

OUTDOOR EVENTS REPORT

Group Visit to Royal Air Force Museum, Hendon, Organised by Geoff Fellows

On a crisp November morning, a group of 12 of us met at Reception to start our tour. For a mere couple of pounds each, we had the services of the experienced Andrew Bowtle, who has been a guide at the Museum for 18 years. As a further pleasant surprise, Andrew was available for the whole day rather than the two hours we were expecting. Andrew first explained the Museum's history. It started at the turn of the 20th Century with Claude Grahame-White, who was fascinated by the development of powered flight. In 1909 he bought a kit of aircraft parts from Louis Bleriot and built the plane in eight weeks. At the time, most British pilots were learning to fly in France so Grahame-White wanted to open a school in England. He bought the Hendon site in 1910, and set up a Flying Training School, where he built aeroplanes and taught flying. The site was taken over for service in both World Wars, extensively in WW1 and in a lesser capacity as a transit station in WW2. The last fixed wing aircraft took off from the aerodrome in the late 1960s, and the site became a Museum in 1973. The original building was retained with a façade built around two aircraft hangers, and the Battle of Britain Hall was added in 1978. The road from Mill Hill was once part of the original airfield perimeter road.

75% of the aircraft exhibited are genuine and kept in flying condition! The rest are replicas made from genuine parts. As well as the exhibits, the RAF maintains an extensive records archive here, and Andrew suggested that genealogy enthusiasts should make the Museum their first point of call when tracing relatives, rather than the National Archives.

Our tour started at the Grahame-White Factory. This was England's first aircraft factory and was purpose-built by Grahame-White in 1917. The surviving section of the original building has been moved brick by brick from its original location, and houses the oldest aircraft. We saw the Hucks Starter, a machine built on a Ford Model T and providing the turning power to turn the propellor and start the aircrafts' engines, and Sopwith Camels fitted with Lewis machine guns (the gun was set up to fire through the arc of the propellor!). The aircraft are fabric-covered and look incredibly flimsy. Andrew explained how the wing shape gave the aircraft lift, a principle still in use today. The Factory also houses bombers – a Vickers "Vimy" replica, and the Avro 504K which was the equivalent of the Spitfire in WW1 – a bomber and training aircraft which was agile enough to fly through airship sheds in Germany. The 504K was made with wooden struts covered with fabric which was stretched and painted (doped). Also on display were some impressive rotary engines and I paid particular attention to the spark plugs, following the excellent presentation at the group meeting the previous week!



Our next stop was the Milestones of Flight building. This was opened in 2003, the 100th anniversary year of the first flight by Orville Wright. Andrew said that at the time, the choice of aircraft for the display caused much discussion – for instance the Spitfire was omitted – but in time all have agreed the selection is good. Among the exhibits were the Eurofighter Typhoon, the most modern RAF aircraft which can fly at more than twice the speed of sound, the North American Mustang which was greatly improved by the addition of a British engine (the RR Merlin), the DeHavilland Mosquito, made entirely of wood apart from the engine and a very effective night fighter capable of 350 mph, the very fast Messerschmitt Me262 with its twin jet engines, and the BAe Harrier VTOL aeroplane.



Next we moved on to the Bomber Hall, where Andrew demonstrated knowledge of his specialist subject, the people of the wars. Between 1939 and 1945, 55,500 men and women lost their lives in Bomber Command. Women were involved in many ways, not just administration as you might expect, but in aircraft production (they were much better than men at riveting), in air traffic control, and flying aircraft from the factories. Andrew explained how the bomber crews of 7 were thrown together in the hangar. He picked out a crew from our party (I was the wireless

operator) and we all went to see our aircraft, the Avro Lancaster. This was based on the Manchester which had RR Vulture engines, which were underpowered. Roy Chadwick, Avro's chief designer, adapted the design by upgrading the engine to a Merlin and stretching the wings. The Lancaster took 2000 gallons of aviation fuel, was 80 ft long, and had a 100 ft wingspan. Unlike most of us, the crew were aged on average 20-21. Andrew showed us where each crew member was placed. The conditions were very cramped. The rear gunner, often the first to see danger and warn the pilot, was particularly vulnerable – the perspex was often removed from his turret because of glare at night, and he couldn't have his parachute with him because of the space. It was kept in the fuselage behind a hydraulic door. Andrew told us the story of Andrew Minarski, a Canadian mid-upper gunner, who lost his life because he damaged his parachute trying to save his friend Pat Brophy the rear gunner when the aircraft came under fire, and was awarded the VC. Brophy miraculously survived the crash and was able to tell of Minarski's bravery.



Also in the Bomber Hall was a display showing the famous “Dambusters” mining raid featuring the bouncing bomb designed by Barnes-Wallis, who got the idea from watching children skimming stones. Adapted Lancasters were used in the raid, which was intended to destroy the dam to prevent the Germans supplying hydro-electric power to their munitions factories in the Ruhr. 56 men took part in the raid but only 3 survived, and on the ground 1400 people lost their lives, sadly most of these were Russian slave labourers.

After the Bomber Hall, we stopped for lunch. As Andrew was available for the whole day, some of us decided to stay on. Our afternoon tour was around the Battle of Britain Hall, which tells the story of the world's first decisive air battle, between 10th July and 31st October 1940. As well as an impressive array of aircraft, the Hall features displays about the Blitz, and the UK airfields which were attacked, such as Biggin Hill, Duxford and Northolt. Andrew told us of the bravery of ground crews and particularly three women at Biggin Hill, who stayed at their posts to man telephone lines despite being told to go to shelters. Elspeth Green, Elizabeth Mortimer and Helen Turner all received the Military Medal for their bravery.

The key British aircraft in the Hall were the Hawker “Hurricane” and Supermarine “Spitfire” – both built to the same specification – a 300 mph single-seat fighter with eight .303 inch Browning guns – but different in manufacture. The Hurricane was part wooden and sturdy and the Spitfire was of aluminium construction and more difficult to build. The motor manufacturers were called in to help. The next exhibit, the Messerschmitt Bf109E, was the German equivalent of the Spitfire and Hurricane. It had fuel injection and was fast but very uncomfortable to fly with its narrow, restricted cockpit. Another German aeroplane on display, the Junkers Ju87 “Stuka”, was a dive-bomber which could carry a 500 Kg bomb and deliver it with accuracy since it could fly downwards at a 90° angle. Spitfires' and Hurricanes' wings would break off if they tried this, due to the force of gravity (7-8G).

Other aircraft in the Hall were the Westland Lysander, designed with short take off and landing range, and used to transport people in and out of France as it could get into small fields; the Fiat CR.42 Falco, used by the Italian air force to help the Germans invade France; the Messerschmitt Me110, a large twin-engined fighter with airborne radar, the Junkers Ju88 which waited over British airfields for the crews to come back from operations; the Heinkel He111 German bomber; and the very impressive Sunderland flying boat.



At the end of a long and enjoyable day, we thanked our guide Andrew for his fascinating insight both into the aircraft and the men and women involved in the wars, and made our way home up the A1. Thanks to Geoff Fellows for arranging this brilliant outing. I would recommend the Museum: it is well worth a trip, and admission is free.

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