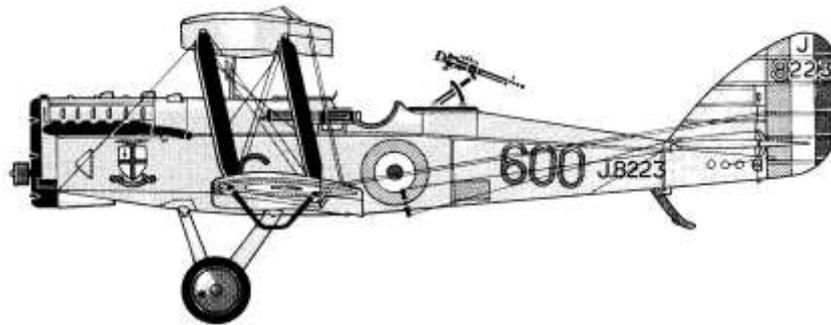


Aircraft of the London Auxiliaries - No.1 De Havilland D.H.9A by Ian White

History



(the late Mike Keep)
De Havilland D.H.9A JB223 of 'A' Flight, No.600 Squadron, Northolt, circa 1926.

In 1917 with the senior staff of the Royal Flying Corps (RFC) eager to counter the aeroplane bombers of Germany's Imperial Army Air Service that were then raiding London and take the war to Germany's cities, the Corps had need of an effective long-range day-bomber. Amongst the bombers available to the Flying Corps was the Aircraft Manufacturing Company's (Airco) de Havilland D.H.4, which, whilst being a satisfactory aircraft in most respects, proved inadequate in terms of its speed, range and bomb-load. By June of that year the Air Board, a department of the War Office, had sanctioned the production of a further 700 D.H.4s with which to equip an expansion of the RFC from 108 to 200 squadrons. However, at a meeting of the Air Board on the 23rd July Sir William Weir, one of the Board's members and the Controller of Aeronautical Supplies at the Ministry of Munitions, produced a set of drawing for an extensively modified version of the D.H.4, the D.H.9, which he claimed would be faster and have a longer range than the '4. Weir, thereafter, proposed the D.H.9 be adopted to fulfil the contract for the additional 700 bombers - a proposal that was subsequently reviewed and accepted by the Board.



"DH9A, No.600 SQUADRON" - by Stanley Orton Bradshaw.

Colour print of DH9A by S.O. Bradshaw - © 600 (City of London) Squadron Association

To meet the Air Board's requirement, the Airco designers under the leadership of Capt Geoffrey de Havilland, produced what was essentially a new design which married the wings and tail surfaces of the D.H.4 to a new fuselage that brought the pilot and his observer/ gunner closer together in adjacent cockpits behind the wing trailing edge and re-profiled the nose to give improved streamlining for a

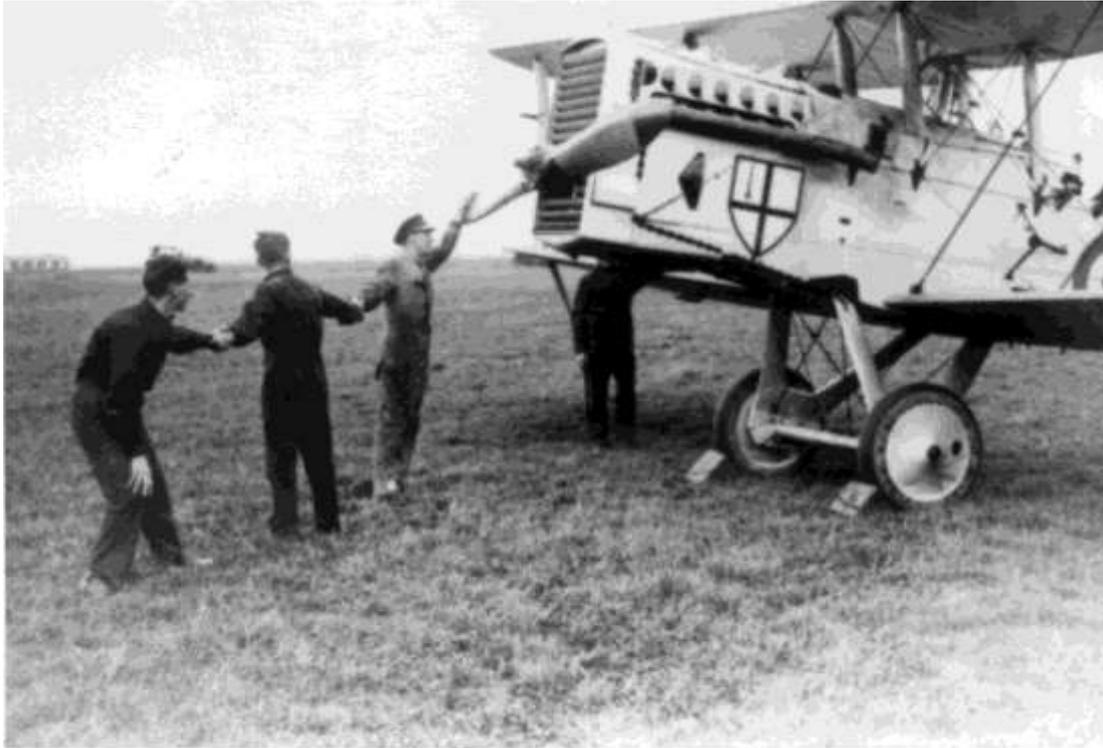
lightweight 300-hp Siddeley Puma, water-cooled, in-line engine. Despite these changes much of the D.H.4's structure was retained. The prototype, A7559, a converted D.H.4, began flight trials at Hendon during July 1917 and quickly showed that when carrying a full military load - 70 gallons (318 litres) of fuel, 4½ gallons (20 litres) of oil, the pilot's forward firing Vickers machine-gun and the observer's Lewis Gun, plus two 230-lb (105 kg) or four 112-lb (50 kg) bombs - the aircraft could barely reach 13,000 feet (3,960 metres). The type's poor performance was the result of development problems with the Puma engine, which necessitated its being de-rated to 230-hp and thus endowing the D.H.9 with a performance that was inferior to the D.H.4!



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Nevertheless, the type was committed to production towards the end of 1917 by the simple expedient of amending the D.H.4 contracts and converting the airframes on the production lines to D.H.9s. Deliveries from the Airco lines were sufficient to ensure that sufficient numbers of D.H.9s were available to re-equip several squadrons in France by April 1918, by which time the RFC had been incorporated into the fledgling Royal Air Force (RAF). The new bomber was employed by the RAF's Independent Air Force that was created on the 6th June 1918 under the command of Maj-Gen Sir Hugh Trenchard to undertake the strategic bombing of Germany. Unfortunately the new type incurred severe losses on operations, with, for example, just two out of twelve D.H.9s returning from a raid on the 31st July. Engine failures contributed further losses, with Nos.99 & 104 Squadrons suffering 123 such failures during 848 sorties before the Armistice was concluded in November 1918. Consequently, the D.H.4 was retained in service for longer than had been anticipated. Although later undertaking useful work against the Turks in Palestine, on Home Defence duties and coastal anti-submarine patrols, the D.H.9 was rapidly relegated to second line duties.

Towards the end of 1917, with the shortcomings of the D.H.9 already impacting on future RFC planning, consideration was given by Sir William Weir to installing the Rolls-Royce (R-R) Eagle engine in the '9. His proposal was acted upon immediately with a 375-hp Eagle VIII engine being allocated on the 22nd December 1917 to Airco for a trial installation in D.H.9, C6350. Once installed and with the mainplanes extended to provide an additional 52.73 sq ft (4.9 sq metres) of wing area, C6350 was flown from Hendon in mid-February 1918 to the RAF's testing station at Martlesham Heath, Suffolk, for official trials. These were successfully concluded, with the D.H.9 and its Airco stablemate, the D.H.10 Amiens bomber, being assigned production quantities of the R-R engine. At about this juncture (March 1918) the Eagle engined D.H.9 was redefined as the D.H.9A.



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Good as the Eagle was, the demands on its manufacture were such that they began to outstrip R-R's capacity to deliver sufficient engines to meet the Ministry of Munition's production requirements.¹ Fortunately in late 1917 Britain was given access to the supply of 400-hp Liberty engines that were being built in the United States (US) and had a similar power rating to that of the Eagle. The first 400-hp Liberty 12 engines were delivered to Britain in March 1918 and work was begun to modify a D.H.9 to act as a prototype. With Airco's design team fully committed to the building of the Amiens bomber, the redesign of the D.H.9 was allocated to the Westland Aircraft Works at Yeovil, Somerset, for which purpose the parent company loaned one of its draughtsmen, Mr John Johnson. Already conversant with the D.H.9's structure as they were then committed to building quantities of the '4 and the '9, the Yeovil design team set about the task of strengthening the '9s forward fuselage to take the heavier Liberty 12. This was accomplished by April 1918, when D.H.9, C6122, took to the air on the 19th, before being transferred to Martlesham Heath on the 18th May for testing. Whilst there it was joined by the second Westland-built D.H.9A, F966. Following the completion of testing at some point after August 1918, the D.H.9A was committed to production by Airco, Westland, F.W.Berwick Ltd, Mann Egerton, the Vulcan Motor & Engineering Company and Whitehead Aircraft and post-war by the Engineering Division of the United States Army's Bureau of Aircraft Production on behalf of the United States Army Air Service (US designation USD-9).

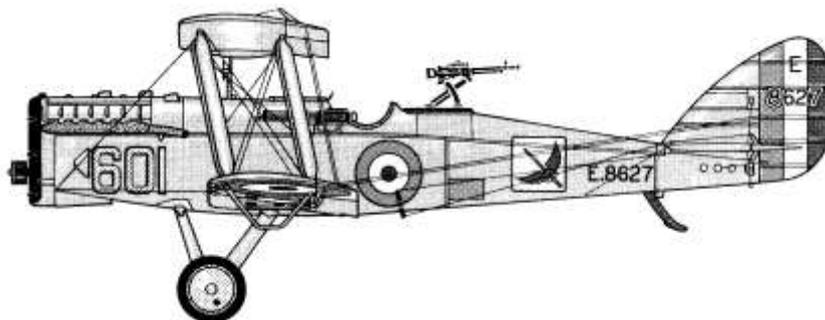
¹ In addition to the D.H.9A the Eagle VIII engine was also destined for installation in the Handley Page O/400 & V/1500, the Vickers Vimy, the Felixstowe F.2A, F.3 & F.5 flying boats and the D.H.10C.



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The first RAF squadron to take delivery of the D.H.9A was No.110 Squadron which received its first examples in August 1918 when it was based at Kenley and deployed to France on the 1st September, where it was joined by Nos.18, 99 & 205 Squadrons before the First World War was ended. When operating in close formation at 17,000 feet (5,180 metres) the 'Ninak' proved extremely effective on daylight raids over German towns and suffered relatively light losses. Post-war two squadrons, Nos.47 & 221, were equipped for fighting Bolshevik forces during the civil war that wracked Russia in 1919/20.

It is estimated that by 1919 the British manufacturers had built 1,780 '9As to wartime contracts, with 271 being in squadron service during 1921, 124 serving at flying training schools (FTS) and a further 268 in storage. During the 1920s contracts for an additional 435 aircraft were raised from new and refurbished aircraft. These were delivered between 1923 and 1925 and allocated serial numbers in the J6957 - J7356 range irrespective of their being new or refurbished. A further sixteen contracts were awarded to Blackburn Aircraft, de Havilland, Gloster Aircraft, Handley Page Ltd, Hawker, Gloster, Saunders, Short Bros and Westland, with serial numbers between J7787 and J8494. The last D.H.9A was flown on the 17th May 1927 and delivered to No.1 FTS at Netheravon.



(the late Mike Keep)

De Havilland D.H.9A E8627 of 'B' Flight, No.601 Squadron, Northolt, circa 1927.

It would not be unreasonable to state that the post-war RAF was literally 'awash' with D.H.9As, that saw employment in a variety of roles at home, overseas, mainly on 'Empire Policing' duties in the Middle, the Far East and India, and in the Air Force's training organisation. Consequently, when the Auxiliary Air Force (AAF) was created in 1925 many of its squadrons were inevitably allocated '9As as their first equipment for training and communications flying. The first of these, Nos.602 (City of Glasgow), received '9As following its formation at Renfrew in September 1925, with the first of the London Auxiliaries, No.600 (City of London) taking delivery of its Ninaks during October when it was based at Northolt. Although formed at Northolt on the same day as 600 (14th October 1925), No.601 (County of London) did not received its '9As until June of the following year. No.604 (County of Middlesex) formed later than its London rivals on the 17th March 1930 and received '9As the following month, by which time it had been joined at Hendon by 600 and 601 to form the AAF's London Wing. Although designated as a reconnaissance-bomber, the '9A was not regarded as an operational type in Great Britain, that was reserved for its successor the Westland Wapiti, which ironically employed a number of Ninak components in its structure. Indeed by the time 604 was receiving its '9As, 600 had converted to the Wapiti the previous autumn (October 1929). 601 followed in November 1930 alongside 604, whose use of the '9A was, therefore, somewhat transitory. By the end of 1930 all three squadrons were firmly established on the Wapiti.

It is known that the following D.H.9As served with the London Auxiliaries:

600 Squadron: J8165, J8184/B & J8223/C.
601 Squadron: E8605, E8627, J7835 & J8108.
604 Squadron: Not known.

With the exception of E8605 & E8627 which were built during the war by Airco, the remaining D.H.9As were delivered to the RAF post-war. J7835 from a 1925 contract and J8108, J8165, J8184 & J8223 from re-build contracts post-1925.



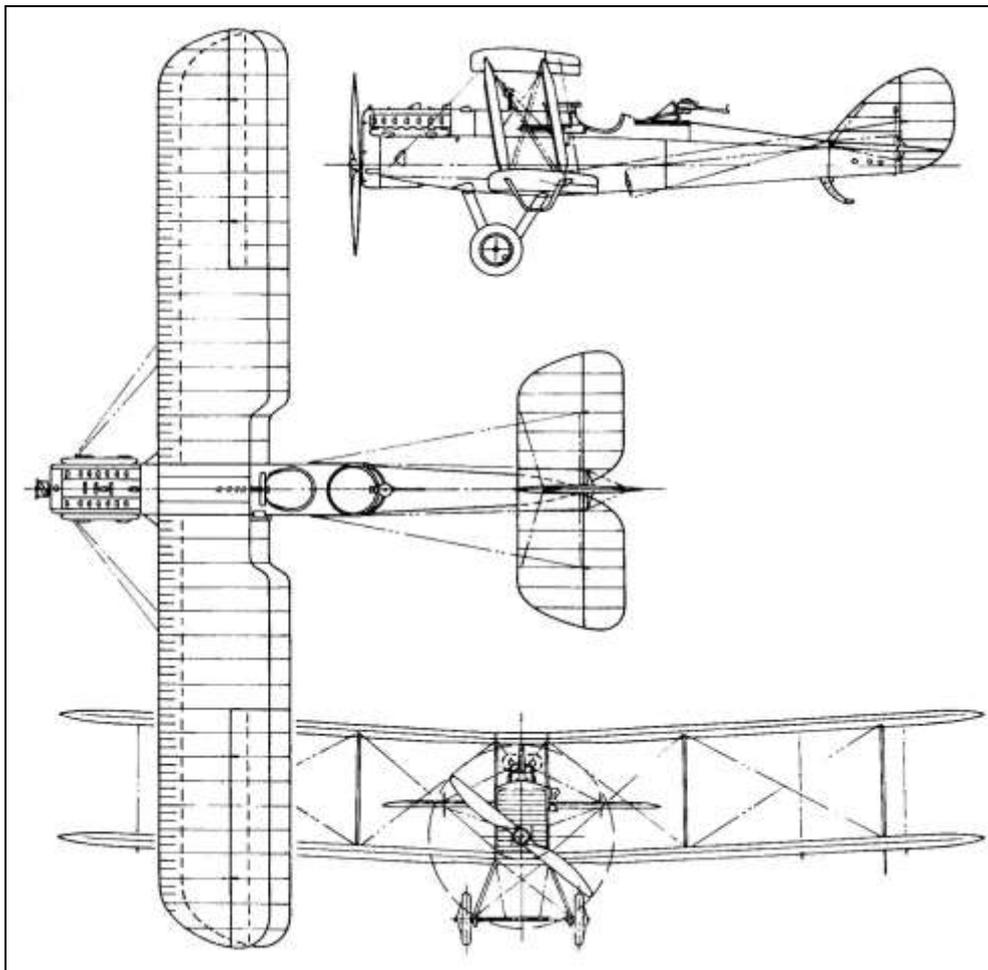
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Description & Technical Details

The de Havilland D.H.9A was a conventional fixed undercarriage biplane of wire-braced, wood and doped fabric construction, powered by a 375-hp R-R Puma or 400-hp Liberty 12 in-line engine. The crew of two comprised a pilot and observer/gunner in tandem cockpits, the latter with a flexible 0.303-inch (7.69mm) Lewis machine-gun and the former with a fixed, forward firing, 0.303-inch Vickers machine-gun firing through the propeller arc by means of a Constantinesco interrupter gear. In addition to its defensive armament, the D.H.9A could carry up to 600-lbs (270 kg) of bombs in a bomb cell forward of the pilot's cockpit. The D.H.9A had the following dimensions, weights and performance:

Length:	30 ft 3-ins (9.22 m)	Empty Weight (Eagle):	2,705-lbs (1,227 kg)
Height:	11 ft 4-ins (3.44 m)	(Liberty):	2,800-lbs (1,270 kg)
Wing Span:	45 ft 10½-ins (13.98 m)	Loaded Weight (Eagle):	4,223-lbs (1,916 kg)
Wing Area:	486.73 sq ft (45.22 sq m)	(Liberty):	4,645-lbs (2,107 kg)

	Eagle VIII	Liberty 12
Max Speed at 10,000 ft (3,048 m):	118 mph (190 km/hr)	114½ mph (184 km/hr)
at 15,000 ft (4,572 m):	104.5 mph (168 km/hr)	106 mph (171 km/hr)
Initial rate of climb:	850 ft/min (259 m/min)	890 ft/min (271 m/min)
Time to 15,000 ft (4,572 m):	33 min 42 secs	33 min 0 secs
Service Ceiling:	16,000 ft (4,877 m)	16,750 ft (5,105 m)
Endurance:	3½ hours	5¼ hours



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