



AERONAUTICAL SOCIETY OF SOUTH AFRICA

(ASSOCIATION INCORPORATED UNDER SECTION 21
REGISTRATION NUMBER 2000/026325/08
P.O. Box 14717 SINOVILLE 0129
TEL / FAX: (012) 808 1359
EMAIL: STRYDOMI@IAFRICA.COM



A DIVISION OF THE ROYAL AERONAUTICAL SOCIETY

RAeSSA Newsletter – April 2005

EDITORIAL

While the trend in the aerospace industry worldwide is for smaller companies to merge or be bought up by large conglomerates, there is always somebody bucking the trend and the name of Bert Rutan is in the news again as the entrepreneur who proves that small can be successful. A few months ago his budget beating spacecraft made a highly successful flight. Now the non-stop round the world flight by his Global Flyer design has claimed a new world record in an age when young aviation enthusiasts might be forgiven for thinking that such feats could only be achieved by the might and financial muscle of the large corporations. This will hopefully provide inspiration for a new generation of innovative thinkers.

In the dark days of this country's isolation from the international community South African engineers acquired a reputation for doing the impossible because no-one told them it was impossible. This capacity for innovative and original thinking is probably what has enabled a select few to break into international markets and thereby save the South African aerospace industry from total extinction. Let us hope that our young engineers in training will be inspired by Bert Rutan's achievements and follow his example.

EVENTS PROGRAMME

Council members are working very hard on a programme of visits and lectures for this year and as always are making every effort to engage prominent members of our profession and major companies in a truly worthwhile programme. This does mean that negotiations are sometimes lengthy and this is the reason that the programme has not yet been finalised. However, to give you some idea of what is being lined up for your "edutainment" (doesn't the PC world come up with some fascinating new words?), here are some of the events that are being negotiated:

- A visit to SAA and a presentation on the Airbus (possibly the A400M)
- The Maj. Miller lecture. It is hoped to reach agreement for the presentation of this lecture by the CEO of SAA technical division.
- The Sir Pierre van Ryneveld lecture. This will be presented by a senior SAAF General.
- The World Aerobatic Champion (a South African) has provisionally agreed to present a lecture and possibly a demonstration.

- A visit to Louis Trichardt AFB and/or a lecture on airshow crashes and the Hoskins series.
- A visit to TFDC, including a flight to Bredasdorp in a SAAF transport aircraft. (The previous visit several years ago was the highlight of the year and now TFDC has some very interesting new aircraft)
- A visit to Aerosud towards the end of the year.

MEMBERSHIP FEES 2005

In February 2004 I attended a Royal Aeronautical Society Divisional Conference in New Zealand. At this Meeting the Divisions of Australia and New Zealand were also present to exchange views with the President and other dignitaries of the RAeS. One of the main issues discussed was the fees paid to London for servicing the members of the Divisions. London had investigated this cost which came to £32 per Divisional member. When the RAeSSA was established it was agreed with London that 60% of our fees would be paid to London for the servicing of our members. This is significantly less than the amount London desires.

We indicated at the NZ Conference that we would attempt to achieve the desired amount but that it would be nearly impossible to do it for 2004 as our accounts had already been sent out to members and it would not be possible to do it in a single year. As our council had not increased fees last year it was decided to increase the fees by 10% with a penalty of 5% for late payers (alternately, 15% with a 5% discount for early payment) for 2005. This approach was decided upon by council because we were embarrassed by reminders from London about our late payments to them last year (as a result of late payments to us by some of our members). To avoid being totally delinquent we even paid the fees of some members to London before we had received them.

At the NZ Conference London undertook to investigate ways and means of reducing the cost of servicing overseas Divisional members, for example by implementing electronic transmission of some of the information. This has not materialized up to now.

At the 2004 Defense and Aviation Air show same plans were also initiated to reduce the cost of servicing overseas Divisional members through the Corporate Partner scheme. This has also not yet come to fruition.

Please bear with your council members. We are doing what can be done to prevent an enormous escalation in membership fees and to increase our membership numbers so that we can remain a Voluntary Society of ECSA, thereby also getting a rebate on ECSA fees. You can help us by paying your fees as soon as possible, by encouraging colleagues to join and by encouraging your company to become a Corporate Partner!

Prof Japie van Wyk
Honorary Treasurer



Obituary, Jack Duly (1922 – 2005)

It is with sadness that we record the recent passing of our good friend and colleague, Jack Duly, Past President of the Southern Africa Division of The Royal Aeronautical Society (1979-1980), and a long-serving member of the Division Council.

Jack, an only son, was born in Ashted, England on 26 June 1922 and came to South Africa with his parents when he was 2 years of age. He was raised in true Victorian style to be a proper gentleman, where being seen to “do the right thing” and having a “stiff upper lip” was the absolute requirement. Although he was of English descent, he spent most of his life in South Africa. Jack was educated at King Edwards School (KES) in Johannesburg and thereafter acquired an engineering diploma from the Witwatersrand Technical College in Johannesburg. After qualifying he joined South African Airways in 1940 when the airline was based at Palmietfontein on the southern outskirts of Johannesburg.

During World War II he was seconded to the Royal Air Force and was trained as a gunner on the Catalina and Sunderland flying boats, serving in North Africa and Northern Ireland. On 4 June 1947 Jack married Mary "Molly" Menary in Belfast, Northern Ireland and thereafter returned to South Africa and, of course, to South African Airways.

Jack was well-respected, notorious for his high standards and his eye for detail. After his sojourn as Inspector in Fleet Servicing at South African Airways during the latter-days of the piston-engine era in the 1950s, Jack took on responsibilities for monitoring the “big radials” and was thereafter transferred to the Flight Technical Section. He became known as Mr Weight-and-Balance and was renowned for his insistence on perfection and accuracy, having gone so far as to devise his “Jack Duly Graph Tool” which was a sharp (had to be sharp!) sewing needle inserted into a cork as a handle, the “tool” being used by Jack, together with a magnifying glass, to literally pin-point the centres of the lines on the performance graphs!

Jack retired from South African Airways two years before his official retirement date after 43 years of service. At his retirement function his colleagues presented him with a deliberately badly-repaired, plated and suitably-mounted and plated hydraulic component, which had a silver tag attached on which is engraved "Serviceable" - Jack Duly." This was a gift which Jack treasured as a reminder of his colleagues and his long South African Airways career.

After having retired, Jack became an active committee member of the Silver Springboks, the organisation established by and for pensioners from the airline, and served as their Treasurer for

ten years. Under his strict scrutiny and control, every cent was accounted for and balance sheets were always ready on time for every AGM.

In his private life, being a keen DIY enthusiast Jack loved carpentry, had a passion for cats and, unknown by many, was a talented classical pianist and artist. It was reported that he was an unfortunate victim of the “super-bug” allegedly picked up in hospital which reduced him to a helpless, bedridden shadow of a man who had lost all motor control, and could do nothing for himself except listen to the radio. He was stoic about his illness, and his intellect remained razor sharp almost to the end.

Jack is survived by his wife Molly, and his three children, Kathleen, Michael and David and their families.

Bruce H. Prescott
CEng, FRAeS, PrEng
Past President, RAeSSA

ESKOM EXPO FOR YOUNG SCIENTISTS – NATIONAL FINALS

Two directors of the AeSSA, a division of RAeS, Prof Japie van Wyk and Mr Gert Jansen van Rensburg, had the privilege to represent Council and the institute as judges at the National Finals of the annual EXPO for Young Scientists, which is organized and sponsored by ESKOM as main organizing body, together with DTI Dept of Science and Technology, INTEL, ARMSCOR, SASOL, University of Pretoria and the Human Sciences Research Council as the co-sponsors.

The very interesting entries across a wide range of subjects had to be judged on 02 October 2004, and the AeSSA cash prize awarded to the best entry in the field of *aerospace and aeronautics*. Since the organizers do not have a specific category relating to the above subject matter, the correct entries had to be ‘discovered’ or ‘selected’ from the various scientific categories of Physics, Chemistry, Design- Technology, Innovation & Development, Engineering- Mechanical, Civil, Industrial, as well as Astronomy & Space Sciences.

From the eleven entries in Astronomy & Space Sciences, two entries were focused on space propulsion, which by far surpassed the other five entries in the aero-field. The first prize was awarded after much deliberation to the young Me Este Oosthuizen, a Grade 11 pupil of Bredasdorp High School, Overberg. She displayed a very innovative and interesting version of a variable cycle plasma propulsion unit for space travel to Mars, dubbed the ‘VASIMIR’-rocket engine. In her presentation, the typical logistic problems of space travel to our closest neighbour planet, were also addressed. Earlier in 2004, Este had also received an award in the competition held by the National Youth Foundation with her project submission to the Africa Space School. She will be one of the few selected South African youths to have been invited to attend the prestigious NASA Space Scholar programme in the USA during 2005, under the auspices of the Africa Space School. Again our congratulations to Este, with the assurance that as an institute we will follow her career in astronautics with great interest!

The entry by the aspirant rocketeer, Mr Alex Evener, a grade 9 pupil of Hoërskool Oosterland, Secunda, on “Amature Rocketry”, was definitely also of high quality with a good display of practical application of experimental rockets and models, and a lot of rocket theory from the Internet. An avid member of the SA Rocketry Association, Alex has definitely fired off more rockets than even the judges! He provided a good display of methods in manufacturing his own rocket fuel from molten castor sugar and “saltpeter” mix (in mom’s kitchen, using her pots and

stove, of course) and manufacturing the convergent-divergent propulsion nozzles from brass on a lathe. At this stage, the aim of SA Rocketeers is to reach altitude and be able to retrieve the rocket tube intact after flight, by parachute – obviously for the next flight! The model rockets are usually equipped with some control surfaces, an altimeter signaling flight altitude to ground and the parachute deployment switch, all controlled remotely by radio and telemetry. We should also keep an eye on this youngster - RPVs are his food!

The other entries of aero-interest are short-listed below:

- Affordable Model Rockets N Dreyer and K Wille Gr 11 Windhoek Tech.
- “Verbranding en Ontbranding” V Holtzhausen Gr 6 Elarduspark Primary
- Delta Wing Jets G Pollock Gr 7 Harriston High
- “Hoe ‘n Boeing 747 in die lug bly” J Sander Gr 5 Pres Brand Primary
- TH Wind Tunnel Special Ed. IV K Basson, S Dragne Gr 11 Trinity House H/S

To all these pupils, a warm word of encouragement for ‘next time’ – never, never let the dream of flight escape your inventive minds. We appreciate all efforts in the aeronautical field, which is mostly on the forefront of technology. From Council, we should endeavour to increase our promotion of the aeronautical subject matter at school level, to ensure a larger field of entry in follow-up Expo. Good luck for this year’s entrants – time to prepare is imminent!