## QUEENSLAND ULTRALIGHT **ASSOCIATION** JUNE 2011 NEWSLETTER

Watts Bridge Memorial Airfield, Silverleaves Road via Toogoolawah, Qld

www.qua.org.au www.wattsbridge.com.au

Watts Bridge All-In Fly-In 2011 (photos page 4)



Aerial shot by Mal from the back seat of Ken Holze's Drifter.



#### First up, Mike Smith's Natfly report

Another Natfly has been and gone. The Temora community welcomed Natflyers with open arms. Unfortunately, the weather in the week before Natfly was fairly ordinary which prevented people from all points of the compass from arriving as planned. However, many drove and aircraft dribbled in during the whole event. Approximately two hundred aircraft were on the field at any one time and in excess of three hundred and fifty over the whole period.

The camping/caravan area was well used during the event as many people chose to drive in. The FLXIBLE (yes that is the right spelling) bus club made a big impression with their fleet of ex-ANSETT buses, mostly converted to mobile homes. Quite a number of new aircraft were on display which provided interest. The Bolly Props jet test engine made a lot of noise and drew a big crowd each time it was started. Considerable interest was also shown in the unpronounceable name aircraft with the Mercedes Smart car engine - a neat and impressive installation with amazing fuel consumption.



**The Members' Meeting:** With all the doom and gloom talk that has been going around, the members' meeting was *very* well attended. A spirited discussion was held covering many topics:

- 1. <u>Drug and Alcohol Testing</u>. Gordon Marshall suggested that new rules be introduced to make it compulsory for instructors and students to be tested for drugs and alcohol after a serious accident. The board felt that they were not in a position to do this both legally and financially and that various other authorities have the power to do this now. There was general consensus in the room for this position.
- 2. Change of Treasurer. The CEO advised that Dave Caban's position as treasurer had become untenable due to work commitments and time restraints. Dave Caban has formally resigned and a new treasurer, Steve Runcimen from QLD, has been elected. Steve presented preliminary figures as to where incoming and outgoing funds were coming from and going, and explained various reasons for the bank balance looking a bit pale. This was mainly due to a carryover of two yearly subscriptions coming to an end, the buyout of stock (saleable items) from the old magazine publishers, staff entitlement payouts and the high depreciation values shown by the auditors for which he is seeking further explanation. He showed confidence in the financial stability of RA Aus for the future. The continued sale of the magazine in newsagents is under review as this currently makes a large loss.
- 3. Secrecy Agreements. It was explained that secrecy agreements have been in place since day one for in camera discussions. It had been proposed that observers at board meetings be asked to sign secrecy agreements but this idea has been abandoned. Legal advice was sought re confidentiality agreements and the board has been advised that they are legal and also common practice. The board was made well aware by the members present that they would like much better communication. Members were advised that the minutes would be made available on the members-only section of the website and would be mailed to club secretaries upon request.
- 4. Open and Transparent Governance. The board said that they had been undertaking honest and open governance but that communication needed to be improved. Financial statements would be made more available to members as affairs were brought up to date, following the resignation of the previous treasurer and some of the office staff. Also, it was stated that holding the AGM outside of Canberra was not financially viable, nor possible under the current registration of the association.

A range of gyros were on show and some gave a very impressive aerial performance, with relatively short takeoffs, almost vertical landings and incredible manoeuvring ability.



Rotec water-cooled heads on a Jabiru 6 cylinder motor. Working perfectly!



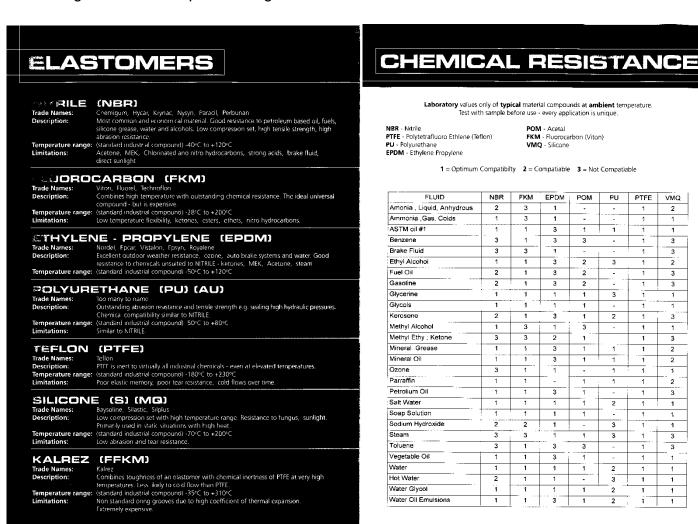
#### O rings ain't O rings, Sol!

In preceding newsletters we've looked at fuel pumps, fuel line and clamps. Now let's look inside the Bing 54 carburetor at an item often taken for granted. You may have noticed that Bing advertise that the tip of their float valve is made of a substance called 'Viton'. Viton (a trade name for Fluorocarbon or FKM) is a sealing product rated number one for submersion in fuel. However, there are also two O rings (not including the top end gasket) in a Bing carby, and, out of interest, I took them to an O ring expert for analysis.

If you are looking for O rings, go straight to Seal Imports at 11 Iris Place, Acacia Ridge. They have the most comprehensive range imaginable. They not only supply every conceivable size, their O rings are made from seven different substances (elastomers), depending on the environment in which they have to operate. Believe me, these guys really know their O rings.

The two O rings in each of my two carbies were made from a substance called Nitrile (NBR). This is a common O ring material in the automotive industry. However, while it is permissible in a fuel rich environment (like a carby), it is not really recommended. Under magnification, the damage that the fuel was causing to the rings was clearly visible. Both of the air screw rings were starting to shred. The valve needle ones seemed OK but they sit above the fuel flow and are never compressed. Needless to say, I bought Viton replacements for both O rings – and they were not expensive.

Here is a guide to Seal Imports O ring elastomers:



#### That time of year again

QUA fees are due. Still a bargain at only \$50! Send your hard earned cash to lan Ratcliffe, our venerable treasurer (so he can buy his next plane).

#### Cables ain't cables either!

Most modern aircraft have hydraulically actuated disc brakes. However, there are a few of us still using cable actuated drums. Recently, I discovered that the spongy response of these older braking systems is not caused by the drums, nor the cable. It is caused by compression of the cable housing. For a little extra money, low compression cable housings are available, and these significantly improve the feel of cable brakes. Some of these housings retain the spiral tube design but just wind a broader section more tightly (Shimano XTRs on my plane are a huge improvement), while there are also linear type housings with spiral overlay (Yokozuna). But a word of warning – never use linear type derailleur cable housing for brakes. This type of housing does not have radial reinforcement. It can split without warning because of the greater pressure generated by brake cables as opposed to gear change cables. Bicycle experts say Yokozuna housings are the best on the market and give a "near hydraulic feel". Remember that cable cutters can leave slightly springy ends to spiral wrap cable housings, so after cutting the desired lengths, lightly touch them up with a grinder for a perfectly square and flat fit.

## ANNUAL DRIFTER BREAKFAST $\underline{SUNDAY\,17^{TH}\,JULY\,2011}$ To be held at the home of the flying tigers - boonah airfield

#### ALL AIRCRAFT WELCOME

(AIRCRAFT OTHER THAN DRIFTERS/FISHERS WILL BE GIVEN HONORARY **DRIFTER STATUS FOR THE DAY)** 

DUE TO THE 'UNUSUAL' CRUISING SPEED OF DRIFTERS, BREAKFAST WILL BE HELD OPEN RIGHT UP UNTIL LUNCHTIME !!!!!

COST FOR THE FAMOUS TIGERS BREAKFAST – A MERE FIVE DOLLARS (INCLUDES UNLIMITED TEA OR COFFEE)

**CONTACT DETAILS** 

DAVE TONKS - davidtonks@bigpond.com PHONE AH - 07 5463 5116 PHONE MOBILE - 0438 463 601

(PLEASE CONTACT DAVE WITH APPROXIMATE NUMBERS A WEEK BEFORE THE EVENT)

AS AN ADDED INCENTIVE TO ATTEND THIS FANTASTIC EVENT, A FREE

#### REAL MEN FLY TAILDRAGGERS

STICKER WILL BE GIVEN TO EACH PILOT ATTENDING

COME ALONG AND SEE AUSTRALIAS BIGGEST GATHERING OF ONE OF THE TRUE ICONS OF ULTRALIGHT AVIATION, AND TALK TO DRIFTER LEGENDS (SUCH AS KIWI AND **GRUMMO**)

BUT MOST OF ALL, JUST HAVE A GREAT TIME FLYING IN TO THE FRIENDLIEST ULTRALIGHT AIRCRAFT CLUB IN OZ **SEE YOU THERE** 

(BRING YOUR SENSE OF HUMOUR)

#### Gatton Air Park Fly-in, 29 MAY 2011

Come and inspect our unique hill top residential aviation community. Everyone is welcome. There will be a hot breakfast courtesy of the Gatton Lions Club from 0730 Sunday. Saturday night camping will be available under-wing or in hangars with shower & toilet facilities. There will be a BBQ on Saturday night and the use of a courtesy vehicle. There will also be a \$200 award for the longest flight. The airfield details in the ERSA. For more information, phone Martin on 0419 368 696.









#### Other coming aviation events

May 20-30 Darwin, NT, International Comanche Society Kimberly Cruise

May 27-29 Old Station Farm, Raglan, QLD, Old Station Fly-In

May 28-29 Casino, NSW, Casino Beef Week Muster

May 28-29 Watts Bridge, QLD, AACQLD Aerobatic Practice Weekend

May 29 Gatton Airpark, QLD, Annual Breakfast Fly-In

Jun 4 Temora, NSW, Aircraft Showcase - Korea

Jun 5 Wagga Wagga, NSW, Wagga City Aero Club monthly BBQ Lunch

Jun 10 Mount Gambier, SA, Mount Gambier Aero Club Aviation Quiz Night

Jun 10-12 Betoota, QLD, Betoota Gymkhana and Motorbike Event

Jun 11-13 Watts Bridge, QLD, AACQLD State Aerobatic Titles

Jun 15-17 Estoril Congress Centre, Lisbon, Portugal, Oth, 21st ACI Europe Annual Assembly & Congress

Jun 18 Temora, NSW, Aircraft Showcase - World War II

Jun 18 Dunwich, North Stradbroke Island, QLD, Straddie Breakfast Fly-In

Jun 24-26 Birdsville, QLD, Birdsville Gymkhana & Motorbike Event

Jun 24-26 Birdsville, QLD, Rodeo Bronco Branding Horse Gymkhana

Jun 24-28 Longreach, QLD, Wings of Life - Longreach Fly-In

Jun 25 Watts Bridge, QLD, 80th Anniversary of the Tiger Moth Fly-In

Jun 25 Birdsville, QLD, Birdsville Bronco Branding - \*\*POSTPONED\*\*

Jun 27-28 Longreach, QLD, SAAA Maintenance Procedures Course

How they instruct at Clifton (quote from Trevor Bange): If you push the stick forward, the trees get bigger. If you pull it back, they get smaller. If you keep pulling it back, however, they will get bigger again.

**Glenda Faint's QUA raffle** was won by a fly-in, fly-out itinerant from Forest Hill (who claims to have never won anything in his life previously). The raffle raised over \$350 for the club. Well done, Glenda! It is good to see this lady so mobile and actively involved. Last year was definitely not her best year, but she's now on the up and up, and we all appreciate her fund-raising efforts with this raffle.

#### Prescilla, it is often said that plagiarism is the sincerest form of flattery!

Prescilla Smith's original design for her and Mike's tail dragging Jabiru is shown in the photo on the left. At Natfly last year, I took the photo on the right, which clearly shows a copyright infringement (if there had been a copyright, that is). Prescilla, the only way to take it is as a genuine compliment to your artistic skills. We are now all eagerly waiting to see your design on the tail of the new Jabiru 230!

Prescilla's original design



The pirated version



#### Jim Gollagher's Private Airforce

Previously, the newsletter has reported on his Karatoo project. This month, Jimbo has been good enough to send in a report on his Terrier engine development and his Nieuport N17 WW1 fighter project. Take it away, Jim:

Hi Guys, here's what I've been up to on the Terrier. After checking out the carbies and carb heat systems on the Subaru 4, I've decided (for lots of reasons) to sacrifice a little horsepower and go to a very simple single throttle body system. Having seen V Dubs and Corvairs successful with this kind of thing, I figured I'd have a crack at it and in the process finish with



something heaps simpler, more reliable and more efficient. The Rotec TBI is my choice for this new set up, and, after doing heaps of dyno work with it, I can see firsthand that it is a really good thing and does what I need it to do very well. The trick I've learnt with this kind of set up is that, once the fuel and air have been mixed in the carby, it must not be able to slow down anywhere or the fuel atomisation will fall out of suspension and the resulting 'wet out' will lead to an uneven mixture and poor running. So we absolutely must have our plenums and junctions as small as practicable to try to keep it all moving and mixed.

Basically, the system has a small plenum with the TBI mounted centrally off the front of the sump to help with fuel vaporisation at low engine speed (and having the additional advantage of transferring some heat out of the oil). A tube on each side leads to small plenum/junction on the intake runners (both sides). The TBI is mounted at a set angle to even out the mixture distribution at cruise throttle setting with just enough room left in front of it to mount a carb heat flap box.

I will be soon be putting the gearbox and prop back on so I can do some test runs. I may have to fine tune the TBI mounting angle. After that, a few more changes in the engine bay then the motor will be

stripped down for a full inspection.

The N17 is together and running now. We almost have all the paper work in order and will be getting the 'condition report' done by the L4 in the next week or two. Been doing some taxiing and getting a feel for the ground handling. Hopefully, she'll be flying in a month or so. Cheers, Jim





#### The Nieuport N17 (from Wikipedia)

The type was a slightly larger development of the earlier Nieuport 11, and had a more powerful engine, larger wings, and a more refined structure in general. At first, it was equipped with a 110 hp (82 kW) Le Rhône 9J engine, though later versions were upgraded to a 130 hp (97 kW) engine. It had outstanding maneuverability, and an excellent rate of climb. Unfortunately, the narrow lower wing, marking it as a "sesquiplane" design with literally "one-and-a-half wings", was weak due to its single spar construction, and had a disconcerting tendency to disintegrate in sustained dives at high speed. Initially, the



Nieuport 17 retained the above wing mounted Lewis gun of the "11", but in French service this was soon replaced by a synchronised Vickers gun. In the Royal Flying Corps, the wing mounted Lewis was usually retained, by now on the improved Foster mounting, a curved metal rail which allowed the pilot to bring the gun down in order to change drums or clear jams. A few individual aircraft were fitted with both guns - but this reduced performance unacceptably, and a single machine gun remained standard.



The type reached the French front in March 1916, and quickly began to replace the Nieuport 11 in French service. It was also ordered by the Royal Flying Corps and Royal Naval Air Service, as it was superior to any British fighter at that time. Worthy of note is the fact that during part of 1916, the Nieuport 17 equipped every fighter squadron of the Aéronautique Militaire. The Germans supplied captured examples to several of their aircraft manufacturers for them to

copy. This resulted in the Siemens-Schuckert D.I which, apart from the engine installation, was a close copy and actually went into production, although in the event it was not used operationally on the Western Front. By early 1917, the Nieuport was outclassed in most respects by the latest German fighters. Newer models (the Nieuport 24 and the 27) were brought out in an attempt to retain the type's ascendency. However, the SPAD S.VII had already replaced the Nieuport fighters in many French squadrons by mid-1917. The British persisted with Nieuports a little longer, not replacing their last Nieuport 24bis until early 1918. Many Allied air aces flew Nieuport fighters, including Canadian ace W. A. Bishop, who received a Victoria Cross while flying it, and most famously of all, Albert Ball, V.C. Like the other Nieuport types, the 17 was used as an advanced trainer for prospective fighter pilots after its operational days were over.

**Over the CBD:** Photos are taken from a Foxbat over Brisbane last month. Sent in by Tony Wright.





### Ex-pat Aussie Sapphire pilot responds to our newsletter from the other side of the Channel!

Kirk Sutton is an IT Finance & Reporting Manager for Allianz in England. He is also a Sapphire aficionado. As far as I know, he owns the only example of the type in the UK, a 95.10 aircraft. He has spent the recent winter doing major modifications to his plane. He has responded to April's article on the evolution of the Sapphire.

Hello Arthur! I have been reading the QUA April newsletter. In particular I want to comment about the Sapphire C of G discussion. I have some points to make:



All the 95.25 fuselages came out of the same mould, but the 95.10s did not. Ours are different because of the engines. Yours is from a modified mould. Also, the original 95.10 thick fabric covered wing KFM engine Sapphires have no leading edge sweep – our wings are dead straight, our engines are 15kg lighter and our wings are also about 15kg lighter. Even with radio, brakes, spats, strut fairings, full canopy and tool kit, my plane is less than 140kg, even with a bit of fuel still in the tank. Show me a 95.25 that comes close to that!

When the R447 was first put in Sapphires, the easy fix with the C of G issue was to sweep the wings a little bit to move the pilot just that bit further forward from the centre of lift. Then along came the 503s, flaps (not on the original 95.25 airframe, but added later), bigger batteries, etc, and all this weight behind the C of G requiring a bigger pilot and/or nose ballast (or more sweep). I hesitate to add that the amount of resin and therefore weight of glass in the fuselage has crept up over time but in reality it did. The original 95.25 had very light glasswork, but the later ones are heavy all over (middle age spread).

Here are the differences between the 95.10 and the 95.25 Sapphires:

- 1. The overall pod shape and size are the same (far too skinny down the front for feet in shoes for most people).
- 2. They have different instrument panels (made much bigger on the 25, however retrofitted to some 10s (mine included).
- 3. They have different wing sections. The 25 wing is thinner it connects to the fuselage at the same point relative to the boom, however, and this means that the upper fuselage is lower on the 25. Hence there is a need for a hump (on the 25) to give the pilot enough head room.
- 4. The wings were swept on the 25 but not on the 10 to address the C of G creep (added weight).
- 5. The 10 uses an entirely different aileron control post/pivot and rods in the fuselage than on the 25. Nothing is interchangeable between the two.
- 6. There is no stabilator centring/trim system on the 10. It's strictly hands-on flying.
- 7. The seat back in the 10 is an 18L fuel tank (the original design). My 10 has an added leading edge tank.
- 8. The two airframes are clearly related, but the performance and handling qualities are definitely different. I've flown my KFM 10 and another Rotax 337 powered Sapphire and they fly the same with about the same performance. I have flown a 25 with a Rotax 447 and it was quite a bit different in some areas with higher performance (though I did not have a chance to throw it around and explore the edges of the envelope the owner was watching). In some respects I prefer the 10. It is more directionally stable and not inclined to incipient spin entry, which is apparently an issue on the 25. Also, the low speed performance of the thick wing and low mass is really nice. It floats around easily in the 32-35kt range where a 95.25 Sapphire is not happy. But then, I can only cruise at 55, not 85, so horses for courses.

My latest modifications to my Sapphire are making it even lighter than it was as a 95.10 aircraft. The new wings look like coming in at under 25kg for the two, and the new lift struts are under half the weight of the originals. My Sapphire will likely make it down to less than 115kg empty without the canopy, spats and brakes, and if I can do that it will be go onto the UK register (at the moment I need a special permit). Hopefully, I will have a 95.10 Sapphire with the performance of a 95.25 Sapphire. Actually, if I can achieve that, I might be tempted to make another one from scratch in more advanced composites using the Hirth F23 motor to give me the ultimate Sapphire – electric start 50hp and under 115kg empty but with a full 300kg MTOW! I might even bite the bullet and go full electric – a 40hp electric motor and controller is only 29kg! Cheers, Kirk.

## The next QUA meeting is at 10am on Saturday 4th June at the QUA Clubhouse followed by a BBQ.

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**QUA Inc TECHNICAL DIRECTOR: George Perez 0423536380** 

#### Now, I promise to only do this once per year, but...

Here are three reasons for this club changing its name:

- **1. Queensland** some people could say we were pretentious. I say we are just inaccurate. We aren't even *South East* Queensland. At best, we are *Brisbane Valley*. Think about it. Valleys have mountains, rivers, lakes, forests and beautiful scenery, just the country people like to fly over.
- **2. Ultralight** No longer a designation, and everyday becoming rarer as a type. This word turns away many prospective members (just ask Mike Smith). Like the Rats of Tobruk, the ultralight era has come and gone. (Those guys all have grey hair too.) **Sport Aviation** is what pilots do today. In the public mind, ultralights kill people. Sports aircraft are like sports cars they have sex appeal.
- **3. Association** Wrong word yet again. Associations are professional organizations. They certify, self-regulate and promote their industries. We are a *Club* in the true sense of the word a fraternity of like-minded people who have come together to engage and assist each other in the pursuit of our hobby, our sport, our dream.

The average age of this club is about three years older than it was when I joined it three years ago. Demographically, the club will reach a critical stage sometime in the not too distant future. A more accurate and appealing name for the club will help bring in younger pilots.

Members can (politely) enter this discussion on the QUA online forum (mailout@qua.org.au)

THE FOLLOWING PAGE IS A SAMPLE ONLY, SO NOBODY PANIC (ESPECIALLY COL)!

# BRISBANE VALLEY SPORT AVIATION CLUB

(QUEENSLAND ULTRALIGHT ASSOCIATION)

### JUNE 2011 NEWSLETTER

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www.qua.org.au www.wattsbridge.com.au

Jimbo (Bigglesworth) Gollagher and his Nieuport N17 – page 10



#### MINUTES OF MAY 9th 2011 GENERAL MEETING

MEETING OPENED 08.00 pm

APOLOGIES Danny Fowler, Vern Grayson, Lloyd & Robin Salisbury, Nick Sigley,

Richard Sweetapple

VISITORS Steve Prescott, Michael Poulsen, Paul Poulsen

ATTENDENCE Fifteen.

MINUTES OF FEBRUARY No business arising.

Motion to accept minutes as correct.

Proposed Peter Ratcliffe
Seconded Mike Smith

Motion carried.

PRESIDENT'S REPORT Hot Water system is now installed. Gas tank cabinet and concrete

base needs to be completed. Payment has been paid to the plumber for the installation work. The Ratcliffes will be away for a couple of

months to Mackay and Oshkosh.

TREASURERS REPORT Opening Balance \$ 9,650.26

Deposits \$ 100.00 Withdrawals \$ 42.40 Closing Balance \$ 9,707.86

Hangar whirlybirds are to be purchased. Renewals of the QUA Inc memberships are due. Invoices are to be sent soon to members.

SECRETARIES REPORT Many emails in past month. Topics include the RAAus Board

elections, updated aircraft regulations for the 600kg GW, RAAus Meeting Agenda, All In Fly In, correspondence with Nick Sigley, clubhouse hot water instal, local fly ins plus enquiry for hangar

aircraft.

WBMA REPORT All In Fly In at Watts Bridge on May 21<sup>st</sup> 2011 is a one day event.

Aircraft marshalling to be organized by Ron Dunne. Volunteers are

needed to help Ron with visiting aircraft.

SOCIAL REPORT Archer Falls Fly In to aid the Royal Flying Doctor.

GENERAL BUSINESS Natfly at Temora went well. The aircraft attendance was down due to

the weather. The RAAus meeting was well attended. The topics were discussed in an open and orderly manner. The discussion helped

clear up a lot of the concerns by members of late.

QUA Inc Tool Roll Raffle fund raiser to be drawn at the All In Fly In.

Tickets are 3 for \$5.00

NEXT QUA Inc MEETING Saturday 4th June at the QUA Inc Clubhouse at 10.00am at WBMA

THANKYOU To David Ratcliffe for providing the supper tonight.

MEETING CLOSED 09.15pm.