

Glimpses of the Past

by George Toms

No. 22 Building 24 Shop

If ever there was an area of involvement in which Brush found itself unintentionally, surely it must be that of building aircraft.

The Great War and the need for aircraft led to the First Sea Lord, Winston Churchill, approving a paper in 1915 for the expansion of the Royal Naval Air Service. This led to a number of firms with high standards of workmanship receiving orders to construct aircraft. Brush, with its coachbuilding skills, was one of them.

The first aircraft to be built by Brush was a Maurice Farman S.7 'Longhorn'. It appeared in late 1915 and underwent acceptance tests at Hendon. Repeat orders for this type of training aircraft followed during 1916, all aircraft being powered by Renault engines of 70-80 horse power. In 1917, when the AVRO 504 became the standard trainer, spare 'Longhorn' parts were collected together to enable twenty five more aircraft to be built by Brush, each incorporating a 90 horse power Curtiss OX engine. The first of these was built and tested in November 1917.

New buildings were erected behind automobile/coachworks sheds, close to Meadow Lane and the completed aircraft were drawn out onto a special apron to be photographed.

Brush was awarded a contract to build an experimental aircraft, the Farman Astral. This was in 1916, before the Handley Page bomber had been proven and when there was a requirement for a twin-engined bomber. Ten French-designed Astrals were ordered, but only one was built as the first failed its trials at Hendon and the remainder were cancelled.

Brush also built AVRO 504 aircraft in quantity, the first batch of 504Cs appearing in 1916. They were powered by an 80hp Gnome engine and the company was the only sub-contractor to build this single seat version, known as the AVRO Scout in the RNAS. Actually, this contract was the first aircraft order for Brush, but delivery was delayed on Admiralty instructions pending modifications. The design had been intended as an anti-Zeppelin fighter, then as a bomber and finalised as a trainer. Of the fifty aircraft built only one remained in commission by February 1918, such was the nature of training of would-be pilots in those days!

More 504s were built, to the A, J and K variants, during 1916-8. The 504A to D variants were fitted with the 80hp Gnome engine, the 504J had the 110hp Gnome Monosoupape and the 504K had an assortment of engines including the 100hp Monosoupape, 100hp Sunbeam Dyak, 100hp Le Phone and 130bhp Clerget. It is not clear if the Brush-built aircraft batches incorporated all of these engines. The AVRO 504 was regarded as the greatest training aircraft of the time and examples were still in service as late as 1930.

Also delivered in 1916/7 were twenty Short 827 seaplanes. The 827 refers to the first serial number of the batch, whereas other variant numbers referred to engine horsepower. The Short seaplane was designed for naval operations at the outset and was used on reconnaissance and anti-submarine duties. More of the type followed (184s with 240hp Renault and 260hp Sunbeam engines) during the 1917/8 period. Problems occurred during production due to difficulties in adapting the frames for the various engine types.

As one might imagine, these aircraft had their share of action. The second Short 184 built by Brush was in action on 14th October 1917 after taking off from the Firth of Tay. In the vicinity of Bell Rock it challenged a sub-

Repair work on Lancaster bomber wings in progress at the Falcon Works in 1945.



A Brush-built former Dominie aircraft in civilian use in 1976. It is seen here in flight over Loughborough on the occasion of the BEM Gala Day, 4th September 1976.

Photograph - Steve Kirk

The last De Havilland Dominie to be produced at Loughborough, seen here in June 1946 on the Derby Road aerodrome.

marine which promptly dived and was attacked. Following this action the aircraft continued its flight, but due to poor visibility the observer signalled base and the pilot landed on the sea to conserve fuel and await daylight. Further signals drew the attention of HMS Offa at about midnight and the aircraft was towed to Scapa Flow.

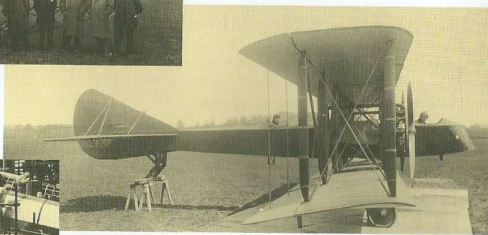
Several Brush-built Shorts were active in the anti-submarine campaign and the type proved reliable and seaworthy. Some were sent to the Middle East.

Following the armistice of November 1918 orders were curtailed and production of the remainder slowed to a trickle, the last deliveries (of AVRO 504s) occurring during the spring of 1919. A grand total of about 650 aircraft was built, of which only one did not enter service, being wrecked in transit.

Brush returned to its usual forms of manufacture and it took another war before it became involved with aircraft work again. There is little doubt that the firm's previous experience weighed heavily in its favour as a choice once again. This work not only included building new aircraft but manufacture and repair of parts. Repair work included Hampden bomber fuselages subcontracted from the LMS Locomotive Works at Derby lasting from March 1941 until December 1943, the aircraft arriving by road in sections on RAF 'Queen Mary' transporters. Other parts were distributed around the district to other firms. Hampden HP52 aircraft were originally produced as light bombers, the first appearing in 1936. They were withdrawn from front-line service during 1942 and Brush effected major overhauls and refurbishing to 99 examples.



The first Brush built aircraft was this Farman S7 'Longhorn' serial 3001. It was photographed in 1915 on the Loughborough Meadow.



The solitary Henry Farman 'Astral' of 1917 on the temporary apron to the rear of the Meadow Lane end of the Falcon Works. It was serialised 9251 and was sent to Hendon on 12th March that year. It was found to be unsuccessful.

The De Havilland Dominie assembly line at the Falcon Works in 1944. Is this in the Robin hangar building?



Albemarle A.W.41 aircraft parts were manufactured under a cascaded sub-contract arrangement, but constant changes and modifications caused production delays and disrupted production resulting in work being transferred elsewhere to enable Brush to concentrate properly on other war work.

Lancaster wing sections were repaired within the Coachworks section, mainly in shops associated today with switchgear work. Included in the wings were fabricated fuel tanks.

Despite being the only type built, rather than repaired, the twin-engined De Havilland D.H.89 Dominie aircraft was produced in large numbers by Brush. Originally introduced in 1934 as the Dragon Six it was renamed the Dragon Rapide the following year. Over a ten year period around 700 were produced, the wartime version being designated the Dominie. The Dominie was used by the Royal Navy and RAF for communications, air ambulance and training duties. Brush completed its first Dominie in March 1943 following the transfer of production from De Havilland's Hatfield works. Following completion, they were towed tail-first by tractor to Loughborough Aerodrome just off the Derby Road where they were finally assembled and test flown.

Two contracts were awarded to Brush, totalling 455 aircraft, but 120 were cancelled due to the cessation of hostilities in 1945. The final aircraft was completed in July 1946.

Apart from late 1943 proposal to build a hangar on a site adjoining the Loughborough College Airfield near Swingbridge Lane, there was another concurrent proposal. This

concerned six Robin hangars which were to be erected as one unit at Falcon Works on the site of the saw mill. If this proposal was pursued (to assist Dominie production) then the Robin hangars were built between the Switchgear shops and the Bar Steel Stores. More recent uses have concerned light fabrication and control gear facilities.

Many continued in military service for a long time after the war and others gave equally long service in civilian use after being sold out of military service. Some were shipped directly to neutral Turkey, part of government policy to ensure that country's neutrality. One was shipped almost brand new to Uruguay in 1944 for the use of the British Ambassador and many saw military and civilian service worldwide for several decades.

Further details of Brush aircraft may be found in 'Brush Aircraft Production at Loughborough' by A.P. Jarram, published in 1978.

A BRIEF HISTORY OF BRUSH by George Toms

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