

BAHG Newsletter

Issue 24, September 2016



Display completed by the work team: Reg Harlow, Barry Tomlinson, Mike Dobson and Tony Manning



President of the Royal Aeronautical Society, Prof Chris Atkins (former RAE scientist) opening the exhibition

RAeS 150 As planned, BAHG presented its display on the work and achievements of RAE Bedford as part of the special event on Sunday 3 July 2016 organised by the Bedford Branch of the Royal Aeronautical Society to celebrate the Society's 150th anniversary. With the theme of "Aerospace in Bedfordshire: Inspiring Future Generations", the event, also supported by local aviation organisations, took place as part of the Military Air Pageant at the Shuttleworth Collection, Old Warden, Bedford. The picture above left shows the display after installation on the Saturday by the work team: Reg Harlow, Barry Tomlinson, Mike Dobson and Tony Manning. Gerry Shanks and Barry Moulang, who had also prepared material, helped man the stand on Sunday. It was held in Hangar 3, where BAHG were next to GKN, see picture (right) showing the "crowds". Other local aviation organisations involved included Cranfield University, Aircraft Research Association, Hybrid Air Vehicles, Luton Airport, Lockheed Martin and Blue Bear Research, together with the Bedford Branch.



Several VIPs visited the BAHG display, including the Lord Lt of Bedfordshire, Mrs Helen Nellis, President of the Society Prof Chris Atkins, Bedford MP Richard Fuller, and President of the Bedford Branch Dougie Hunter. We were also pleased to see a number of former RAE employees as well as many others who expressed interest in the work of RAE, as in the picture at left of a detailed discussion involving Gerry Shanks and Barry Moulang from BAHG. Overall, we viewed the day as a success and worth the effort.

Helicopter World Speed Record

Thirty years ago, on 11 August 1986, a Westland Lynx helicopter, G-LYNX, broke the world speed record for helicopters, by achieving 249.09 mph. (An article in "Flight International" magazine for 27 Dec 1986 reported the story under the banner "Fastest blades in the world".) It was fitted with advanced rotor blades developed under the British Experimental Rotor Programme (BERP), a joint venture between Westland Helicopters and RAE that began in 1976. This built on RAE's theoretical and experimental research on the aerodynamic performance of rotor blades, which included detailed measurements made for the first time in real flight. The first BERP rotor was tested on Bedford's Puma helicopter XW241 (see picture right, neg B6067A) in 1982. These tests demonstrated the considerable benefits in rotor lift, aircraft top speed, and improved levels of vibration and aircraft noise which had been sought. Westlands used these results to produce new designs of composite blade for the Lynx for the record-breaking flight. Later, such advanced rotor blades were adopted for production Lynx and Merlin helicopters. In 1994 RAE and Westland Helicopters received the Queen's Award for Industry for this work on the British Experimental Rotor Programme.



Bedford Aeronautical Heritage Group

Don't forget, to contact us with any news or comments, please email (bahg-bt@hotmail.co.uk).

Some Anniversaries In November 1966, de Havilland Comet 2E, XV144 (formerly G-AMXK) was delivered to BLEU by Fl Lt Zala. After extensive use in the autoland programme (see picture below left, landing in fog, B2466D), it left Thurleigh on 17 June 1971 (picture right, B3011C) to go to Farnborough.



A recent article in Aeroplane magazine (Sept 2016 issue) featured the (one and only) DH Comet 3, originally G-ANLO, which then, as XP915, saw service for 10 years with BLEU at Thurleigh.

It is now 20 years since Thurleigh Airfield was sold in 1996 to developers St Modwen and became Thurleigh Business Park.



Tornado Drop Model USA Working in the archive recently we unearthed some interesting pictures. They show a Tornado drop model at NASA Dryden, parked in front of the Space Shuttle "Enterprise", and also the helicopter that would then take it up, and finally the model after landing in the desert. Our pictures (TS1526) are copies of NASA prints and are dated 10 Nov 1981 and 4 Dec 1981. Can anyone help with more information? Why was it necessary to



take a drop model to the USA when we had facilities in the UK?



Lockheed U2 at Thurleigh



An article about the Lockheed U2 in the last issue of the newsletter published by our FASTA colleagues at Farnborough recalled to mind an occasion when a U2 came to Bedford in March 1967. This was part of Aero Flight's extended programme of research on atmospheric turbulence being conducted by Jack Burnham and his team in collaboration with the UK Meteorological Office and NASA Ames in the USA. Aero Flight's Canberra WH793 had been out to



Ames in Jan/Feb 1967 (see picture of the Canberra nose, with decals) and in March NASA's U2 came to the UK. Clear air turbulence (CAT), associated with what we know today as the Jet Stream, was the subject of exploration, particularly with Concorde in mind, operating at much higher altitudes than conventional airliners. If anyone can add to the story, we would be pleased to hear from you.



U2 landing at Thurleigh, (B2085G)



Pilots by U2 (B2085J)



U2 by hangars at Bedford (B2085P)

Wind Tunnels We are trying to establish some key dates relating to the closure of the wind tunnels that were still operating at Bedford in the 1990s, namely the 13x9 low speed tunnel, the 8ft supersonic tunnel and the 3x4 HSST. We have no records of "final runs". Can anyone help with information? Our photographic archive contains some late images: for the 13x9, in March 2000, for the 8ft, in October 1999, and for the HSST in October 1998. None of these makes any reference to being the last run of the particular tunnel. We still hope to locate the wind tunnel log books that recorded all the runs. Can anyone help, here?

Display at Farnborough We are planning to take our small display (that we used again recently at Shuttleworth, as described above) and present it to our colleagues at the Farnborough Air Sciences Trust, and to visitors, in order to publicise the work and achievements of RAE Bedford. It's not always appreciated that Bedford represented about 20% of RAE's work force as a whole. The display will be on show at Farnborough in late October until late November. Anyone in the area is invited to visit.

Facebook Don't forget the Facebook page, as mentioned in the last issue.

Bedford Aeronautical Heritage Group

Don't forget, to contact us with any news or comments, please email (bahg-bt@hotmail.co.uk).