



Comet 915 in 1962 [B143]



3x3 tunnel showing model in working section, 1967 [CL203]

News! News! We are contemplating organising a “RAE Re-Union” in 2014. We have circulated more details via separate messages. Broadly, the plan is to hold it on a weekday, 11-3 or so, probably 18 June 2014, to be hosted at BodyFlight (the former Vertical Spinning Tunnel) on the old tunnel site. There will need to be a charge. The target cost is £10 per head, to cover food. Why hold it in 2014? Well, time passes and so do we. It’s difficult to pin down a “right time” for such a major re-union. There was no single start date for RAE Bedford. The official opening day was on 27 June 1957. However, the first calibration run of the first wind tunnel (3x3) was on 29 April 1952. (Design and construction started in 1946.) Thurleigh airfield began operating in 1954 (and closed in March 1994!). 1974 was the year of big organisational change with the abolition of Aero Flight and BLEU and the formation of Flight Systems. Perhaps the most significant date is March 1944, when a report to Government (ARC 7500) made the recommendation that there needed to be a new National Experimental Establishment for aeronautical research. This recommendation ultimately led to the creation of what became RAE Bedford. So 2014 can be interpreted as the 70th anniversary of the origins of RAE Bedford. First reactions to the idea are positive, so it looks as if it will go ahead. But we would like to hear from many more of you with as many comments and suggestions as possible, and to be sure the event will be viable.

This newsletter has quite a wide circulation, but our mailing list lacks people from the all-important support departments, such as Aircraft Dept, ATC, Workshops etc. We would welcome your help in reaching more people.

More News! BAHG Web Site We are delighted to announce that the BAHG web site has now “gone live”. Its location is www.bahg.org.uk. Our thanks go to Barry Moulang, BAHG Webmaster, for pulling it together, and to the various contributors. We await your feedback with interest. What do you like? What don’t you like? What else would you like to see included? And so on. It’s still very much “work in progress” so what you have to say really matters.

Former research aircraft For our new web site we have started a page on “Where Are They Now?” relating to our various research aircraft. The Boulton Paul BP111A (VT935), a delta-wing research aircraft, came to Bedford in 1955, having first been at Boscombe then Farnborough. It is now at the Midland Air Museum, Coventry airport. We have very little information on its time at Bedford (1955-58). There is no information on its final flight at Bedford or its departure date. It hardly features in our photo archive. We have just two sets of photos. If anyone can expand on our knowledge, that would be very helpful.



Aircraft History - Last Flights The year 1973 is notable for several “last flights” and departures of some significant aircraft associated with Aero Flight & BLEU.

HP115 XP841 made its last research flight on 31 Aug 1973 (it first flew, at Thurleigh, on 17 Aug 1961 - see BAHG Newsletter Issue 2). It finally flew out of Bedford on 31 Jan 1974. It can now be seen at the FAA Museum Yeovilton.

BAC221 WG774 made its last flight at Bedford on 4 June 1973 flown by test pilot Ian Hamilton. (having arrived at Thurleigh on 20 May 1966, delivered by test pilot Clive Rustin, after its first flight on 1 May at Filton). It, too, is now at the FAA Museum Yeovilton.

Shorts SC1 XG905 made its last flight at Thurleigh on 3 May 1973, and has finished up in a museum near Belfast where the two SC1s had been built by Short Bros. XG905 is notable for having made the first transition from wing-borne to jet-borne flight, and back, at Bedford on 6 Apr 1960.

Comet 3B XP915 was broken up and taken away Aug 1973. It had arrived in early 1962 and was soon fitted with its characteristic nose probe, leading to its nickname “Spike”. See BAHG Newsletter 4. Used initially by Aero Flight on gust measurement, take off director and aerodynamic ground effect trials, XP915 was transferred to BLEU for research into automatic landing.

Bedford Aeronautical Heritage Group

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

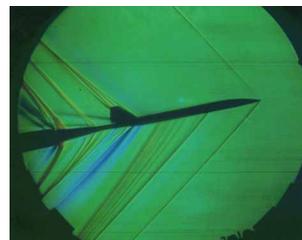
After this list of departures, it's worth mentioning an aircraft that *arrived* in 1973 (October): Vickers VC10 XX914 (formerly G-ATDJ with British United Airways). This aircraft had only a short research life at Bedford, being the victim of budget cuts in 1975. It languished on the airfield until removal in 1984. It was used as the background for the last Aero Flight group photograph in September 1974.

Some 1983 anniversaries The last run of the 3x3 transonic/supersonic tunnel was on 30 March 1983, over 30 years after the first calibration run in April 1952. David Llewellyn Davies, present for the first run, also signed off the last run.



27 May 1983 saw the arrival of Panavia Tornado GR1 ZA326. The aircraft was acquired from MoD initially to support the development of the Texas Instruments Terrain Following Radar system. Research and development at Bedford enhanced the performance and safety of this automatic low-flying system. Subsequently, the aircraft was used on several other research programmes.

Schlieren Mirror (Barry Moulang) In the 3x3ft wind tunnel, two 1-metre diameter Schlieren mirrors were used as a pair to form shadow images of the supersonic flow around the aerodynamic model under trial. When the tunnel closed in 1983 these mirrors became redundant although one was later returned home to Germany and is now in the main technology museum in Munich. The remaining mirror has now been found a new home.



We felt it important that it should continue to be used purposefully and that its history in aeronautics should be appreciated. Mike Dobson took considerable pains to find a suitable recipient for the device among the aerodynamic and academic communities both in the UK and in Europe but without success. As an alternative, bearing in mind its preservation as a useful object rather than a museum exhibit, we then explored the use of the mirror in astronomy.

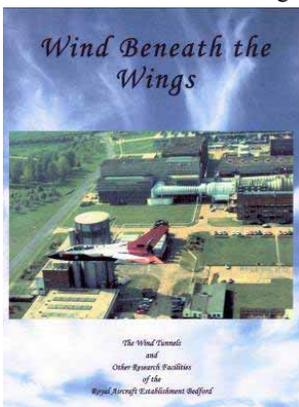
With the assistance of the British Astronomical Association a suitable placement has now been found in which the mirror will form the main element of a capable telescope. The telescope - which will be built for an observatory in Ireland where skies are relatively clear and unobstructed - will be used in the detection of Kuiper-belt objects which lie in the outer reaches of the Solar System. These objects are very small and faint but carry valuable information about the formation and early history of the solar planets. The telescope will be equipped with sensitive electronic imaging hardware backed by computing systems to analyse the very large amounts of data that will be collected.



Removal of the mirror from the control room of the tunnel - now a seriously derelict building - was hampered by its 2.5 tonne weight and the need to manhandle it to a loading bay some 50 metres away across wooden flooring and piles of brick rubble. Movement was managed using 6ft crowbars to inch it over steel plates laid to form a pathway over the roughest areas. The loading bay doors also presented a difficulty as they had been closed for 30 years or so and the

tracks on which they moved were filled with debris. More crowbar effort overcame this and the mirror system was eventually transferred by fork-lift truck to a waiting articulated lorry for onward transport to its new home.

VAAC Harrier XW175 This V/STOL research aircraft made its first flight with a so-called "two-stick" advanced control law on 19 March 1993. This was the beginning of the successful programme to provide a two-inceptor flight control strategy later selected for the F-35B variant of the Joint Strike Fighter, now referred to as the Lightning II aircraft. Later in the same year, XW175 celebrated 1000 hours of research flying at Bedford, see photo right (Trevor Hartwell, Gerry Shanks, Martin Earwicker, and test pilots Dennis Stangroom and Dan Griffith).



New RAE Book - "Wind Beneath the Wings" To complement the previously published *Wings Over Thurleigh*, Mike Dobson has written a new book *Wind Beneath the Wings*, which traces the evolution of Bedford's tunnels from earliest thoughts on supersonic flow in RAE, via a "German connection", through to their construction at Bedford. It also details some of the experimental facilities for flight research on Thurleigh airfield. *Wind Beneath the Wings*, illustrated with more than 250 photos, mostly from the BAHG Archive, can be obtained from the author; mddobson@daytasure.com or 01234 771685, price £15.00 softback plus £6.00 p&p [UK]. This new book, together with the fourth (softback) edition of *Wings Over Thurleigh* available at the same price, can also be obtained via BAHG (email below).

Mike recently gave a talk on this wind tunnel theme to the FAST Association at Farnborough.

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