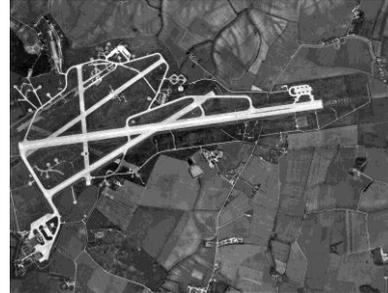




*Concrete for main runway at Thurleigh being laid, 1952
(neg RAE97168)*



*Aerial plan view of completed new airfield at Bedford
(neg C19295)*

BAHG Activities

The Covid-19 virus and its consequences are still having a major effect on us all. The archive team is unable to hold its usual working meetings on Fridays. Planned talks to local organisations about RAE's work and achievements are also in limbo, although one was given recently via Zoom to the Norwich and District Aviation Group.

The display in The Higgins museum in Bedford, about RAE Bedford's contribution to Concorde, that opened in June 2019 (see BAHG Newsletter 34), to commemorate the 50th anniversary of Concorde's first flight, closed on 25 October 2020. The museum has been very pleased with the interest shown in this mini exhibition. We have removed all the material to the BAHG store.

Clive Rustin – an Appeal

Barry Tomlinson is working with someone who is preparing a monograph about Clive's career as a test pilot, first at Bedford (1962-67) then Farnborough (1971-74) and Boscombe Down (1974-78). If anyone has any recollections or anecdotes about working with Clive, please contact Barry via e-mail at bahg-bt@hotmail.co.uk. Clive was the Bedford project pilot for the BAC 221, for example, which he delivered to Bedford from Filton in May 1966.

Journal of Aeronautical History, Royal Aeronautical Society

This journal of research papers is only published on-line. Its first paper, in 2011, was by Sir John Charnley (former Head of BLEU) on the subject of "The RAE Contribution to All-Weather Landing". Some recent papers may be of interest to readers. They can be downloaded as pdf documents. Frank Armstrong has written about the early days of gas turbine propulsion (available [here](#)) and Graham Rood has described 100 years of RAE research, including some mentions of Bedford (available [here](#)).

VC10 XX914

This aircraft had a very short research life at RAE Bedford, arriving in 1973 and being cut as an economy measure in 1975, some 45 years ago. The aircraft remained parked at Bedford until 1984, when it was removed in pieces.



An early flight (neg B3518C 12 Oct 1973, pilot Peter Gordon Johnson) Last flight (neg B3915D 6 May 1975, pilot John Rudin) Before removal (neg B6551A 9 March 1984)

New Book

Mike Dobson has produced a new book entitled "RAE Bedford RIP". Primarily an album of colour photographs of the state of both the wind tunnel and airfield sites as they exist today, with limited narration, it can be obtained from Mike direct (mike@mddobson.co.uk) for £12 plus postage. This book is the latest in a series about RAE Bedford which began with the publication of "Wings Over Thurleigh" twenty years ago.

The theme below (prepared before the new book was announced) reminds us of some of the special qualities of Thurleigh airfield as a national research facility.

Bedford Aeronautical Heritage Group

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

Bedford Airfield (Thurleigh) Then & Now

Thurleigh airfield has undergone many changes since it was first built and used by the RAF in 1941. After operating as a B-17 bomber base for the US Army's 8th Air Force from 1942-1944, it was substantially re-built after the war as the flight test centre for RAE Bedford (see pictures at top, and the books *Wings Over Thurleigh* and *Wind Beneath the Wings* - for sale from BAHG - for more).



One of the reasons for the choice, in 1944, of Bedford as the site for the new National Aeronautical Establishment (as it was then known) was the need for a long runway that could not be accommodated at Farnborough, and space for new wind tunnels. The former war-time airfield, RAF Thurleigh, was selected and substantially re-built, with a main runway 10500 ft long by 300 ft wide, new hangars and other special flight test facilities. The double-the-normal-width main runway was to aid landing research. A substantial control tower was also built and opened in 1957. This fine view at left, taken in 1990

(neg A4647) shows its full glory. Unfortunately, it has not been preserved and is now severely dilapidated (picture, right, taken 2020).



Naval aviation research was one of the first major tasks for RAE Bedford. Two ship-type catapults were built on which all naval aircraft types were tested before being allowed to go to sea. Technologies to improve catapult performance were also developed to enable heavy aircraft like the Buccaneer and the Phantom to be launched safely from existing Royal Navy aircraft carriers. These catapults were unique in Europe and were also used by the French Navy. An aircraft arrester gear installation enabled equivalent work to be accomplished to recover aircraft to ships' decks. The Ski Jump was the last major facility to be added on the airfield, in 1977.



Buccaneer XK529 on raised catapult, 1961 (neg NAD1-1807)



Short SC1 on special VTOL platform, 1963 (neg B549)



Harrier XW175 launching at 9 deg, 1977 (neg B4551H).



Flight Test Facilities Special facilities included the experimental catapults and arrester gear for naval aviation research, mentioned above, a rolling platform for helicopter/ship studies and a VTOL hover platform for the Short SC1, needed to divert the engine exhaust from being ingested back into the aircraft's intakes. Two kinetheodolite towers (picture left, neg B2450C) enabled an aircraft's trajectory during landing to be filmed and measured. These were complemented by a Bell Radar tracking system.



Most new buildings added to the main office area which became known as The Enclave, seen in the foreground of the picture, right (neg A4638, 1990), reflect the expansion of flight simulation as a research tool, from the two domes (1960s) to the huge box structure housing the Large Motion System (1980s). There were even more simulation-related buildings in the 1990s.

Overall, the Bedford complex was a very significant part of the Royal Aircraft Establishment and the best-equipped flight test airfield in the country. Closed as an operational airfield in March 1994, and sold in 1996, it is now known as Thurleigh Airfield Business Park. Many buildings have new uses and there are even some new ones. (The tunnel site, with separate owners, is known as Twinwoods Business Park.)

Today Thurleigh airfield, seen from the air, as in this image (*Ian Revell*) from 2020, looking West, provides a vista of a runway covered in cars, cars, cars! The Eastern end, however, is still functioning as a runway, run by Palmer Sport and Bedford Autodrome. They have created a network of car race tracks to the North of the main runway, and operate from the old NAD (later the Radar Flight Trials Unit) complex.

