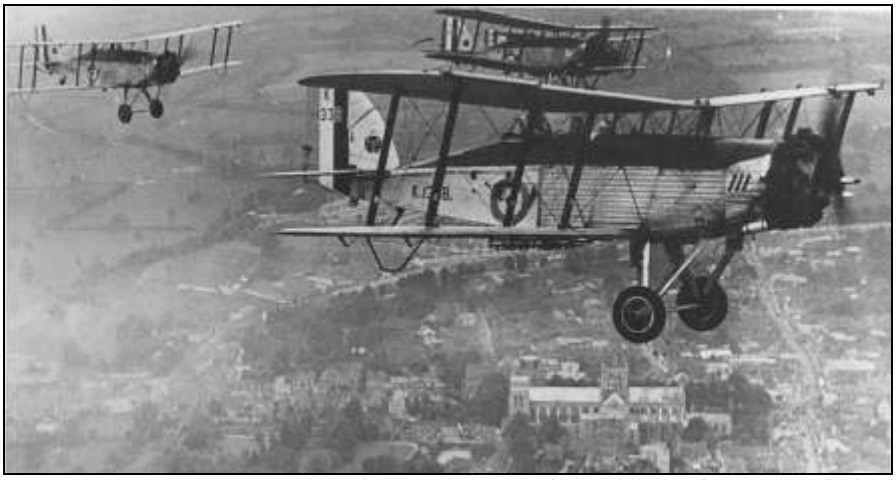
AIRCRAFT OF THE LONDON AUXILLARIES - No.2 WESTLAND WAPITI IIA
BY IAN WHITE

HISTORY

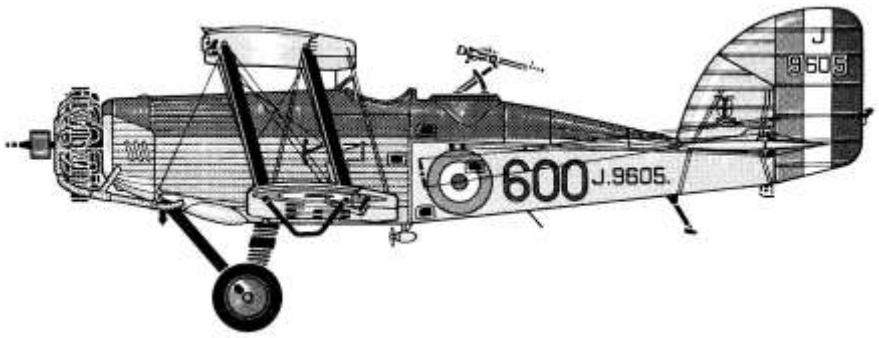


(RAF Museum via 604 Squadron Association)
Westland Wapiti IIAs of No.604 Squadron, circa 1931 - 1934. The aircraft in the foreground is K1318 that was built as a part of the eighth production batch (K1316 - K1415) between 1930 and 1931.

Following the end of the First World War and the period of austerity that accompanied it, the RAF's role abroad was one of Empire policing, for which the non-specialist 'general purpose' aircraft held a great attraction for the service's senior officers and officials. Based on the assumption that Britain would not be called upon to fight a major war for some considerable time in the absence of a credible enemy, the Air Ministry's procurement and equipment arms survived on the large stocks of wartime aircraft - mainly D.H.9As and Bristol F.2B Fighters. However, by early 1926 it was becoming apparent to the Ministry that the D.H.9A, which was then operating in considerable numbers in the Middle East and India, was in need of replacement. To this end the Ministry issued Specification 26/27 that called for a two-seat, general purpose aircraft capable of fulfilling the bomber, reconnaissance and Army Co-operation roles 'with equal facility'. Further, with the large stocks of D.H.9A components and spares available in RAF depots and maintenance units, the Ministry stipulated that as many as possible of these parts be incorporated into the new aircraft. The specification also indicated the need for an all-metal fuselage and the fitting of a Napier Lion in-line engine, quantities of which were again available in large numbers. Whilst the latter were not compulsory, the performance and load carrying capabilities of the 26/27 aircraft were to be superior to that of the D.H.9A.

With aircraft orders then being in short supply, seven companies - Armstrong Whitworth, Bristol, de Havilland, Fairey, Gloster, Vickers and Westland - submitted proposals, of which only two offered the Lion engine. In its position as a wartime developer and supplier of D.H.9A aircraft, the Yeovil-based Westland Aircraft Works Ltd and its chief designer, Mr Arthur Davenport, proposed a single-engined biplane that incorporated '9A wings and tailplane and mated these to a wider and deeper fuselage that raised the position of the pilot and observer/gunner and placed them behind the upper wing centre section. In this position and with an increased wing stagger (compared to the D.H.9A) the pilot and observer/gunner were provided with 'an excellent all-round view'. The fuselage was built in three parts, with the forward section comprising the engine mount and the first bay, the centre section the pilot's and observer's cockpits and a rear section aft the cockpit to the sternpost. The engine plate, to which the mounting was fitted, was carried by six square-section steel tubes that were themselves incorporated into the forward section built from steel and duralumin to form

a very strong box girder structure. The form of the centre and rear structures were built up from D.H.9A-like components, that included the four longerons, which were shaped by metal and/or wooden formers to give the fuselage its profile. By these means the engine thrust line and the position of the crew were raised with respect to the D.H.9A. Power was provided by an uncowled 420-hp, 9-cylinder, Bristol Jupiter VI radial engine driving a 12 feet 6-inches (3.81 metre) diameter, two-bladed wooden propeller, as the designers believed the Lion was reaching the end of its development life. A 15 gallon (68.19 litre) oil tank was located immediately aft the engine plate along with a cooler and was covered by removable aluminium panels. The upper portion of the centre section between the two cockpits was plywood covered and attached to the upper longerons, whilst the lower part was fabric covered. The rear fuselage was also fabric covered. The wooden fin assembly was attached to the fuselage longerons at the sternpost by a multi-plywood assembly, in which the base of the fin was in line with the top longeron. In the prototype, J8495, the tail unit was that of the '9A, but was later changed in profile and area.

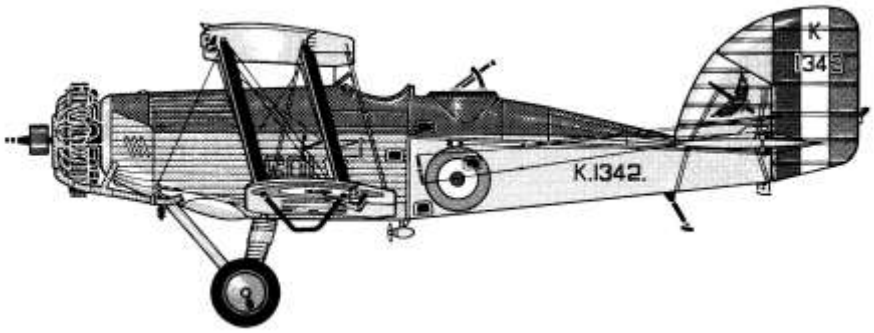


(The late Mike Keep)
Westland Wapiti IIA J9605 of 'A' Flight, 600 Squadron circa 1929 - 1930.

The two-bay wings were D.H.9A components, fabric covered and virtually unaltered from their original design except for a reduction in the upper centre section and lower wing root cut-outs to slightly increase the wing area. These were later replaced by all-metal wings in the Wapiti Mk.II which incorporated automatic Handley Page leading edge slats. Armament comprised the mandatory fixed forward-firing 0.303-inch (7.69mm) Vickers machine-gun on the port side and a 0.303-inch Lewis gun on a Scarf ring in the rear cockpit. Bombs up to a maximum of 580-lbs (263 kg) could be carried on racks under the wings and centre fuselage. A 40 gallon (182 litre) gravity fed fuel tank that was shaped to fit the top of the fuselage was located immediately behind the engine on the top longeron behind the oil tank. A cylindrical 68 gallon (309 litre) auxiliary fuel tank was carried on the lower longerons just forward of the pilot's cockpit, along with oxygen, a wireless telegraphy (W/T) set, photographic equipment, spares, tools, food, water and the crew's personal kit. A prone bomb-aiming window was located in the cockpit floor and fitted with a hinged window for the observer's use.

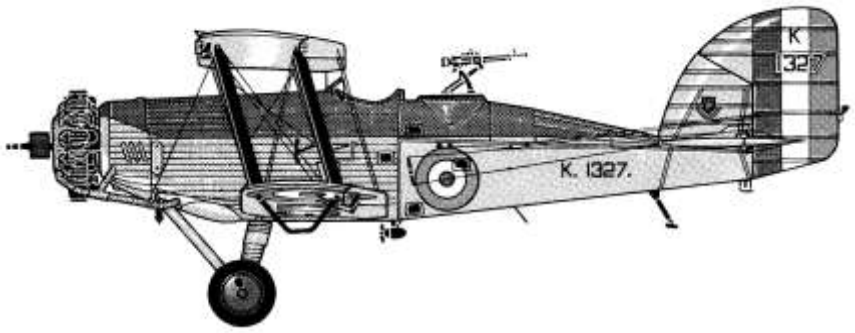
The prototype Westland 26/27, J8495, was completed in Westland's Yeovil factory during the first week of March 1927 and flown by Mr Laurence Openshaw on the 7th, during which he found the rudder to be 'almost completely ineffective'. Modifications were immediately set in hand by the company's Experimental Department under Mr Victor Gaunt, who increased its area until it was some 22 percent greater than that of the original D.H.9A component. This modification in addition to the installation of horn balances on the upper ailerons to reduce their ' undue heaviness', proved sufficient for the type's factory tests. Later that month J8495 was flown to the Aeroplane & Armament Experimental Establishment's (A&AEE) airfield at Martlesham Heath, Suffolk, for competitive trials against the Gloster Goral, Fairey Ferret Mk.III, de Havilland Hound, Vickers Valiant and Bristol Beaver, by which time it had been named 'Wapiti'. Following flying trials that lasted until June 1927 and an evaluation of its

structure and maintainability by RAF engineers, the Wapiti was judged the winner and with a modified fin and rudder Westlands were awarded a production contract for twenty-five aircraft (J9078 - J9102) as the Wapiti Mk.I.



(the late Mike Keep)
Westland Wapiti IIA K1342 of 'C' Flight 601 Squadron.

With production of the Mk.I underway at Yeovil, Davenport's design team continued the development of the type with the object of producing an aircraft that met the original specification for an all-metal aeroplane. Designated Wapiti Mk.II, the new type featured the replacement of the mixed construction of the Mk.I with an all-metal fuselage designed by Westland and wings designed and built by the Steel Wing Company, a subsidiary of the Gloster Aircraft Company, with both having the profile of the Mk.I aircraft. A 550-hp geared Jupiter VIII[1] replaced the earlier Mk.VI and the definitive large 'D' rudder was also fitted. Ten Mk.II aircraft (J9237 - J9246) were built between 1928 and 1929 as a precursor to the mass production of a slightly modified version, the Mk.IIA. The prototype, J9247, was a Mk.II that was fitted with a control column in the rear cockpit (but no rudder bar) to provide the observer with a rudimentary form of control. The Mk.IIA retained the Jupiter VIII engine, but was also fitted with the similarly powered Mk.VIIIF. The first order for thirty-five aircraft (J9380 - J9414) was a precursor to a further eight production batches that would see 430 Wapiti IIAs delivered to the RAF between 1929 and 1932.



(the late Mike Keep)
Westland Wapiti IIA K1327 of 'A' Flight 604 Squadron .

The first squadron to receive the Wapiti IIA was No.60 at Kohat, India, during March 1930, followed by No.27, also at Kohat, in April. A total of ten regular RAF squadrons (Nos.5, 11, 27, 28, 30, 31, 39, 55, 60 & 84) in Britain, the Middle East and India and nine Auxiliary/Special Reserve squadrons (Nos.501, 600, 601, 602, 603, 604, 605, 607 & 608) were equipped with the IIA. A dual-control version, the Mk.VI, (K2236 - K2251) that was unarmed and powered by a 525-hp Jupiter IXF engine, was also used by the Regular and Auxiliary units for flying training, with the majority going to the Auxiliary and Special Reserve

[1] Some sources state this engine to have a rating of 480-hp.

squadrons (Nos.501, 502, 503, 601, 602, 605 & 608). The Wapiti had a long life in RAF service, during which it fulfilled the bombing, supply dropping, Army co-operation, training and target-towing roles. The final aircraft (Mk.IIA, K2305) was delivered to No.31 Squadron in India in 1932 and the last was withdrawn from front-line service with No.5 Squadron at Quetta, India, in June 1940.

The first Auxiliary unit to receive Wapiti IIAs was No.602 (City of Glasgow) Squadron, which took delivery of its aircraft at Renfrew in July 1929, followed by 600 (City of London) Squadron at Hendon in August and 601 (County of London), also at Hendon, in November. The third of the London Auxiliary wing's squadrons, 604 (County of Middlesex) had to wait until the following year, when it too received Wapitis at Hendon in September. In all cases the Wapiti replaced D.H.9As in the bombing role. Unlike the '9A the Wapiti was regarded as an operational type, with which, if necessary, the squadrons would go to war in. Fortunately for everyone concerned, in 1933 the Air Ministry and the Air Staff approved the transfer of the Auxiliary Air Force units from the day-bomber to the day-fighter role and began the replacement of the Wapiti with something a bit more warlike in the shape of Hawker's Hart and Demon. The first to dispose of its Wapitis to the Maintenance Units was 601, which received its first Harts for training in February 1933 and had flown-out its Wapitis by August - the same month it took delivery of the two-seat Demon fighter. 601 was followed by 604 which likewise received Harts and Demons in September 1934 and June 1935 respectively. 600 gave up its Wapitis in January 1935, the same month it received Harts in replacement.

Its is known that the following Wapiti IIAs served with the London Auxiliaries:

600 Squadron: J9601, J9603, J9604, J9606 - J9610, J9613, J9615, J9870, J9871, J8678, K1334 & K1339.
601 Squadron: J9101, j9612 & K1342.
604 Squadron: J9095, K1318 & K1325 - K1328, K 1335, K1336 & K1379.

DESCRIPTION & TECHNICAL DETAILS

The Westland Wapiti IIA was a single-engined, two-seat, general purpose aircraft of doped fabric-covered, all-metal construction, powered by a 550-hp Bristol Jupiter VIII or VIIF radial engine. The crew comprised a pilot and observer/gunner accommodated in tandem cockpits, with the latter being provided with a 0.303-inch (7.69mm) Lewis machine-gun mounted on a Scarf Ring and his pilot a forward firing 0.303-inch Vickers machine-gun. A bomb load of up to 580-lbs (263 kg) could be carried on racks under the wings and fuselage. The Wapiti IIA had the following dimensions, weights and performance:

Length:	31 ft 8-ins (9.65 m)	Empty Weight:	3,800-lbs (1,724 kg)
Height:	11 ft 10-ins (3.61 m)	Loaded Weight:	5,400-lbs (2450 kg)
Wing Span:	46 ft 5-ins (14.15 m)	Fuel capacity:	108 gals (490 litres)
Wing Area:	488 sq ft (45.34 sq m)		

Max speed at 5,000 ft (1,524 m)	135 mph (217 km/hr)
Cruising speed:	110 mph (177 km/hr)
Initial rate of climb:	1,140 ft/min (347 m/min)
Time to 10,000 ft (3,048 m)	9.5 mins
Service Ceiling:	18,800 ft (5,730 m)
Range:	360 miles (580 km)