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ROYAL
AERONAUTICAL
SOCIETY

Newsletter

Dedicated to Advancing Aeronautical Art, Science and Engineering



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Editorial Desk

I can't believe this is the last newsletter for the year and that we're about to see the beginning of 2012—in about four weeks. 2011 was a full of surprises and I wonder what's in store for next year. On page 2 is the draft lectures and events program for 2012. As always, if you have suggestions for a lecture, visit, or other event, please contact us .

Looking forward we have our AGM in December and we hope to see you all there.

December has been an important month for the Aviation and Aerospace. Page 3 says it all.

Since this is the last newsletter of 2011, I'd like to take the time to thank all our speakers and presenters for 2011, existing committee members and all those who have made RAeS events and lectures a great success. Without you all, we wouldn't be as strong as we are today.

Merry Christmas to all and here's wishing you an absolutely amazing NYE and wonderful launch into 2012.

Warm regards
Amit Menghani

Up coming Event

RAeS—Melbourne Branch, Annual General Meeting

Date: Tuesday, 6 December 2011

Venue: Engineers Australia Auditorium

Address: 21 Bedford St, North Melbourne

Time: 6 pm for 6:30 pm start

Followed by a Movie.

Drinks and Snacks will be provided.

Note: Don't forget to bring along your nomination forms.

News in Brief

- Russian investigators have determined that a pilot of the Yakovlev Yak-42 which crashed on departure from Yaroslavl had inadvertently been braking during the take-off roll.
- Lufthansa announces that it is selling British Midland (BMI) to the owner of British Airways and Iberia, but Virgin insists the deal is not done.
- Singapore airlines unveils a new budget carrier in a bid to cater to growing demand for low-cost flying in the region.
- Qantas resumes flights after an independent tribunal orders a permanent end to an industrial dispute which left thousands of travellers stranded.
- The government's refusal to allow expansion at London's main airports will damage the UK economy, according to a Tory peer and former airline owner.
- Boeing's Dreamliner finally completes its maiden commercial flight from Tokyo to Hong Kong, after three years of delays.
- Boeing just started assembling 35 current Next-Generation 737s a month, up from 31.5, and plans to go to 38 a month in the second quarter of 2013 and 42 a month in the first half of 2014.
- Boeing has completed certification flight testing on its 747-8 Intercontinental test fleet, setting the jumbo on a path to US Federal Aviation Administration approval later this quarter.

Source: Flight Global

Melbourne Branch, Draft Program of Lectures and Events for 2012

The following is the list of topics and lectures for the year 2012.

Feb - Space

Mar - Mr Doug Arbuckle (U.S. Federal Aviation Administration) on "The New Air Traffic Control System for North America"

Apr - To be determined

May - Site Visit (aiming for Melbourne Airport)

Jun - Accident Investigation

Jul - Hargrave Lecture and Dinner

Aug - Careers Night

Sep - Military aviation

Oct - Site visit (General Aviation)

Nov - Aircraft Designers Forum

Dec - Annual General Meeting and Trivia Night

The above list is subject to change.

F-35B developed tiny cracks

Three of the five developmental Lockheed Martin F-35Bs have developed tiny cracks in a lift fan-related component which prevent the flight-test aircraft from reconfiguring in flight and landing vertically. Two flight-test aircraft - BF-1 and BF-2 - are now being modified with a redesigned actuator support beam, according to the joint programme office. BF-4 has also developed "hairline" cracks in the same part, but is continuing to fly in conventional mode only until the part is modified, the programme said.

The potential for cracks to develop in the actuator support beam was identified several years ago. A redesigned beam was installed on the fifth short take-off and vertical landing (STOVL) test aircraft during final assembly, the programme said. That means the BF-5 test aircraft can continue to make vertical landings as part of the flight-test programme.

The only remaining test aircraft - BF-3 - has accumulated fewer flight hours. No cracks have yet been found. BF-3 is not technically restricted from completing vertical landings, but has only flown in conventional mode since the cracking problem was discovered.

The overall impact on the flight-test programme is expected to be light, programme officials said. BF-5 was the only STOVL variant scheduled to complete more vertical landings this year.

The cracks were discovered about a month after BF-2 and BF-4 completed a series of shipboard vertical landings on the USS Wasp, an LHD-class amphibious carrier. The 18-day period aboard the Wasp was hailed as a landmark in the F-35B flight-test programme, symbolising its recovery from technical issues that had limited the STOVL variant to 10 vertical landings in 2010.

US Secretary of Defense Robert Gates placed the F-35B variant on a loosely defined "probation" earlier this year, warning that further problems could result in the programme's termination.

The F-35B appeared to rebound after Gates' announcement on 6 January. Three of the five propulsion system glitches have been fixed, with the remaining two expected to be cleared by February. A cracked bulkhead discovered in durability tests last November has also been redesigned. However, the F-35B continues to face higher scrutiny amid the US military's uncertain budget situation.

Winslow Wheeler, director of the Straus Military Reform Project at the Center for Defense Information, and a noted F-35 critic, links the newly-discovered cracks on the actuator support beam to his overall case against the F-35B. "The least capable, most complex, most expensive, most problematic F-35 is amply demonstrating its doomed-from-the-start heritage," Wheeler said.

Source: Flight Global

2012 Royal Aeronautical Society Melbourne Branch Committee Nomination

The Nomination Form should be brought to the AGM.

Name: _____ Position Nominating for: _____

Membership Grade: _____ Contact Number: _____

Membership Number: _____ Email Address: _____

F-15 Service Life extended

Boeing has launched a four-year structural analysis of the US Air Force F-15 fleet, with the aim of doubling to quadrupling the service lives of the two major variants.

The USAF has also revealed new interest in critical avionics and mission system upgrades for the 40-year-old airframe, as it seeks to keep at least some of its 414 F-15C/D fighters and F-15E fighter/bombers flying for decades to come.

A USAF F-15C fighter has already entered a four-year fatigue test cycle at Boeing's factory in St Louis, Missouri, said Brad Jones, the company's director of F-15 development programmes. It will be joined soon by an F-15E Strike Eagle.

Boeing's tests will determine if the service life of the F-15C/D can be extended from 9,000h to 18,000h, Jones said. The service life of the F-15E was originally set at 8,000h but could potentially be raised to 32,000h after the tests are complete. If the USAF peacetime annual flight-hour average is set at 300h, the service life increase should keep both models flying for several more decades.

The fatigue tests will indicate possible sources of structural failures. Only four years ago, the USAF grounded its F-15Cs after a longeron failure caused one aircraft to disintegrate in flight. An investigation showed that longeron cracks were limited to a handful of F-15C/Ds, which were immediately retired.

The USAF is also considering a significant capability upgrade for the entire F-15 fleet. The aircraft now rely on three ageing systems for self-defence - the ALR-56C radar warning receiver, ALQ-135 jammer and ALE-45 countermeasures dispenser. On 20 November, the USAF issued a "sources sought" notice for a digital electronic warfare system.

Boeing is already proposing such a system developed by BAE Systems to export customers of the F-15 Silent Eagle.

The self-defence upgrade, which the USAF calls the eagle passive/active warning survivability system (EPAWSS), is included in the service's next five-year spending plan, but funding will not be assured until this year's final budget reviews are complete in January, Jones said. If funded, the EPAWSS programme will follow USAF F-15 upgrades, including an active electronically scanned array radar and a new core processor, Jones said.

Preserving and upgrading the F-15 fleet would mark a sharp departure in USAF plans. Less than two years ago, Lockheed Martin officials talked openly of replacing the F-15E with the F-35A Lightning II.

Source: Flight Global

Visit to a General Aviation site in Country Victoria

Dear Members

Branch committee is considering organising a visit to an aviation facility outside Melbourne. For example, we could visit the GippsAero factory in Morwell, or Avalon Airport, Geelong. Before we approach a company to discuss a visit, we need to know the extent of members' interest in such a visit. Would you please go to the website (<http://www.surveymonkey.com/s/HHWTZWF>) to register your opinion. If you are not able to access the internet, then please call the Branch Chairman, Dom Lombardo, on 03 9626 7560 to ask for a survey to be mailed out to you or to do the survey over the phone.

All happened in December

In 1783... J. A. C. Charles and another man make the first trip in a hydrogen balloon, flying 27 miles from Paris to Nesle, France. After landing, Charles goes up again by himself, achieving the first solo balloon flight. (OTM)

In 1986... A Concorde airliner carrying 94 passengers returns to Charles de Gaulle airport after an 18-day round-the-world journey; total flying time amounted to 31 hours 51 minutes. (AYY)

In 1991... Pan Am World Airways goes out of business after 64 years of service. The sudden shutdown of this aviation pioneer strands many passengers and leaves about 9,000 employees out of work. (OTM)

In 1975... The first airmail flight by a supersonic aircraft is made by the Tupolev Tu-144, carrying mail between Moscow and Alma Ata, within the U.S.S.R. (OTM)

In 1938... Germany officially launches its first aircraft carrier, the 280-foot by 89-foot Graf Zeppelin. (AYY)

In 1940... The New York City experiences its first blackout and anti-aircraft exercise, around the Brooklyn Navy Yard. (AYY)

In 1919... Capts. Ross Smith and Keith Smith become the first Australians to fly directly between Great Britain and Australia, a distance of 11,340 mi., after flying 135 hr. 55 min. at an average speed of 83 MPH. (F&F)

In 1953... Mach 2.5 (2 ½ times the speed of sound) is achieved for the first time by Major Charles "Chuck" Yeager in the Bell X-1A. The rocket-propelled experimental aircraft reaches 1,650 mph at 70,000 feet. (OTM)

In 1988... Japan Air Lines says its future Boeing 747-400s will be fitted with personal video screens in the first and business class. (AYY)

In 1978... The first solar-powered aircraft, Solar One, makes a successful flight in England. (OTM)

In 1963... New York International Airport is rededicated as John F. Kennedy Airport in honor of the murdered president (AYY)

In 1988... An analysis of the wreckage of the Pan Am Boeing 747, which crashed at Lockerbie, Scotland a week ago, reveals that a bomb had been planted in the jet's luggage hold. (AYY)

Branch Committee

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Past Chairman: A/Prof. Cees Bill

Hon. Secretary:

Andrew Harrington

Hon. Treasurer: Anthony Patti

Events Manager: Crystal Forrester

Asst. Events Manager: Cynthia Chen

Webmaster: Stratos Patsikatheodorou

Newsletter Editor: Amit Menghani

Membership Secretary:

Sherman Ting

Committee Members:

Air Cdre Noel Schmidt

Karen Trezise

Contact Details

Post:

C/-Engineers Australia

Suite 201, 21 Bedford St

North Melbourne VIC 3051

Email:

melbournebranch@raes.org.au

Website (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.

Promotion of external events does not imply endorsement by RAeS. Contributions and feedback are welcomed.

NOTICE FOR 2011 AGM

Notice is hereby given that the Annual General Meeting for the Melbourne Branch will be held on Tuesday 6th December 2011.

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 on page 2 and bring it along at the AGM.

This year's AGM will be conducted in the same fashion as previous years.

The Agenda for the AGM will include a tabling of Minutes of the 2010 Annual General Meeting, Chairman's Report (including reports on the year's events and membership), Honorary Treasurer's Report, Confirmation/Appointment of Committee structure for 2011, and any other business.

All members are invited to submit additional agenda items by COB on Friday, 2nd December 2011.

Date: Tuesday, 6 December 2011

Venue: Engineers Australia Room A & B

Address: 21 Bedford St, North Melbourne

Time: 6 pm for 6:30 pm start

- Followed by a Movie.
- Drinks and nibbles will be provided

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C/-Engineers Australia
Suite 201, 21 Bedford St
North Melbourne VIC 3051
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