



Aeronautical Society of South Africa

(Association incorporated under section 21)
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A Division of the Royal Aeronautical Society

AeSSA Newsletter –December 2007

EDITORIAL

As we approach the end of another year the airline industry is in the spotlight once again and, unfortunately, in a very negative way. The grounding of an entire fleet by the CAA is unprecedented (at least in your editors memory) in South Africa and will surely create negative perceptions of air travel in the minds of the general public. On the one hand it may be considered that the CAA acted wisely to ensure that safety standards are complied with but on the other hand such sudden and drastic action will surely have repercussions on the entire SA airline industry.

To make matters worse the real issues on which the CAA based its decision were kept under wraps and only a few “facts” of doubtful origin reached the news media. These were used by some “aviation experts” to make pronouncements that must have given the general public the impression that aircraft maintenance organisations are no better than a bunch of backyard mechanics. Whether the true facts will ever be made public and whether the CAA’s decision was justified remains to be seen but the sudden departure of its CEO has only added another question mark. South Africa is one of very few African countries that have a regulatory authority of comparable standing and reputation with those in the USA and Europe. It is imperative for the future of the entire aerospace industry in this country that this reputation is not tarnished.

In a lighter vein, as we approach the summer holiday period, most of us are looking forward to a well deserved rest and the AeSSA Council would like to wish all our members and their families a happy, restful and accident free holiday. To our Christian members, of course, Christmas is of very special significance and we wish you a truly blessed and joyful Christmas and to those of other, or of no special religious persuasion we wish to extend the same wishes for peace and happiness and a hope that goodwill among all mankind will prevail.



Obituary: Lynette van Rooyen

Some of our members besides those on Council may have known Lynette van Rooyen and those who did will have been the richer for it. Lynette was our stalwart minutes



secretary who always managed to make sense of the, sometimes, confusing discussions and exchanges between members during Council meetings. She was a great asset to the Society and will be remembered for her faithful service to the Council.

Lynette passed away peacefully on 6 November 2007 at the age of 59 after a long battle with cancer. She wrote the minutes for Council meetings for two years from early in 2005. She kept going as long as her health allowed. She was very interested in all matters regarding the AeSSA and was always prepared to do any extra work necessary to assist Council.

Lynette will be remembered for her cheerfulness and competence. She was excellent with our minutes, which were recorded accurately in shorthand before being typed! She never complained about her health and was always full of

hope and faith. She was also a great fan of rugby, cricket and motor racing. Her greatest idol was Michael Schumacher!

Lynette will be missed. She is survived by her sisters and brother and nieces and nephews. (Kindly written by Rob Hurlin)

ECSA

The AeSSA is affiliated to the Engineering Council of South Africa as a VA (Voluntary Association) and as such provide inputs to ECSA's various working committees in the advancement of Aeronautics.

AeSSA also provides the service of submitting lectures, conferences, symposia, courses for CPD credits. Although not new, the CPD (Continuous Professional Development) scheme to maintain engineering proficiency for registered Professional Engineers, Technologists, Technicians has become an important facet for practicing engineering staff in South Africa as existing legislation is being enforced by Government Institutions and Industry to encourage engineering professionals to become registered. Our ECSA representative and Vice President Gert Jansen van Rensburg has been working hard to streamline applications for CPD and establishing relevant criteria to determine the value of CPD events, which should benefit the members for future engineering related activities regarding CPD.

Another of our Council members and Past President Japie van Wyk, is serving on the sub-committee for IDoEW (Identification of Engineering Work), which is another important facet on the road to achieving Professional Status, this being Candidate Engineers, Technologists, Technicians receiving the right exposure and work content while doing their work internships prior to being registered. Your Society will provide future editions of the news letter with more information to this most important subject.

FLIGHT TEST LECTURE HAWK

The Society arranged a lecture on the Flight Test activities of the South African Hawk in conjunction with the Flight Test Society of South Africa held at Denel Aviation on 19 September 07.

An excellent line-up of speakers were organized, Ivan Pentz from Denel Aviation, Evan Jones from ATE and Lt Col Jannie Scott from the SAAF. The fact that they could hold a joint presentation shows that there is excellent collaboration between industry and the user community.



Ivan discussed the development and acceptance testing of the Engine, this being one of the prime differences between a standard Hawk and the SAAF Adour powered Hawk, which also had a new Fadec system integrated, thus leading to an extensive qualification programme. Although the initial test programme ran very smoothly, changes to the engine fan led to adverse engine surges, needing many hours of testing and adjustment to achieve satisfactory results.

Evan discussed the integration of the navigation and weapon systems with the challenges of defining the Man-Machine Interface cues for all the navigation and weapons modes on the head up display. Even the cues to display an Instrument Approach proved difficult to achieve, the mathematics and software coding behind this must be brilliant, and of course to certify it no mean feat either.

Jannie as the Test Flight and Development Centre's (TFDC) pilot had to carry out release to service testing of all the newly developed elements, that being the engine and avionics. He gave a very entertaining discussion of the test procedures that needed doing especially those high alpha stalls & spins, where in some instances engine surges also led to compressor stall which made recovery somewhat interesting. He also went on to discuss the importance of having a robust specification and contracting model with the supplier as it ensures a good understanding of the requirements.

The Society thanks their participation in discussing their adventures during the 3 odd year test programmes and could impart their knowledge of things that worked and didn't work.



SCI-BONO DISCOVERY CENTRE

The Sci-Bono Discovery Centre is located in Newtown Johannesburg inside the old power station building built in 1906 (and never produced a Watt). The power generation hall has been converted into multilevel activity and discovery centre primarily aimed at school going children aimed at the Sciences. EADS organized an Aviation Focus week and aptly managed by Gen Thackwray one of our Council members.

As the prime focus was on the younger generation and getting them in touch with Aviation, it was decided to create an activity based display. The Society in conjunction with Aerosud and the NACoE created a range of appropriate activities. Our younger members were instrumental in creating and supporting all the activities.

A paper based jet was designed and were provided as handouts to take home. The team designed a plastic jet that had to be assembled at the centre using only glue where the children had to understand how the parts fitted together, where they had to trim the controls to an extent where the aircraft could fly to a target. Very entertaining.

The team also provided lectures on the principles of flight and showed the various types of aircraft around the world. The highlight of the activities was a ride in a simulator where the children had to take control of a microlight and attempt to fly through virtual sky hoops without incident.

It was a good display of where Society members could take part and be instrumental in sharing knowledge with the community and could team up with industry to do so where Aerosud and the NACoE provided hardware and funding. (The simulator was graciously funded by the NACoE and built by Aerosud)

This venture can probably be seen as a benchmark for future collaborative events and exhibition opportunities. The Society would like to thank all the young members who took part in this event, they were Heinrich Torlage, Ruark Swanepoel, Chris Zarmaos, Kenan Groess, Peter Visser, Mondrean Marais, Joanne Zambelli, Jaco Gouws, Artur Shur, Madeleine du Toit.



A proud team having flown their prototype to the target



Ruark explaining the finer points of aircraft trim



Ruark helping with the building phase



Heinrich giving some aerodynamic primers



Madeleine helping with those critical glue points



Chris allowing some hands-off flight

ALISTAIR MILLER MEMORIAL LECTURE – The Dynamics of Aviation Viability in South Africa

The Aeronautical Society held its bi-annual Alistair Miller Memorial lecture series on 7 November. This lecture series normally covers topics relevant to Civil Aviation in South Africa. Appropriate in this context AeSSA was able to secure the Chief Executive of the Airlines Association of Southern Africa John Morrison as speaker for this prestigious event. The AISI (Aerospace Industry Support Initiative) located at the CSIR kindly made available the venue as host to this event.



Although the title of the presentation “The Dynamics of Aviation Viability in Southern Africa” conjures up an image of gloom in the aviation world, John gave some insight into the opportunities that are waiting if the various countries Governments in Southern Africa saw their way clear to reduce restrictions in airline operations to enable an “Open Skies” course of action to take hold. Currently, all inter-country routes and airlines operating between countries are regulated which stifles competition and is monopolistic and hence fares tend to be expensive. Currently, the Airlines Association is working hard to break the current log jams that are in place, as being successful in “Opening the Skies” will bring tremendous benefit to all the countries in Southern Africa and will provide a surge of Aviation related development. The full presentation can be viewed on the website.



L – R - General Thackwray (instrumental in arranging this lecture), John Morrison and Rob Jonkers

ICAS – The International Council of the Aeronautical Sciences

ICAS provides a forum for discussing common problems in aeronautical science and technology. Its membership, open to all countries, now comprises the national associations dedicated to the advancement of aeronautics of twenty-six countries.

ICAS was founded in January 1957. At that time, the American Institute of Aeronautics and Astronautics, (AIAA) had been expanding its international activities and one of its patrons and participants Harry Guggenheim suggested that a forum be established where common aeronautical problems be discussed at regular intervals. He was able to launch it using his own funds which resulted in a bi-annual event hosted by the member countries. Subsequently, this has become an annual event. This year it was held in Seville, Spain, where South Africa tendered two papers. Watch for the next news letter where one of the SA participants John Monk will provide a summary of the discussions. The next ICAS will be held in Anchorage, Alaska in 2008 and will be the 50th anniversary year since the founding of ICAS.

ICAS 2008

26th Congress of International Council
of the Aeronautical Sciences
Call for Papers

Anchorage, Alaska, USA
14 - 19 September 2008

Please submit your abstract online at
www.icas.org before 31 July 2007

FORTHCOMING EVENTS

The Council is hard at work on a programme of lectures and visits that promise to be both entertaining and informative. It is also an objective to provide more interesting functions for our younger members and potential members – hence the function in February focusing on model aircraft (this event was originally scheduled for October 2007, but postponed to allow it to combine with a SAAF museum day as well). The events for the start of 2008 are given as follows (note that the events will be publicized more comprehensively before the event takes place):

2 February 2008

Model A/C Flight Demo and lecture
Venue – Swartkops AFB



TBD – February 2008 John Weston Memorial Lecture

The future of Aerospace in South Africa – Dr Paul Potgieter
Venue – Aerosud



TBD – March 2008

Aircraft Drag Reduction Techniques,
by H Babinsky
Venue – TBD



AAD 2008 Aerospace Symposium

Aerospace Symposium being co-ordinated by the AeSSA to take place in Capetown August 2008

