

## From the editor

Hello All,

Several committee members will stand down at the end of the year. Your committee needs some new members so if you would like to play more of an active role in the Melbourne Branch next year, please make sure you fill out the attached committee nomination slip.

Don't forget to register for the 2009 Lawrence Hargrave lecture and dinner to be held 4<sup>th</sup> November using the form attached. The CEO of Qantas, Alan Joyce, is our distinguished lecturer for this event which is not to be missed! The Hargrave lecture will attract a wide variety of people from the aviation industry making this a great networking opportunity! Hope to see you all there!

Best Regards,

Karen Trezise  
Newsletter Editor

2<sup>nd</sup> November



After its formation in November 1920, Qantas began its first scheduled services, between Charleville and Cloncurry, Queensland. Qantas took delivery of its first aircraft, an Avro 504K in January 1921. The plane carried two passengers behind the pilot and was used for joy rides and air taxi services. An 84 year old outback pioneer named Alexander Kennedy became the first Qantas passenger on a scheduled flight. His flight on 2nd November 1922 traveled from Longreach – Winton – McKinlay - Cloncurry section of the inaugural mail service from Charleville. The photo shows a replica of the airlines first Avro 504, which was made by Qantas apprentices, and includes one of the original Dyak engines owned by the airline.



## November Event

### 2009 Hargrave Lecture and Dinner

#### Driving innovation – Qantas and the aviation future

Exploring the role that innovation has played in the continuing success of Qantas, and outlining how.

**Presenter:** Mr Alan Joyce,  
CEO and Managing Director, Qantas  
**When:** Wednesday 4<sup>th</sup> November 2009  
**Time:** 6.00pm for a 6.30pm start  
**Where:** RACV Club, 501 Bourke St, Melbourne  
**Registration/Cost:** See registration form on [page 3](#).



Kindly sponsored by Boeing and Qantas

**An informative and enjoyable evening guaranteed**

**Don't miss out! Register now!**

## Next Month - December Event (Lecture and AGM)

### The past, the present and the future of the RAeS Society as seen by the retiring Chief Executive

**Presenter:** Keith Mans  
Former Chief Executive, RAeS  
**When:** Tuesday 8<sup>th</sup> December 2009  
**Time:** 6.00pm for a 6.30pm start  
**Where:** Engineers Australia, 21 Bedford St, North Melbourne  
**Free - everyone welcome! No registration required.**

Keith Mans was educated at the RAF College Cranwell and the Open University. He spent twelve years in the RAF, flying Vulcans and Canberras and 28 years flying with the RAF Reserve. Before entering Parliament in 1987 as MP for Wyre in Lancashire he worked for The John Lewis Partnership for 10 years filling a number of posts including that of the Central Buyer and Assistant General Inspector. Whilst in Parliament he founded and was the first Chairman of both the Parliamentary Environment Group and the Parliamentary Aerospace Group. He was also a member of the Environment Select Committee and the Defence Select Committee. He was Parliamentary Private Secretary to the Secretary of State for Health from 1991 – 1995 and he was Chairman of the Conservative Defence Committee in 1996. He left Parliament in 1997 and was the Chief Executive of the Royal Aeronautical Society between 1998 - 2009. He is due to take up his new appointment as Chairman of the Air League later this year. He is also a founder member of the Air Travel Greener by Design initiative.

Notice is hereby given that the Annual General Meeting for the Melbourne Branch will be held on Tuesday 8<sup>th</sup> December 2009 after Keith Mans's lecture. The purpose of the AGM is to action our constitutional obligations and to devote time for the important interface between membership and the committee. All members are encouraged to attend the AGM to participate positively in advancing the works of the branch. If you wish to nominate for a position, we encourage you to complete the slip attached to this Newsletter.

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2009 Lawrence Hargrave Lecture & Dinner – Reservation form

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# Head-Up Display

A Head-Up Display (HUD) is a transparent display that presents flight-related data on a transparent surface in front of a pilot thereby enabling them to maintain their usual viewpoint without the distraction of having to go 'head down'.

In military applications, in addition to providing pilots with such information as heading, altitude, air speed and attitude, weapon system data is also displayed. In civilian applications, as well as the normal flight data, HUDs are particularly useful in low visibility operations when conducting instrument approaches because instrument landing information is also displayed. Refocusing the eyes can contribute to fatigue, so a HUD is "focused at infinity" allowing the pilot to read the display without changing their focus.



# First Carrier Deck Landing

Toward the end of WW1, the British began to address the problem of providing adequate air power for the Fleet. Until then, it had not been possible to fly conventional, high-performing aircraft from ships and they were forced to compromise with seaplanes. The first successful landing was of a Sopwith Pup successfully landed on HMS Furious on 2<sup>nd</sup> August 1917. The battlecruiser was fitted with a deck forward of the superstructure, and later an after-deck, making it the first ship in the world to be defined as an aircraft carrier. After two successful landings in which the deck crew restrained the aircraft, the Pup suffered a burst tyre and cartwheeled off the deck, killing the pilot. The Pups were first deployed without any means of recovery. Later, decklanding skids were fitted and use began to be made of restraining cables and arrestor hooks – the forerunner of today's carrier deck arresting equipment.



The first "true" carrier was laid down in 1914 in Glasgow and launched two years later, HMS Argus was the world's first carrier to be constructed from the outset with a flush flight deck. It therefore served as a prototype for every conventional flush-deck carrier that followed.

The Steam catapult used a concept developed by the Germans for their V1 flying bombs. Messrs Brown Brothers of Edinburgh produced a slotted-cylinder catapult driven by steam from the ship's boilers. The steam catapult could launch the new generation of heavier jets which required higher launch speeds than could be attained with the previous compressed-air catapults. The first sea trials took place aboard HMS Perseus in 1950 and the US Navy soon ordered the system.

The Ski-Jump using a ramp to assist the launch of carrier aircraft was a British idea, developed for the use of the BAe Harrier 'jump-jet'. Allowing carrier take-offs at heavier weights than with jet lift alone and removing the need for a catapult, the 'ski-jump' ramp has since been adopted by other navies.

cut..... cut

Mail To: The Royal Aeronautical Society, Melbourne Branch, Attn: Honorary Secretary, PO Box 6229 St.Kilda, Vic 3004  
Or via Ph: 0413 595 377 or email: [noelve@optusnet.com.au](mailto:noelve@optusnet.com.au)

## 2010 Royal Aeronautical Society Melbourne Branch Committee Nomination

Name .....

Membership Grade ..... Membership Number .....

Position Nominating for .....

Contact Number .....

Email Address .....

# The wooden wonder

## de Havilland Mosquito

One of the most successful aircraft of WWII, the Mosquito used a radical plywood and balsa construction method and could be produced quickly and cheaply from non-strategic materials. Its performance, meanwhile, was at the top of the range; it was the fastest operational aircraft anywhere in the world when it appeared.

Sir Geoffrey de Havilland's unarmed wooden bomber aroused controversy at first and found little official support, but de Havilland persevered. The company chose the superb Rolls-Royce Merlin engine and the projected performance figures were so spectacular that most refused to believe them.

Once flying, and demonstrating both speed (faster than the Spitfire) and generally good handling, the Mosquito won over its critics and orders followed.

Restoration of the Point Cook RAAF Museum's de Havilland Mosquito is currently underway. The aircraft is the only surviving RAAF-operated Mosquito with a wartime operational history, and the only PR Mk XVI left anywhere in the world. See <http://www.airforce.gov.au/RAAFMuseum/exhibitions/restoration/current.htm> for further information.



First flight: 25<sup>th</sup> November 1941

The Melbourne Branch of the Royal Aeronautical Society presents

# 2009 Hargrave Lecture and Dinner

## Driving Innovation: Qantas and the aviation future

Exploring the role that innovation has played in the continuing success of Qantas, and outlining how the Group plans to drive innovation to achieve long term, sustainable success.

Presented by

**Mr Alan Joyce**

Chief Executive Officer — Qantas Airways Ltd



**Wednesday 4 November 2009**

**6pm for a 6.30pm start**

**RACV Club, 501 Bourke Street, Melbourne**

### About Mr Alan Joyce



Alan Joyce was appointed Chief Executive Officer and Managing Director of Qantas on 28 November 2008. He is a former Director of Orangestar Investment Holdings Pte Limited (holding company of Singapore-based Jetstar Asia and Valuair) and Jetstar Pacific Airlines Aviation Joint Stock Company (in Vietnam). Mr Joyce previously served as Chief Executive Officer of Jetstar for five years from October 2003, a period that included the commencement of the airline's domestic and international operations. Prior to his appointment at Jetstar, Mr Joyce spent over 15 years in leadership positions for full service carriers Qantas, Ansett and Aer Lingus. At both Qantas and Ansett, he led the Network Planning, Schedules Planning and Network Strategy functions. Mr Joyce holds a Bachelor of Science in Applied Science (Physics and Mathematics) (Honours) and a Master of Science in Management Science. He is also a Fellow of the Royal Aeronautical Society.

### Dinner Reservation and Payment Slip

**Hargrave Lecture and Dinner  
4 November 2009**

\$ 75 RAeS members  
\$ 120 non members  
\$ 50 full-time students  
(incl. GST)

Name: \_\_\_\_\_

Email: \_\_\_\_\_ Ph. \_\_\_\_\_

Amount: \$ \_\_\_\_\_ RAeS membership number: \_\_\_\_\_

Cheque (to "Royal Aeronautical Society, Melbourne Branch") or

Card Type: Visa/MasterCard/American Express

Credit Card: \_\_\_\_\_

Name on card \_\_\_\_\_ Exp: \_\_/\_\_/\_\_\_\_ Signature: \_\_\_\_\_



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## Branch Committee

**Chairman:** Ass. Prof. Cees Bill

**Hon. Secretary:** Air Cdre Noel Schmidt

**Hon. Treasurer:** Shayne Powell

**Events Manager:** Anthony Patti

**Ass. Events Manager:** TBA

**Webmaster:** TBA

**Newsletter Editor:** Karen Trezise

**Membership Secretary:** Sherman Ting

**Committee Member:** Richard Yates  
Luke Webb

**Student Member:** Stratos Patsikatheodorou

PO Box 6229,  
St Kilda Road Central,  
Vic 3004.

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(Aust. Division)  
<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.

## Websites of interest

The ghostly glow of an aurora is the visible manifestation of complex interactions between Earth and the Sun:

<http://www.astronomy.com/asy/default.aspx?c=a&id=2088>

Australia's centenary of flight 1910 - 2010:  
<http://www.houdini.diggersrest.com/>

## Forthcoming Events

Planned future events to make a note of:

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

Details of the program provided once events are finalised. Visit our website for further details.

## Did you know?

### Inflatable slide raft – Australian invention

The inflatable escape slide raft for aircraft emergency landings is an Australian invention. It was invented in 1965 by Jack Grant, Operations Safety Superintendent for Qantas. Slide rafts are now standard equipment on all major world airlines. Slide rafts are an excellent example of technology based on the science of pressure. They operate when aircraft doors are opened in an emergency. They automatically inflate with gas from pressurised bottles.

## Comets

A comet is a small, icy celestial body that orbits around the sun. It is made up of a nucleus (solid, frozen ice, gas and dust), a gaseous coma (water vapor, CO<sub>2</sub>, and other gases) and a long tail (made of dust and ionized gases). The tail develops when the comet is near the Sun, its long ion tail always pointing away from the sun because of the force of the solar wind. The tail can be up to 250 million km long, and is most of what we see from Earth. Comets are only visible when they are near the sun in their highly eccentric orbits.

**Nucleus:** The nucleus is the frozen center of a comet's head. It is composed of ice, gas, and dust. The nucleus contains most of the comet's mass but is very small (about 1 to 10 km across - or more).

**Coma:** The coma is the roughly spherical blob of gas that surrounds the nucleus of a comet; it is about a million km across. The coma is comprised of water vapor, carbon dioxide gas, ammonia, dust, and neutral gases that have sublimed from the solid nucleus. The coma and the nucleus form the head of a comet.

**Ion Tail:** A tail of charged gases (ions) always faces away from the sun because the solar wind (ions streaming from the sun at high velocities) pushes it away (it is also called the plasma tail). When the comet is approaching the Sun, the ion tail trails the comet: when the comet is leaving of the Sun, the ion tail leads. The tail fades as the comet moves far from the Sun. The ion tail can be well over 100 million km long.

**Dust Tail:** The dust tail is a long, wide tail composed of microscopic dust particles that are buffeted by photons emitted from the Sun; this tail curves slightly due to the comet's motion. The tail fades as the comet moves far from the Sun. **Hydrogen Envelope:** Hydrogen gas surrounds the coma of the comet and trails along for millions of miles (it is usually between the ion tail and the dust tail). The hydrogen envelope is about 10 million km across at the nucleus of the comet and about 100 million km long. It is bigger when the comet is near the Sun.



Melbourne Branch of the Royal Aeronautical Society

November 2009

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