

QUEENSLAND ULTRALIGHT ASSOCIATION

DECEMBER 2005 NEWSLETTER

Watts Bridge Memorial Airfield, Silverleaves Road via Toogoolawah, Qld

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QUA CHRISTMAS PARTY

Will be held on Monday evening on the 5th of December, 2005 from 07.00pm at the SAAA Clubroom at Beatty Road, Archerfield Aerodrome. All QUA members and partners are welcome to attend. For catering purposes please contact Robin Salisbury on 07-55372165 or email lloyd robin@bigpond.com if your name is not on Robin's list or you have not already been contacted. All food is being provided by the QUA. Please bring your own drinks and glasses.

Special guest is Bill Finlen who will be giving a talk on his solo around the world flight with his Beechcraft Bonanza in 2002.

More information about Bill's travels can be found on www.airsafaris.com.au/atw/atw.htm

MERRY CHRISTMAS ONE AND ALL

AIRCRAFT OF THE MONTH

CLASS introduces the....

kestrel



From the manufacturers of the all metal Classy Bush Plane comes a brand new composite ultra-light. The **Kestrel 60** designed for pilots looking for the ultimate ultra-light. The Kestrel is perfect for pilot training and cross country touring - safe, tough and dependable with the same extraordinary performance that its big sister the all-metal [BushCaddy](#) has become renowned for.

Classic lines, tough construction superb engineering come together in one beautiful aircraft. Powered by Rotax 582 and built to JAR standards, the Kestrel 60 will be offered fully built or as a kit. Prototyping and flight testing will be complete by Fall 2003, and deliveries are scheduled for early 2004. A special launch price will be offered on the first five kits.

This new aircraft from Canada shows how effectively General Aviation is being re-invented worldwide. With a construction method similar to a local Jabiru, and at first glance a shape reminiscent of one of the most popular vintage training aircraft of all time, the Cessna 150, this aircraft should be a winner.

The all composite construction should offer a quicker assembly time coupled with less airframe maintenance as the aircraft ages, in a lighter weight package as compared to its GA ancestor. Size of the Kestrel 60 is also similar to the Cessna and offers good interior room .



This is no ordinary ultra-light! No attention to detailing has been spared. Luxurious spacious interiors for comfortable side by side seating. Full 360 degree visibility for "Circuit Safety". A full VFR panel for training and cross-country trips. A 5 hour fuel range behind the Rotax 582 engine, and a generous luggage compartment behind the seats all contribute to an unbeatable and affordable aircraft that is unrivalled .



Currently under development by CLASS (Canadian Light Aircraft Sales and Service) the two seat Kestrel should fit into the local experimental and upcoming LSA categories in what is becoming one of the most popular aviation segments in Australia's history. It is anticipated that various engines would be fitted according to the builder's requirements. A heavier version with engines up to 150 hp is in the planning too, which will allow it to take its place in the training arena as a production aircraft.

Further information is found on www.bushcaddy.com/KestrelConst.htm with the company represented in Australia by Tony Stiller of A&R Stiller and Associates at Caboolture who also sell the Bushcaddy range of all metal kit aircraft. No dates have been given on availability of Kestrel 60 kits yet as development is continuing.

WHY ROTATE SPARK PLUGS

REPRINTED FROM SAAA WESTERN FLYER

This article was previously published in the Zenair News, and in the March 1998 Western Flyer, however due to the nature of the information and time since publication - it is reprinted here.

If you have priced new spark plugs, you can understand why one would like to extend the safe useful life of the plugs in your engine. The following article was written from data obtained from EAA Chapter 75, who got it from Chapter 111, who got it from 1143, who got it from 291, who got it from who knows where!?! It wasn't Orville; he died before flat engines. Many of us plane owners and lots of mechanics always return the spark plug to its original position after cleaning. What we don't know is that spark plug life can just about be doubled by proper plug rotation. Look at the spark plug electrodes the next time you remove the spark plugs from your engine. One electrode is usually worn more than the other. On one plug, the centre electrode may be worn; on another plug, the ground electrode may be worn.

Solution: Swapping plug positions evens out the wear between the centre and the ground electrodes, thereby preventing any one electrode from incurring excessive wear.

The spark plug's firing polarity causes uneven electrode wear. The magneto generates energy by means of a rotating magnet. As the magnet rotates, the magnet's north and south pole generates a positive and then a negative electromotive force. The magneto sends a positive voltage down the next lead, and so on. Although the voltage is the same, the polarity alternates between each lead. Since our flat engines have an even number of cylinders, each lead always has the same polarity. Current flow from the spark plug's cathode to the anode electrode causes the cathode electrode to wear or erode.

Solution: Move the plugs to a different position so that it fires with the opposite polarity. You can do this by swapping the spark plugs with worn ground electrodes with the plugs that have the worn centre electrodes. This can be done by moving the spark plug to the next lead position coming out of the back of each magneto.

Spark plugs also wear unevenly due to differences in lead salt deposits and ignition lead capacitance. There is a higher wear rate on spark plugs operating on avgas than on auto gas. This higher rate is due to lead salt corrosion from the lead in avgas. Remember when cars had 8 spark plugs that you had to change every 3-5000 miles? This was due entirely to lead.

Solution: Swap plugs from top to bottom to equalise wear caused by lead salt corrosion.

The greater the ignition lead's capacitance, the more current flow across the spark plug gap, and thus greater electrode wear. Shielded spark plug leads have two conductors, insulator separated by insulator. This produces a

linear capacitor. Approximately 25% of the energy sent to the plug from the magneto is used to charge the lead's capacitance. Once the lead is charged, the voltage across the spark plug increases until a conductive path completes the electrical circuit. Capacitive energy stored in the lead then discharges across the spark plug gap after the original arc. Usually the spark plug has already lit off the fuel/air mixture so that this capacitive energy is of no use except that it causes electrode wear. The longer the lead, the greater the capacitance and the more induced electrode wear.

Solution: Swap plugs between short and long leads to equalize the wear caused by lead capacitance.

Here is a table of plug rotation that not only swaps plugs from top to bottom, but also swaps from short lead to long lead, while reversing spark plug polarity. This method works in almost all horizontally opposed engines.

For a 6 cylinder engine - swap:

1T	with	6B
2B	with	5T
3T	with	4B
1B	with	6T
2T	with	5B
3B	with	4T

For a 4 cylinder engine - swap:

1T	with	4B
2B	with	3T
1B	with	4T
2T	with	3B

Radial engines do not have this problem, since they have an odd number of plugs. The magneto polarity of the spark to each plug alternates between positive and negative and evens out the electrode erosion automatically.

Don't forget a very small amount of anti-seize when reinstalling. Always use new or annealed washers. You can anneal the solid copper style washers by hanging on a loop of safety wire and heat until red hot with a propane torch. Quenching with water will remove the scale and oxides so they will look brand new. Remember that you are using an open flame. Do not use a torch around flammables.

If possible, use a torque wrench - 300 to 360 inch pounds for 18mm, while only 18- to 240 inch pounds is recommended for 24mm plugs.



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Above technical information courtesy of Col Thorpe.

President : Gavin McGrath 07 54262118

Secretary : Malcolm McKenzie 07 33415348

Treasurer : Richard Faint 07 38181988

QUEENSLAND ULTRALIGHT ASSOCIATION
MINUTES OF NOVEMBER GENERAL MEETING

MEETING OPENED	08.00 pm
APOLOGIES	Malcolm McKenzie
VISITORS	Robyn Salisbury , Scott O’Kane, Paul Bogden, Laurie ?, Dave Donahue Graham ?
MINUTES OF PREVIOUS MEETING	MOVED Gavin McGrath SECONDED Colin Thorpe CARRIED
TREASURERS REPORT	BANK BALANCE \$ 4,770 - working account \$15,000 - investment account
SECRETARIES REPORT	No Correspondence
SOCIAL DIRECTORS REPORT	Christmas Party date set for Monday 5 th of December 2005. Catering organised by Robin Salisbury and paid for by the QUA. BYO drinks. Guest speaker is Bill Finlen
GENERAL BUSINESS	John Walmsley – CFI Coominya Flight Training presented a talk on the new airspace procedures coming into effect 24 th November 2005. John explained the difference between the current and the new regulations. Particular emphasis was placed on the procedures and responsibilities when operating from and around private country airstrips. The talk was well received with an exceptional turnout.
THANKS	to Robin for preparing the supper.
MEETING CLOSED	09.00 pm

SOCIAL CALENDAR

- December 4th Christmas Party to be held by the Gold Coast Sports Flying Club Inc. at Heckfield at Jacobs Well.
- December 5th QUA Christmas Party at the SAAA Clubroom, Archerfield from 07.00pm. Food catered for. BYO drinks and glasses. Special guest speaker is Bill Finlen who will give a talk on his adventures when flying his Bonanza solo around the world in April- May 2002. This is a great time to get together and meet casually whilst enjoying good food and company.
- December 10th Queensland Vintage Aeroplane Group Sunday morning breakfast fly in. Contact Shane Winter on 07-33003357 or 0407122219 or Greg Justo on 07-33436003 or 0407740734.
- December 25th Christmas Day. May we all have a wonderful Christmas and a happy and prosperous New Year for 2006.
- Dec 30th – Jan 2nd The Great Eastern Fly-in at Evans Head NSW. No rego or landing fees. Activities planned over the four days. Contact is Gai Taylor on 02-66215592. Great location and scenery to enjoy
- February 6th QUA general meeting at the SAAA clubroom from 07.30 pm All welcome to start the New Year's activities and planning. Supper provided after the meeting.
- February 22nd Redcliffe Aero Club from 06.00pm
CASA Safety Seminar
Topics to include:
Ops in and around controlled airspace
Pilot maintenance
Local weather
Fuel management
Aircraft weight and balance
VFR ops into IMC
Contact is Toni Crompton on 131757
- April 14 – 16th RAAus Natfly at Narromine
The big one is on again. All welcome.
- April 29 – May 1st Inglewood Flyin.
Good opportunity to fly there, meet and join in with the local community.
All fliers welcome.
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AIRCRAFT FOR SALE



MUSTANG P51B

Amateur built
2/3rd scale
standoff replica.

Cruise 90 Knots, Stall 40 Knots. Powered by a Rotax 503 - 52 HP, DCDI, E Type Gear box. Electric start complete with muffler and propeller. Instruments include ASI, Altimeter, Slip/Skid, Compass, Rotax Tachometer, Dual EGT, CHT, Hour Meter and Voltmeter. Fitted with Powermate Regulator and Battery. Engine and Airframe 105 Hours. Excellent condition.

Price \$20,000 complete or \$15,500 without engine, propeller and muffler. Aircraft was flown regularly until 3 years ago (deceased estate).

Contact Richard on (07) 3818-1988AH or 0412-317-754



JILLAROO 95.10

Ultralight
complete with
purpose built
trailer.

Cruise 75Knots, Stall 28 Knots. Powered by a Rotax 503 - 52 HP, DCDI, B Type Gear box. Pull start complete with muffler and propeller. Engine 240 Hours. Very good condition. Instruments include ASI, Altimeter, Compass, Rotax Tachometer, Dual EGT, and CHT. Airframe 750 Hours. Fair condition, needs a little TLC.

Price \$6,200 complete or \$2,600 without engine, propeller and muffler. Aircraft was flown regularly until 3 years ago (deceased estate).

Contact Richard on (07) 3818-1988AH or 0412-317-754

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