoid conflict a pilot must know that a potential conflict exists which further means a very good lookout and careful monitoring of the radio are pre-requisites. That's also assuming the pilot and conflicting aircraft are on the same frequency and actually following the same/required procedures.

Taking the situation where a cross runway is being used, then see and be seen, talk and be talked to, are really the best safety devices. If a pilot is on approach for runway 36, and another aircraft is simultaneously on approach for 27 which intersects, obviously a catastrophic conflict is possible, either on landing when the aircraft could collide on the ground at the runway intersection, or in the air as they cross each the other's runway. Each pilot must ensure they don't collide – this is a fundamental responsibility of every pilot-in-command. How good is it to have, "I Reckon I was in the Right" chiselled on your headstone as a lasting statement to your mourners?

In such a situation, it is most likely one aircraft will be ahead of the other, closer to the flare stage of the landing process. In most circumstances, the other aeroplane can work around that and land subsequent when their runway is clear. How can they do this – maybe slowing down a little if

possible, maybe "S" turning, or by going around and passing clear of, generally above and/or behind, the aircraft they are giving way to? How hard is that? So the process is – see a potential conflict, project both aircraft's potential positions ahead, then position your aircraft to avoid that conflict. Then advise your intentions to the other aircraft. Two rules appear to apply here – an aircraft with another in conflict at the same height *and on its right* must give way, or the aircraft at the lower height on approach has the right of way. Neither is clear nor intended to be clear. Also, there is another consideration, the relative size of the two conflicting aircraft. If the other aircraft is bigger than you, make sure that whatever action you take does not involve flying through its wake. This is a situation that brings out the maturity and discipline of pilots, especially those flying ultralights – you just can't argue with size: bigger ALWAYS HAS A BIGGER WAKE.

Now what about operating and going around where parallel runways are in operation? Again, most specific legislation seems to be directed at ATC operations and little is available for uncontrolled airfields. Still, a lack of legislation does not mean that such operations are unsafe; in fact many might argue that that feature adds greatly to safety.

In considering going around on an airfield with operating parallel runways let's consider the obvious: what airspace is possibly in use. This is important because someone intruding into YOUR airspace may well be the reason for your need to go around. Equally important, during your go-around, you don't want to intrude into the airspace needed and being used by others.

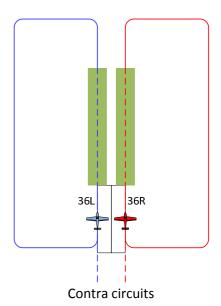
In operating at an airfield where only a single runway is in operation, it is easy to identify and move to the "dead", or "non-traffic side" to sort things out. But where multiple runways and multiple circuit directions exist, there is not necessarily a "dead side". This is the very reason for ATC at busy airfields – to stop aeroplanes banging into each other when traffic is heavy.

So what if there's no ATC? Pilots must rely on the law and follow its dictates and be sensible about their actions. There is no other option but to trust that every other fellow pilot is doing the right

thing, at the right place, and at the right time, and follow the same dictates yourself. The only way to ensure this is actually happening is to follow the required procedures, and keep a great (not just good – GREAT) lookout, and maintain a mental track of the other aircraft in the vicinity. It also means that you have a duty to your fellow pilots to do the right things by them and to do this you will need to use your radio.

Let's take a bird's-eye look at the circuit patterns around an airfield operating contra circuits.

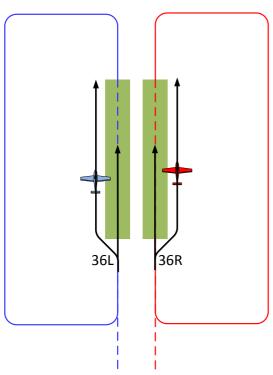
The circuit patterns are identical – merely mirror images of each other, and as long as these patterns are adhered to there is no conflict between the respective aeroplanes. However, it is simple to see that if an aeroplane strays from his/her path on either approach or climb-out, a conflict with an aeroplane on



the contra circuit is both inevitable, and very quick to develop. For this reason it is specified that no simultaneous operations are to take place – i.e. – no side-by-side take-offs, approaches, or landings.

As long as this is maintained, there is no issue but it is inevitable that fate will find a spanner to throw. The biggest spanner is being on short finals and having someone taxi onto the runway at your flare point and block the landing. It shouldn't happen but it does and when it does you are going to have to go-around.

As always, a go around requires a full power climb at the correct airspeed and then a decision as to the best flight path. If there is no conflict danger from the aircraft ahead, then a straight ahead climb-out along the centre-line is quite acceptable. But, if visual contact with the aircraft ahead cannot be maintained then turn gently to the TRAFFIC SIDE and fly a close, parallel track to the runway. This means, as the sketch below depicts, an aeroplane executing a go around on 36R will need to bear slightly to the right and climb out alongside the runway, but only just wide enough to see the aircraft ahead that caused the issue. At the end of the climb-out, the pilots can turn in the circuit direction and follow the pattern for another approach, or continue the climb and clear the



The Contra Circuit Go Around with an aircraft ahead

airfield vicinity and re-join the circuit.

Remember, every pilot's prime responsibility is for the safety of his/her aeroplane and its occupants, and the safety of every other aircraft around and the people therein – Avoid conflict with all other aircraft.

It stands to reason that should a go around be required on 36L, then, as the image depicts, the going around aeroplane will make a left turn and fly to the left of the runway just wide enough to maintain sight of the aircraft ahead.

Perhaps the biggest issue now is how to get back to the downwind position to make another approach. Every situation will be different because the options open to the going around pilot will vary with the distance between the aircraft and their relative speeds. What is VITAL is that the radio be used to ensure both pilots are aware of the situation so can assist in avoiding each other.

In a perfect world, such situations would not occur, but the human-flawed environment we share means we must always be prepared to adapt our immediate intentions to ensure flight safety. Apart from inadvertent lapses, pilots, like all people, come in all shades of personality and shouldn't "cut in", but it happens. Your duty is to your aeroplane and its contents so always be prepared to get out of the way even if you are "in the right" so to speak. After all, and back to epitaphs, who wants, "Here is Bill, He Lies Here Dead Right", as their everlasting memorial.

To get back safely onto the ground without endangerment to anyone is your primary outcome.

Happy Flying	
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I Found Nemo?

By Rob Knight

White with orange trim, and with a decal of Nemo (with those colours – what else?) on the nose, I taxied Jeff Thompson's new acquisition to the holding point at Biddaddaba. As soon as Jeff had his pilot certificate in his pocket at Airsport QLD at Boonah, he had been on the lookout for his own flying machine. His choice and purchase was a Lightwing GR912 fitted with the 100 hp 912 Rotax



Nemo, ready to Pre-flight

"helicopter" instrument panel which is a standalone set of instruments mounted on their own dedicated console, the flight instruments installed across the top and engine instruments beneath, in the centre, descending to the floor. This arrangement allowed Howie to insert side windows on each side, near the floor to aid forward and downward visibility – a great asset, I am told, when mustering. After finding no excuses not to fly, we climbed aboard and strapped ourselves in.

engine which he had collected from its previous owner in Moura in central Queensland.

When I looked the GR over during the preflight, it showed clearly the TLC provided by its previous owner in the good paint, clean skins, lack of ubiquitous oil stains, and unmarked lexan windows. The upholstery was in good condition and the floors were clear and clean.

This one was built with Howie Hughes



The "Helicopter" panel

Some say that Howie never made two Lightwings the same but everything we needed was in its usual place. The engine started easily and sounded great as it warmed up before we taxied out.

The take-off was as short is I expected for a GR and the climb-out airspeed settled on a steady 65 knots. The trim lever is floor-mounted, on Jeff's side, but took no effort to reach across and adjust. The airframe was tight – no extraneous vibration or noise. The VSI settled on 840 fpm. A touch on the right rudder kept the ball centred and everything just kept on keeping on.

At 3500 feet we levelled out. 5000 RPM turned in just a needles width over 80 knots and with us being two up with around 30 litres of gas in the tanks, was close to original book cruise speed. It flew hands and feet off, with no displayed tendency to slip, skid, or roll. She was rigged well and trimmed out well. Looking around, the visibility was normal for this type of aeroplane, high-wings hiding the heavens, but good around and fair below. I must add that the little low side windows permitted by

the helicopter instrument panel, did give an improved lookout potential below insofar as the small size of the windows permitted.

Turns were normal. A touch slower in roll rate than the GA because of the lack of out-board taper on the GR wings. I felt that the GR wing also produced a trifle more adverse yaw with aileron use and thus a tad more rudder pressure was needed to centre the ball on the turn entries and exits. 45° banked turns were very comfortable to carry out and hitting my wake on the exits was easy. With 60° of bank, the wing plan form with broad wing tips did show its limits as the induced



Nemo in echelon right

drag quickly pulled the speed back. The stall in the turn was just a buffet and the VSI pointed down. Recovery was instantaneous on the release of back pressure to reduce the angle of attack and we were flying again. Height loss – less than 100 feet.

The stall characteristics of this GR are almost too benign. The approaching stall does have a buffet but it is subtle and, unless looking for it, many pilots will miss it, especially if they are preoccupied with other issues. Basic stall recover was uneventful with a height loss of around 20 feet if I was quick to respond when the stick told me the stall break had arrived. With power, the nose was higher and the ASI read lower but the recovery was about the same. This particular aeroplane is not flap fitted.

The aircraft flight manual gives the best glide speed as 55 knots. It's easy to set up and the nose is low enough to give reasonably low nose attitude for forward visibility. The trim range is quite good enough to set the aircraft for no elevator pressure. With hands and feet off, there was a very slow but inevitable yaw to starboard caused by the offset to counter the slipstream. Just the tiniest left rudder pressure countered this and then the aircraft flew straight. Left alone, with the ball centred, the aircraft gradually entered a turn which tightened, roll increased as did the descent rate. Just the



Howie's aeroplanes look good!

normal spiral instability inherent in most light aircraft designs.

Sideslips are just as spectacular in the GR as in the GA. And the same characteristic of the designs slipping more steeply to the left than the right I noticed in a full left slipping turn the VSI pegged out long before the full slip potential was achieved. Having no flap fitted is not really a

handicap to one's approach angle in this aeroplane.

The book approach speed is 55 knots without flap. I initially set the aircraft up at 60 knots and reduced speed to 55 on finals, a slight wind gradient sink and a power adjusted to compensate, the trim was a little out as I crossed the fence. However, stick pressures were still comfortably light and positive. The aircraft flared with a little more back stick and I paused to allow the float to develop

without climbing. A little more back stick and I reached the stops and the GR settled lightly onto three points.

We taxied back and shut down, and while the engine quietly clicked its teeth we unstrapped and climbed out. This GR of Jeff's is a gem. Beautifully presented, it flies well, and deservedly so with all the care and attention it has received over the years. It performs as good as it looks, and it looks great – a credit and asset to any flight line or person.



Jeff Thompson with Nemo

The Future of Flight - The next all-electric vehicle is the Aeroplane

Article by Sasha Lekach

If you've ever played with a carbon footprint calculator and plugged in your flight history, you've seen how a trip just an hour or two away ballooned your total impact on the environment.

All that jet fuel takes a toll, but electric planes may swoop in and help — one day. Instead of those 176 pounds of carbon emissions for one measly roundtrip flight from San Francisco to Los Angeles, an emissions-free aircraft could fly that same distance.

Tesla — and to a lesser extent Nissan, Chevy, and even Toyota with its hybrid Prius — made the



Ampaire plans to retrofit a six-passenger plane, called TailWind. This is an artist' impression of such a machine

masses believe in electric cars. Now, many companies want flyers to believe in electric planes.

Aviation startups are working to remove expensive, polluting jet fuel from the flight equation and replace it with electric batteries. The idea of electric planes isn't new, but we're closer than we've ever been thanks to battery improvements.

Ampaire

"A long trail of activities that happened in the past decade have led to this little explosion in electrification," Kevin Noertker, CEO and co-founder of electric aviation startup Ampaire, said.

"Electric flight was first tested in the 1800s and the innovations kept coming through the second half of the 20th century. French military engineers Charles Renard and Arthur Constantin Krebs added batteries and an electric motor to an 1880s aircraft, according to Air and Space Magazine. Then in the 1970s, experimenting with electric and solar power got a jump start. The past 15 years have seen a huge number of notable electric flights take off, lasting 20 minutes to several days. The experimenting continues today, but more so with passenger flights".

This new wave of research and development comes as jet fuel prices have skyrocketed, and U.S. and foreign regulators have put out calls to reduce emissions. Globally, nearly 5 percent of emissions

come from flying. The International Civil Aviation Organization, or ICAO, an agency within the United Nations, wants to be carbon neutral by 2020, but to get to that goal something has to change.

It is a horse race in the sky: everyone wants to be the first to take off.

Hotspots for electric flight innovation have popped up in Washington state, the Los Angeles area,

Israel, Germany, and other parts of eastern Europe.

And while the startups are eager to put their concepts into practice, we're only just starting to see the first iterations of these planes. Instead of only two people on a 300-mile flight, like the June 2011 e-Genius flight out of Germany, the electric plane industry wants to one day match what we consider everyday commercial flights. Back in 2011 that flight path was hailed as the longest distance flown by an electric aircraft carrying people.



The E-Genius, a 2 seat, electric driven, powered glider

Companies like Los Angeles-area startups Ampaire and Wright Electric are working on planes for regional travel. Ampaire founders imagine six- and 19-passenger electric planes, while Wright Electric representatives dream of a fuel-free 150-seater plane.

Wright Electric's Jeffrey Engler is modeling his aircraft after the passenger planes you're used to taking from the airport. His company wants to hit the sweet spot for electric travel — about a distance of 300 miles or less.

By the end of this year, Ampaire wants to retrofit a six-passenger plane into an electric and hybrid craft, called TailWind. It has designs for new aircraft as well — like its 19-passenger plane concept. Ampaire's Noertker, a mechanical engineer who came from traditional aerospace company Northrop Grumman, sees aviation electrification as an extension of what's happening with electric cars and other vehicles on the ground.

If these sound like small planes, it's because they are. Compared to the planes that industry giants like Boeing and Airbus develop, Ampaire and its competitors are building puny aircraft. But it's a big achievement to get a handful of people several hundred miles on an electric charge.

Wright Electric entered the scene in 2016. The next year, the Massachusetts-turned-Los Angeles - based company was at the tech incubator event Y Combinator Demo Day and debuted its high-flying goal to build an all-electric passenger plane that would make short-haul flights within the next 10 to 20 years.

The recent explosion in electric flight comes with a fairly lengthy list of startups in an industry that doesn't usually have a startup culture. Unlike the endless upstarts offering a new smartphone app or biotechnology innovation, the aircraft manufacturing business is mostly dominated by the establishment.

"It seems all players in the ecosystem are still finding their footing," Noertker said, referring to the new guard.

The newbies include Eviation, an Israeli firm that expects its models with propellers on the wingtips to take off in 2019, Germany's Lilium, with its electric vertical take-off and landing taxi jet for five

people, and Zunum Aero, a hybrid plane company in Washington state preparing to test flights in 2019.





An artist's impression of Eviation's Alice commuter plane planned to begin testing in 2019

Just because there's competition to be first doesn't mean the companies aren't helping each other.

"It's pretty collaborative at this point," Noertker said. The small companies have to work together to a certain extent. There isn't a fully established supply chain yet and "we don't compete on safety," Noertker explained.

"It's much more collaborative than it is competitive," Eviation CEO Omer Bar-Yohay echoed. "We have a battery, you have a battery."

So best practices, information, and solutions get passed around. Getting a new airplane certified is a big challenge, so if working together can get everyone closer to that goal, they will. Others skirt around U.S. Federal Aviation Administration, or FAA, hold-ups with experimental testing, which involves a far less rigorous permitting process.

"There is an aspect of pressure to move as fast as possible," Noertker noted, with a few companies claiming they'll be flying something by summer 2019.

"I hope none of the companies take this pressure to fly early and make bad decisions based on it," he added. As seen with the fatal Uber crash in Arizona earlier this year, a tragedy like that can be a setback for the entire industry.

To get these aircraft flying, all the companies are working with batteries, electric motors, wings, and some even with propellers.

Electric planes use batteries to power an electric motor instead of jet fuel to power an engine. They need a motor that can turn electric power into mechanical energy — and they need a battery.

Eviation's Bar-Yohay compares electric planes to its traditional fuel-powered equivalent. Instead of building a plane around a gas-guzzling engine and huge engine-cooling radiators, electric planes need to design around a battery.

Since batteries don't have the energy density of fuel, Eviation's plane has a "very, very big battery" weighing in at 3.8 metric tons. That's 60 percent of the plane's total 14,000-pound weight. A traditional plane devotes 30 percent of its total weight for fuel.

FLY-INS Looming

10/03/2019	Watts Bridge	Watts for Breakfast Fly-In
13/04/2019	Murgon (Angelfield)	Burnett Flyers Breakfast Fly-In

Mystery Aircraft (This Issue)





Mystery Aircraft (Last Issue)



The Miles Libellula, a Second World War tandem wing experimental aircraft built by Miles Aircraft in England, designed to give the pilot the best view possible for landing on aircraft carriers. It first flew in July 1943.

Congratulations to David Ratcliffe for identifying this rare aircraft

Phone Etiquette

After a tiring day, a commuter settled down in his seat and closed his eyes. As the train rolled out of the station, a woman sitting next to him pulled out her mobile phone.

She started talking in a loud voice: "Hi sweetheart. It's Sue. I'm on the train". "Yes, I know it's the six thirty and not the four thirty, but I had a long meeting. No, honey, not with that Kevin from the accounting office. It was with the boss. No sweetheart, you're the only one in my life. Yes, I'm sure, cross my heart!"

Fifteen minutes later, she was still talking loudly. When the man sitting next to her had enough, he leaned over and said into the phone, "Sue, hang up the phone and come back to bed."

(Sue doesn't use her mobile phone in public any longer.)



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

- 1. If your aircraft takes off at 50 knots IAS, what IAS will be required if taking off with a 10 knot tailwind?
 - A. 60 knots IAS
 - B. 50 knots IAS.
 - C. 40 knots IAS.
 - D. 30 knots IAS.
- 2. A flight takes-off an airfield with a QNH of 1013 hPa, departing to a destination with a QNH of 1021 hPa. If the altimeter subscale is not adjusted to the new QNH, what will be the instrument indication at the destination?
 - A. The altimeter will read low (i.e. under-read).
 - B. The altimeter will read high (i.e. over-read).
 - C. The altimeter will read destination elevation correctly (assume no instrument error).
 - D. The altimeter could read higher or lower than the correct altitude depending on the ambient temperature and its effects on air density and pressure.
- 3. An aircraft fitted with analogue instruments is on approach and is side-slipped steeply to the left. The static vent is mounted on the port side. What could be anticiupated frombthe ASI reading in the slip?
 - A. Side-slip and airspeed have no correlation.
 - B. The ASI reads correctly
 - C. The ASI indicates a higher than actual airspeed.
 - D. The ASI indicates a lower than actual airspeed
- 4. Which of the following cloud types on a forecast would indicate the most severe turbulence?
 - A. CC & SCU
 - B. CB & TCU.
 - C. NS & AC.
 - D. CC & CS.
- 5. Which of the following flap types takes higher velocity air passing under the aerofoil to energize airflow across the upper surface of the flap.?
 - A. A zap flap.
 - B. A split flap,
 - C. A fowler flap.
 - D. A krueger flap.

V 3. D, 4. B, 5. С. В, 2. С. В, 3. В, 5. С. В, 5. С.

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

BRISBANE VALLEY SPORT AVIATION CLUB Inc

MINUTES OF THE 02/02/2019 GENERAL MEETING

MEETING LOCATION: Watts Bridge Memorial Airfield – BVSAC Clubrooms

MEETING DATE:

MEETING OPENED: 10:15AM

MEMBERS PRESENT: 10

APOLOGIES: Glenda Faint, Jackie Bolsover, Phil Cooper, John Innes

VISITORS:

NEW MEMBERS:

MINUTES: Nil.

PRESIDENT'S REPORT: The Ratcliffe's have made a list of timber requirements for new

repair of club hangar tank stand. Repairs to be made very soon.

SECRETARY'S REPORT: Statement received from ING

Emails received from Liz Cook and J. J. Gertenbach

TREASURER'S REPORT: Ian Ratcliffe advised that a cheque was to go to the office of Fair

Trading for annual registration of incorporation of the club. ING a/c has \$7725.47. Hangar rent received was \$480, Expenses were \$390 for 4 stroke whipper Snipper. Cheque a/c has \$13,050, but \$600 has to be paid out for repayment of loans from the purchase of WSG.

lan to chase up outstanding memberships.

WBMA REPORT: Peter Biddle advised that the BOM are requesting that HBG's manage the Anzac day ceremony, and that the Aerobatic club had volunteered to do it this year. The next Watts For Breakfast will be March 10th. It has been suggested that some of the local residents be invited. The BOM has received some noise complaints mainly from the house at the end of runway 30, so departing aircraft are asked to turn early or extend departure track before turning. Leaseholders are still deliberating over wording for new leases. The fuel bowser broke down over Christmas and repairs were expensive.

The BOM have decided they will probably have 50/50 face to face meetings and tele-Conferences.

PLEASE DO NOT USE FLUSHABLE WIPES IN THE TOILETS.

Plea for volunteers to help clean and paint the container in the shelter shed.

BUSINESS ARISING: Nil

GENERAL BUSINESS: Richard Faint is in the process of updating the member's distribution

list. Richard has also created a new BVSAC website, which is considered aspirational. Richard has asked for any ideas or

submissions to be included, such as stories and pictures on who we are as members and club. Meeting dates for the next twelve months have been put on the website. Also included are downloadable membership application forms, historical newsletters and a contacts page. Richard will contact old (as in time with the club) new and ex

members for their story. Discussed having Facebook page.

NEXT MEETING: The next meeting will be 02/03/2019 in the BVSAC Clubrooms Watts

Bridge at 10:00AM

A BBQ lunch will follow the meeting.

MEETING CLOSED: There being no further business, the meeting was declared closed at

11.00AM

A BBQ lunch was held after the meeting.

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Joke

Shortly after take off, a Turkish Airlines flight reaches its cruising altitude and the captain announces: "Ladies and gentlemen, this is your captain. Welcome to Turkish Airlines Flight 409, from London Heathrow to Dalaman. The weather ahead is pretty nice and sunny, so we should have a smooth, uneventful flight. So sit back, relax and ... OH MY GOD!"

Silence follows. Some moments later the captain comes back on the intercom:

"Ladies and gentlemen, I'm sorry if I scared you ... While I was talking to you, a flight attendant accidentally spilled a cup of hot coffee in my lap ... You should see the front of my pants ...!"

A Scottish passenger yells from the back: "For God's sake man, you think you've got problems? You should see the back of mine!"





Aircraft for sale

Two replica WW1 Fighter Aircraft

1, Sopwith Pup Replica, full scale with LYC 0-320 powerplant.

The Sopwith Pup is built from An Airdrome Aeroplanes kit and was registered but the aircraft has been de-registered by me and would have to be re-registered again, The Pup was powered by a



VW 2275cc geared engine and this engine has now been replaced with a Lycoming O-320 and a new prop. This was done without any changes to the weight (removal of lead ballast replaced by heavier engine). Has not flown with the Lycoming yet but flew very well with the VW engine.

2, Nieuport 24 Replica, full scale with VW 2275 Redrive.

The Nieuport 24 was built from Graham Lee drawings and is powered by a VW 2275cc geared engine with a 84 inch prop.

This aircraft has not flown yet and needs a small amount of work to get it flying.

Both aircraft are for RAA registration. The Pup was

registered with RAA and I think this the best category for both aircraft.

Both aircraft have featured on the cover of Sport Pilot magazine in the past.

Bruce Clarke. You can contact me on:

intangible12@hotmail.com, for prices, viewing, and other details.

Cherokee 140E

Cherokee cruiser PA28-140E. NVFR. 150HP, Long Range tanks, good eng/prop HTR. Good

instrumentation (usual plus VOR, NDB, DG, AH, EGT, CHT, MP, carb temp, dual tach). VHF flip-flop radio, UHF CB radio. PTT on pilot's yoke, 4 place i/com with co-pilot PTT on dash, Mode C Txpnder, 3-axis trim (elevator, aileron & rudder), seats re-upholstered, Strobes on fin and wing tips, Cruise over 6 hrs at 100 kts on 30 litres/hour. Ground power plug



and cable. Wheel fairings, Recent new concorde extra-crank battery. Hangared at Watts Bridge. Asking **\$45K ono.** Contact Tom (thomasvall@dodo.com.au)

Aircraft Parts and Tools For Sale

Item	Condition	Price
SAAP Oil Pressure Gauge & Dedicated Sender	Brand New (in original box	\$100.00
VDO Volt Readout instrument	Brand New	\$70.00
EGT sensors (2 of)	Brand New	\$30.00 (each)
Skystrobe Strobe light for Ultralight	NEW – IN BOX	\$75.00
Propeller spacer (45mm) with bolts	Never used	Make an Offer
Compass Brand New	(needs oil adding)	SOLD
Slip/Skid Indicator (basic)	Used (as new condition)	SOLD
Airspeed Indicator	Brand New	\$60.00
Altimeter – non-sensitive with subscale in "Hg.	Brand new	\$50.00
Cylinder Head Temperature gauge –	Double readout	SOLD
Brand New 75.00Torque Wrench (SCA)	Brand New 60.00	\$60.00

Aircraft Hangarage available at Forest Hill (YFRH)

Fees \$110/month in advance Contact Rob Knight for details 0400 89 3632

or email: kni.rob@bigpond.com