



Royal Aeronautical Society, Australian division

February 2009

From the Editor

Hello All,
Hope you have all rested up over the Christmas/New Year break, as the RAeS Melbourne Branch already have a great series of events to start off 2009!

We look forward to an exciting year in aviation and I look forward to providing a summary and snippet through your monthly newsletter. This year we look forward to such things as the breathtaking Avalon Airshow in March, and a site visit to Melbourne Airport in April - we aim to provide something of interest to all our members.

2009 is the 40th Anniversary of the first manned mission to land on the moon. The Australian International Airshow will pay homage to that great event, and highlight the future directions of aeronautical and aerospace technology. We have come along way since the first mission to the moon and the Melbourne Branch hopes to lift the interest in aviation through our community and provide a forum for all interested in aviation to meet, attend lectures/events of interest and to become more involved and informed on aviation.



Karen Trezise,

February Event Gippsland Aeronautics – The development of the GA- 200 agricultural, GA8 utility and the ex- GAF Nomad aircraft

Presenter: George Morgan,
Gippsland Aeronautics

Date: Monday 9th February

Time: 6pm for a 6.30pm start

Cost: Free. Everyone welcome!

Venue: Auditorium,
Engineering House,
21 Bedford St, North Melbourne



George Morgan is a Licensed Aircraft Maintenance Engineer and Aircraft Manufacturer. In 1973 he completed his apprenticeship at the Government Aircraft Factory (GAF), Fisherman's Bend. Mr Morgan was a member of the Nomad team from the very early days of conception, and was involved in the design, development, certification and initial production phases. In 1974 he left GAF and started his own aviation business at Bacchus Marsh, which involved aircraft sales, servicing sailplanes, major repairs and general aviation maintenance. In November 1974 he went to work in Germany for 12 months at Schempp Hirth, a leading sailplane manufacturer, which was at the forefront of Fibre Reinforced Plastics (FRP) technology. Here Mr Morgan gained a FRP major repair authorisation. On returning to Australia he continued to run a successful aircraft sales and glider maintenance company. In 1978 he sold his aviation business at Bacchus Marsh and commenced at HC Sleigh Aviation where he became Chief Engineer and Special Projects Officer. At the time, HC Sleigh was the distributor for Nomad Australia, Rockwell, Piper & Partenavia.

in 1983, Mr Morgan co-founded Gippsland Aeronautics. Initially a maintenance organisation, the company gained a reputation for delivering aircraft modifications on many different types. The company at this time was also developing its first design, the GA200 agricultural aircraft, an aerial application aircraft that is capable of carrying one tonne on 300 Horse Power.

In 1993, the first prototype of the GA8 Airvan was flown. The Airvan was developed when a market gap between the Cessna 206/Cherokee 6 and Cessna Caravan was identified.

Inside This Issue

- Avalon Airshow 2009
- Wackett Lecture (March)
- KC-10 Air to Air tanker
- Students – Free pass to Avalon Airshow 2009
- 13th Australian International Aerospace Congress
- National Aviation Green Policy Paper
- Air Racing
- Roger Wilco
- Upcoming events
- Websites of interest

VALE Nancy Bird-Walton



Defying the traditional role of females of her time, Nancy Bird-Walton was a trailblazing aviator in Australia. She was, at the age of 19 in the early 1930s, the youngest woman in the Commonwealth to qualify for her commercial pilot's licence; she was the first female commercial pilot in Australia, she set up an airborne medical service and she founded the Australian Women Pilots' Association.

The Airvan, an eight-seat passenger utility aircraft, manufactured locally at Latrobe Valley in Victoria. Approximately 135 aircraft are now operating in 28 countries worldwide.

In 2008, Gippsland Aeronautics acquired the Australian Type Certificate for the Nomad aircraft. Initially to provide the ongoing support of existing fleet, the company has been overwhelmed with demand for a new generation aircraft and is now in the final stages of raising investment to put the Nomad back into production.



Avalon Airshow 2009

Do you want to be part of the 2009 Australian International Airshow at Avalon? The RAeS needs your help! We require members to promote the RAeS at the Airshow stand. If you have some time and would like to be part of this exciting event please contact us!

Trade Days- Tuesday 10th to Friday 13th March
Public Days- Saturday 14th to Sunday 15th March

We would appreciate anytime you could spare. If you can assist for just a morning or an afternoon, there will be ample opportunity for volunteers to attend the other Airshow events.

If you are going to be attending the airshow, please come some hello at stand 3A27 in Hall C!

What to expect at this year's Airshow?

The theme for Avalon 2009 is 'Towards Tomorrow' and Dr Thomas, a veteran of four space shuttle missions is the Guest of Honour.

Two F/A-18 Super Hornet strike-fighters will be at Avalon this year, and helping get the Super Hornets to Australia is a massive KC-10 refueling tanker. Both aircraft types will be on display.

The Friday Flying Display will feature an amazing array of military aircraft and artistic aerobatics by the world's best. As darkness falls, up to 30 parachutes will drop from the heavens in a mass display, then the 'Night Alight Finale' will explode into action, lighting up the night sky with showers of golden sparks. The much loved F-111 will perform its famous dump-and-burn and the evening will finish with a bang with the famous 'Wall of Fire'.

March Event Wackett Lecture

The Air Transport System of the Future – Are we ambitious enough in our goals?

Air transport fulfils society's needs for mobility and is today a major economic factor massively supporting also globalisation. After more than 100 years of powered flight we have established a rather optimised system with dramatic performance improvements at aircraft level (fuel burn, economy and environment) compared with any other form of transportation. All the forecasts predict for the next 20 years that passenger air traffic will increase on average by 5% annually.

The resulting challenges for the entire air transport system have been discussed within ACARE – the European Advisory Council for Aeronautics, and the major goals are quantified in the Vision 2020. This document is by now the most important and widely accepted strategic guideline valid for all the aeronautical research activities in Europe. The Vision 2020 has been further detailed in the Strategic Research Agenda, where technological solutions for the elements of the air transport system – the aircraft, the air traffic management and the airports – are specifically addressed.

One of the major research establishments in Europe, the German Aerospace Center (DLR) is addressing exactly these challenges in their broad and extensive research activities covering the entire air transport system. Major contributions in all relevant fields are expected for the next decade. Still the question remains if we can fulfil the already ambitious goals of the Vision 2020 at all and if these goals are really sufficient in order to build a competitive and sustainable air transport system for the longer term future.

Prof. Joachim Szodruch graduated from the Technical University Berlin in 1971 followed by a post-graduate study at Cambridge University, England. He started his professional career in 1973 as a scientific assistant at the Aerospace Institute of the Technical University Berlin,

where he obtained his doctorate (Dr.-Ing.). In 1978 he received an Associateship from the National Research Council and worked for two years at the NASA Ames Research Center in California, USA.

In 1981 he joined MBB Civil Transport Division in Bremen, where he started in experimental aerodynamics working on Airbus A310 and future projects. Later he became responsible manager for all aerodynamic research and was Assistant Chief Aerodynamicist. He joined Airbus Industrie in Toulouse 1990 as a General Manager for Research & Technology.

Returning to Germany he became Vice President Product Development and Technology at the DaimlerChrysler Aerospace Airbus Headquarter in Hamburg. With the formation of Airbus as an integrated company in mid 2001, he was appointed Vice President Future Projects and Technology based in Toulouse, France.

Since August 2002, he has been a Member of the Executive Board of DLR - German Aerospace Center, in Cologne, specifically responsible for Aeronautics and Energy. Within this function he is Member of the Supervisory Board for the two European wind-tunnel organisations – DNW and ETW.

Joachim Szodruch is currently President of the DGLR – German Aerospace Society, and also an Associate Fellow of American Institute of Aeronautics and Astronautics. Furthermore, he serves as Co-Chairman of ACARE, the Advisory Council for Aeronautical Research in Europe.

Presenter: Prof. Dr.-Ing. Joachim Szodruch
Member of the Executive Board DLR - German Aerospace Center, Cologne, Germany

Date: Thursday 5th March

Time: 6pm for a 6.30pm start

Cost/Registration: Free – Everyone welcome! No registration req'd.

Venue: Auditorium,
Engineering House,
21 Bedford St, North Melbourne



KC-10 Air to Air tanker

In addition to the 3 main DC-10 wing fuel tanks, the KC-10 has 3 large fuel tanks under the cargo floor, one under the forward lower cargo compartment, one in the centre wing area and one under the rear compartment. Combined, the capacity of the 6 tanks carry more than 160,200 kg of fuel - almost twice as much as the KC-135 Stratotanker. Using either an advanced aerial refuelling boom, or a hose and drogue centreline refuelling system, the KC-10 can refuel a wide variety of military aircraft.

The KC-10A's boom operator controls refuelling operations through a digital, fly-by wire system. Sitting in the rear of the aircraft, the operator can see the receiver aircraft through a wide window.



The first RAAF Hornet, A21-101, made its first public appearance at St Louis on 29 October 1984. Two aircraft, A21-101 and A21-102, were then ferried in a non-stop, record-breaking trans-Pacific 15-hour flight on 17 May 1985. The 12,360km flight from US Naval Air Station Lemoore, California, to RAAF Williamtown, was made possible by in-flight refuelling from US Air Force KC-10 tankers.

Students – Free pass to the Avalon Airshow

Here's how....

Apply for the Aerospace Student Professional program. The Royal Aeronautical Society, acting on behalf of Aerospace Australia Ltd, is offering a special invitation to "Aerospace Student Professionals" to attend the 2009 Avalon AirShow.

An "Aerospace Student Professional" is defined as any Undergraduate and Postgraduate University, or TAFE student undertaking tertiary courses throughout Australia in aerospace engineering, aviation sciences or technology, or technical trades, who shows a keen interest in pursuing a career in the Aerospace, Aviation and Defence industries.

Entry is offered for one-day only and at nil cost, to any of the 3 Trade Days of Tuesday 10 March, Wednesday 11 March, or Thursday 12 March 2009.

The cut-off date for applications is Monday 2 March 2009. To apply, visit www.raes.org.au and select the Avalon Airshow 2009 link. Be quick to nominate your preferred day of attendance, as each day has a limited number of tickets available!



Air Racing

Air racing has a rich and interesting history. The first air race was held in 1909, only six years after the Wright brothers' first flight. The first race was from France to England. In the 1920's the United States instituted the National Air Race and the Women's Air Derby. Then in 1947, an all-Women Transcontinental Air Derby was established. Back in the 1920's there was a lot of competition among pilots all over the world. Who could fly the fastest, who could fly the farthest, who could fly the highest? The race pilots became celebrities and hometown folk heroes. Their names are still remembered today; names such as Jimmy Doolittle who led the first bombing missions of Japan in WWII, Glenn Curtis, Howard Hughes, Charles Lindbergh (first pilot to fly the Atlantic in a plane named 'The Spirit of St. Louis', and Charles Kingsford Smith, the famous Australian pilot who was first to fly across the Pacific in a plane named the 'Southern Cross'. The Kingsford Smith International Airport (YSSY) in Sydney is named for him.

Then there were the famous women racer pilots of the era; Amelia Earhart – the first woman to fly the Atlantic, Jacqueline Cochran – the first woman to break the sound barrier and the first woman to fly a jet across the ocean, she became head of Women's Air Force Service Pilots in WWII.

The Curtis RC3 was built in 1925 by the Glen L. Curtis Company. Jimmy Doolittle flew the R3C-2 and won the Schneider Cup Race. In 1932, Doolittle clocked up a speed of 476 km/hr to set a new world high speed record for land planes.



Curtis R3C Racer

The Hall Bulldog of 1932 flew in the National Air Race, but it didn't do well. It was scrapped shortly after the races. However, it did represent an advanced design by Robert Hall. In 1931, the Gee Bee Zee Racing plane was built. This aeroplane was designed by Robert Hall and built during the Great Depression by the Granville brothers. The Granville Brothers showed the country that they could build the fastest aeroplanes. Their pilot Lowell Bayles was killed flying speed dashes in the Zee when a wing tore off and the plane rolled into the ground.



1932 Hall Bulldog



1931 Gee Bee Zee

The Zee powered by a P&W 750 HP engine, broke the land-plane 3 km speed record of 448 km/hr in 1931.

The Hughes H-1B racer was designed by Howard Hughes and was the fastest land-plane in the world. On September 13, 1935, in California, Hughes flew the H-1B and set a new world speed record of 566km/hr.



Hughes H-1B

The design of many of these racing planes became the basis of the World War II fighter planes such as the F4F Wildcat, the F6F Hellcat and the P-47 Thunderbolt, just to name a few.

Roger Wilco

The phonetic alphabet is a list of words used to identify letters in a message transmitted by radio. Spoken words from an approved list are substituted for letters. For example, the word "Navy" would be "November Alfa Victor Yankee" when spelled in the phonetic alphabet. This practice helps to prevent confusion between similar sounding letters, such as "m" and "n", and to clarify communications that may be garbled during transmission. This alphabet uses Romeo for R.

From the earliest days of wireless communication, the Morse code letter R (dit-dah-dit) has been used to indicate 'O.K. – understood.' Roger was the radio communications word for the letter R, which in this case represented the words 'received and understood.' Wilco is an abbreviation for 'will comply', indicating that an instruction that has been received will be complied with. It's necessary to acknowledge receipt of a message with 'Roger' before indicating compliance with 'wilco', hence the frequent combination 'Roger, wilco'. Both Roger in this sense and wilco appeared for the first time during World War II.

Branch Committee

Chairman: Ass. Prof. Cees Bil

Hon. Secretary: Air Cdre Noel Schmidt

Hon. Treasurer: Anthony Patti

Events Manager: Peter Lewis

Ass. Events Manager: Michael Williams

Webmaster: Nick Taylor

Newsletter Editor: Karen Trezise

Membership Secretary: Sherman Ting

Committee Members:

Richard Yates

Luke Webb

13th Australian International Aerospace Congress

Registration is now open for the 13th Australian International Aerospace Congress being held from 9-12 March 2009 at the Melbourne Convention Centre. Please visit the Congress website www.aiac13.com to register online. The preliminary programs for each conference can be found on the website.

The AIAC, held every two years, is the pre-eminent aerospace forum in the region. The thirteenth congress will be held during the week of the Australian International Airshow 2009.

The Congress incorporates the Thirteenth Australian Aeronautical Conference, the Sixth DSTO International Conference on Health and Usage Monitoring, the Seventh Australian Pacific Vertiflite Conference on Helicopter Technology, the Third Australian Unmanned Air Vehicles Conference and the Second International Helicopter Safety Team - South Pacific Regional Conference.

National Aviation Policy Green Paper

The Government released its National Aviation Policy Green Paper earlier this month. You can download the Green Paper at: <http://www.infrastructure.gov.au/aviation/nap/ind ex.aspx>.

Responses and submissions are to be received by 27th February 2009. In order for the RAeS Australian Division Council to collate and assemble comments from members into a single RAeS response, we would like all members' comments to be sent to the Australian Division Secretariat by 13th February 2009.

Comments for RAeS should be sent to Peter Brooks at petercbr@bigpond.net.au or posted to RAeS Australian Division, PO Box 573, MASCOT NSW 2020.

This is the last opportunity for RAeS and our members to influence the Government Aviation Policy before a White Paper is produced in late 2009.

Upcoming Events

Future events, topics and presenters:

- 6th April: Melbourne Airport Site Visit (strictly limited places, details in next newsletter)
- We hope to organise a lecture from the Australian Transport Safety Bureau

Details of the program for 2009 will be provided once events are finalised. Visit our website for up to the minute details at <http://www.raes.org.au/~raesorg/melbourne-branch/>

The branch welcomes any suggestions or ideas for future events/lectures.

Websites of interest...

World's first flying car:
http://business.timesonline.co.uk/tol/business/industry_sectors/engineering/article5489287.ece?print=yes

Avalon Airshow 2009:
www.airshow.net.au

The moon:
<http://www.universetoday.com/category/moon/>

<http://www.nineplanets.org/luna.html>



PO Box 6229,

St Kilda Road Central,

Vic 3004.



melbournebranch@raes.org.au



(Aust. Division)

Visit the NEW website!!

<http://www.raes.org.au>

(Global Website)

<http://www.aerosociety.com>

* Opinions expressed in this newsletter do not necessarily represent those of RAeS, the Melbourne Branch or the Editor.

If undeliverable return to:

**ROYAL AERONAUTICAL SOCIETY
MELBOURNE BRANCH**

P.O. Box 6229

St. Kilda Road Central. Vic 3004

Print Post Approved

PP381691/00015



**SURFACE
MAIL**

**POSTAGE
PAID
AUSTRALIA**