



NEWSLETTER

Sydney Branch: MAY 2009

PO Box 573, Mascot, NSW 2020

Email: sydneybranch@raes.org.au

www.raes.org.au

Date: **Wednesday 13th May 2009**

Time: **18.15 for 18:30 hrs**

Guest Speaker: **Graham Perry**

Topic: **"From Whirlwinds to Lightnings-
Living with Aircraft "**

Venue: **Rupert Myers Theatre, Uni NSW Kensington**



Profile: Graham Perry is an aviation speaker and author, and a former Royal Air Force engineering officer whose last appointment was as chief engineer at Binbrook, the RAF's last Lightning fighter base. His 20 years in the Service were followed by a similar period working with aircraft and aviation people in industry.

Graham is a current private pilot and flies a Jodel D120A from White Waltham airfield, west of London. His book *Flying People* was published by kea in Scotland in 2004. Systems for military platforms.

Synopsis: Graham's talk is thought-provoking and humorous, and describes the realities of operating different types of aircraft ranging from Whirlwind helicopters at RAF Odiham to Lightnings at Binbrook - hence the title of the talk: *'From Whirlwinds to Lightnings - Living with Aircraft'*. The theme running through the talk is flight safety, and in particular how aviation's people work together with an open style and humour to produce safe civil and military flying operations. Up to 80 minutes of wide-ranging aviation reflection is supported by some unique photographs.

Catering: After the presentation Graham and his wife Roberta, have indicated that they will join us for dinner as guests of the committee. All members and visitors are invited to attend the dinner to be held at Mamma Teresa's Italian Restaurant, 412 Anzac Parade, Kingsford. (approx \$30 pp including soft drink and wine.)

Parking: Limited parking is available in surrounding streets with paid parking within the University of NSW car park tower, entry from Barker Street. Please observe parking restrictions and allow time to drive to, park and



walk to the venue. (Refer map)

Aviation Research Pioneer Honoured

The researcher credited with saving the Australian Government hundreds of millions of dollars through the life extension of ADF aircraft, has received one of the country's most prestigious awards. The Premier of Victoria the Honorable John Brumby announced Dr Alan Baker as the winner of the Royal Aeronautical Society Australian Division 2009 Lawrence Hargrave Award, in his speech opening the 2009 Australian International Airshow and Aerospace & Defence Exposition at Avalon on Tuesday 10th March.

Dr Baker conceived and developed the unique technology for extending the life of defective aircraft structures through the use of adhesively bonded advanced fibre composite patches or reinforcements. The reinforcements greatly increase the life of the defective component by reducing stress in the damaged area and bridging any cracks. Other countries, including the United States and Canada, have also adopted the technology developed by Dr Baker, and are experiencing similar cost savings on their aircraft. Dr Baker has been an inspiration and continues to champion the technology he developed over thirty years ago.

During his early career, Dr Baker conducted novel research into providing bird-impact resistance to the new light weight polymer-matrix carbon fibre composite jet engine fan blades initially developed by Rolls Royce for the Lockheed L1011 aircraft. As well as gaining a PhD from Nottingham University for this work, he gained several patents for this and other concepts. The award honours the aerospace and aviation industry's most outstanding achievements by Australians and is made biennially by the Australian Division of the Society. The Royal Aeronautical Society in Australia provides professional development support to aerospace and aviation practitioners.

Lawrence Hargrave was an Australian pioneer in flying machines whose work was a major influence on 19th Century aviation development, particularly in Europe and some in the USA, including the Wright Brothers.



The presentation of the medal and certificate to Dr Baker was made at the Australian International Aerospace Congress dinner at the Melbourne Cricket Ground Members Dining Room on the evening of 10th March

by David Forsyth, President of the Australian Division of the Royal Aeronautical Society.

Australian International Airshow Avalon2009 10-15 March, 2009 - Part 2

Qantas and the country's newest International carrier V Australia went head to head on the tarmac at Avalon2009 with their respective Airbus A380 and Boeing 777-300ER.

Your Committee 2008: David Adkins (Chairman), Peter Marosszeky (Secretary), Jeff Lock (Hon Treasurer)

Ross Barkla, Fred Burke, Graeme Cleary, Andrew Drysdale, Peter Lyons, Tom Nott, Adam Purcell, Shaun Trimby, Matthew Williams

Web co-ordinator: David Adkins

Editor: Jeff Lock (jeff.lock@bigpond.com)

Get your Branch Newsletter faster and in colour by Email! Visit www.raes.org.au complete 'Newsletter Sign-up'

Page 1 of 2

Virgin Blue's International Arm, V Australia is the first Australian operator to receive an Aircraft Operators Certificate for a Boeing 777-300ER. Whilst the public were not allowed to inspect inside the A380, Qantas provided a 747-400 for public inspection on the Sunday. V Australia's Boeing 777 was opened for viewing at selected times on the Friday and Saturday, which included a peak view inside the next generation long haul aircraft.

Stuart Mann, Director Product Marketing, A320 Family presented an update on the A320 Family: All the Family offers over 3000 nm range; Over 6300 firm orders; 2600 order backlog; Over 280 customers and operators; Wider people need wider aircraft – the A320 Family has the widest, most adaptable cabin in the single-aisle market (+7inches) with more carry on space (+15%); Wide aisle trolley service doesn't block the aisle; New Central Information Display System to simplify turnarounds; Significant increase in overhead stowage capacity; 1 dB interior noise reduction; A320 Family lower-deck – Better workspace, Maximum available volume; Easier handling for containers; Cost effective volume, maximises revenue, minimises turnaround times. Innovative developments include: fuel burn improvements - redesign of surge tank inlet, upper belly-fairing, new shaped engine pylon, and winglets for lower drag – which in total provides 1% cruise drag reduction and less fuel burn. MTOW increased by one tonne for greater payload/range or more revenue. Maintenance Check Intervals have increased and it is planned to be certified as follows:

A-checks: 750 Flight hours & cycles within 120 days compared to 350 FH;
C-checks: 7500 FH 5000 FC within 24 months compared to 15 months;

Intermediate check: From 4 to 6 years;

Structural check: From 8 to 12 years.

Improved take-off and landing performance: Runways with slopes up to 3.5%; operations at the highest airport in the world – 14,500 feet (Bangda & Lihasa – Air China); Antarctica flights on blue-ice runway; London City Airport which requires a steep approach – the A318 has been certified (late 2006) for steep approaches up to –5.5 degrees with the A318 being quieter than other aircraft (an output from significant engine improvement and investment –cfm and IAE); Environmental benefits through advanced technology which enables: Requires Time of Arrival (eliminates holding), Continuous Descent Approach (lower noise and fuel burn) and Brake to vacate (fuel savings up to 100kg per cycle); The A320 programme continues to invest in the future: Euros 100m for development work and E270m of capital investment over 2 years for production.

John Moore, Head of Sales, ATR commenced his presentation with a brief history of the manufacturer. The company was established in November, 1981 when Aerospatiale (EADS since July 2000) and Aeritalia (now Aleria Aeronautical) merged their two separate, but similar, regional aircraft designs into a single project. The two companies had been working on their respective aircraft concept – the AIT230 from Aeritalia and the AS35 from Aerospatiale – since 1978. The ATR programme was officially launched 4th November, 1981. The ATR42 (50 seat) and the ATR72 (74 seat) made their first flights in 1984 and 1988 respectively. The ATR72 is directly derived from the ATR42 with the fuselage stretched by 4.5m, and an enlarged outer wing made of carbon fibre.

Some years later, ATR passed an important milestone with the manufacturing of a new generation – the ATR42-500 and the ATR72-500 which made their first flight in 1994

and 1998 respectively. In October 2007, according to its principle of continuous improvement, ATR announced the launch of its newest aircraft version – the ATR42-600 and ATR72-600 which will be progressively introduced during 2010/2011. The main developments of the –600 series comprise: New Avionics Suite including the latest and most accurate computing systems for navigation, recording, auto-pilot and communications, glass cockpit with 5 wide LCD screens, a multi purpose computer to further enhance flight safety and operational capabilities. The new avionics will also provide CAT 111 approach and Required Navigation Procedure capabilities. All these main improvements will provide improvements in terms of weight reduction, reliability, energy consumption and durability. Both the –600s will include the new PW 127M as a standard engine with an enhanced version providing increased power rating for the ATR72-600 that will provide improved performance for hot and high conditions. The ATR42 has also been adapted for Maritime Patrol and Coastal Surveillance and both the 42 and 72 have Freighter versions – 56 and 75.5 cubic metres respectively. ATR aircraft are the most fuel efficient in their category, thanks to the high tech engines and propeller efficiency. On a 200 nm sector the ATR72 fuel consumption is 60% lower than that of a 70 seater jet.

Some statistics for ATR today include: 144 operators in 83 countries; 18.8 m cycles; 16.5 m flight hours; 979 aircraft sold worldwide; backlog of 169 aircraft which includes 39 ATR–600s; only Australian operator is TOLL Aviation – and total sales in Asia Pacific is 24% or 235 aircraft.

ATR's 20-year horizon expects that 2900 turboprops will be delivered worldwide and one of their goals includes consolidating its position with more than 50% of this turboprop market.

Diary 2009 6-7 June; 25-26 July; 5-6 Sept; 24-25 Oct; 28-29 Nov: Temora Aviation Museum Flying Weekends. www.aviationmuseum.com.au

29 April: John Burleigh, The Bristol Aeroplane Company in Australia

24 June: Dr Alan Baker, 2009 Lawrence Hargrave Award recipient.

29 July: Dr KC Wong, Unmanned Aircraft Research.

26 August: Morris Jones, The New Moon Race.

30 Sept: 51st Sir Charles Kingsford Smith Memorial Lecture and Annual Branch Dinner - Guest speaker - Joe Sutter.

26 November: Mark Vellacott, Aircraft Structural Safety.

Aerospace Websites

www.57rescuecanada.com: Follow Capt. Karl Kjarsgaard's adventures to recover Halifax bomber LW170 which is resting beneath 5000ft of water off the Irish coast.

www.airshow.com.au

www.atsb.gov.au: The Australian Transport Safety Bureau is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations. The object of a safety investigation is to enhance safety and to communicate the safety factors related to the transport safety matter being investigated to reduce safety-related risk.

<http://www.adastron.com/707/updates/updates.htm>:

The diary for Boeing 707- 138B XBA formally Qantas EBA is now available to all – just follow the links.

www.powerhousemuseum.com/whatson/

RAeS Coffee Mugs and lapel pins: Sydney Branch coffee mugs and lapel pins available at Branch meetings for \$10 each.