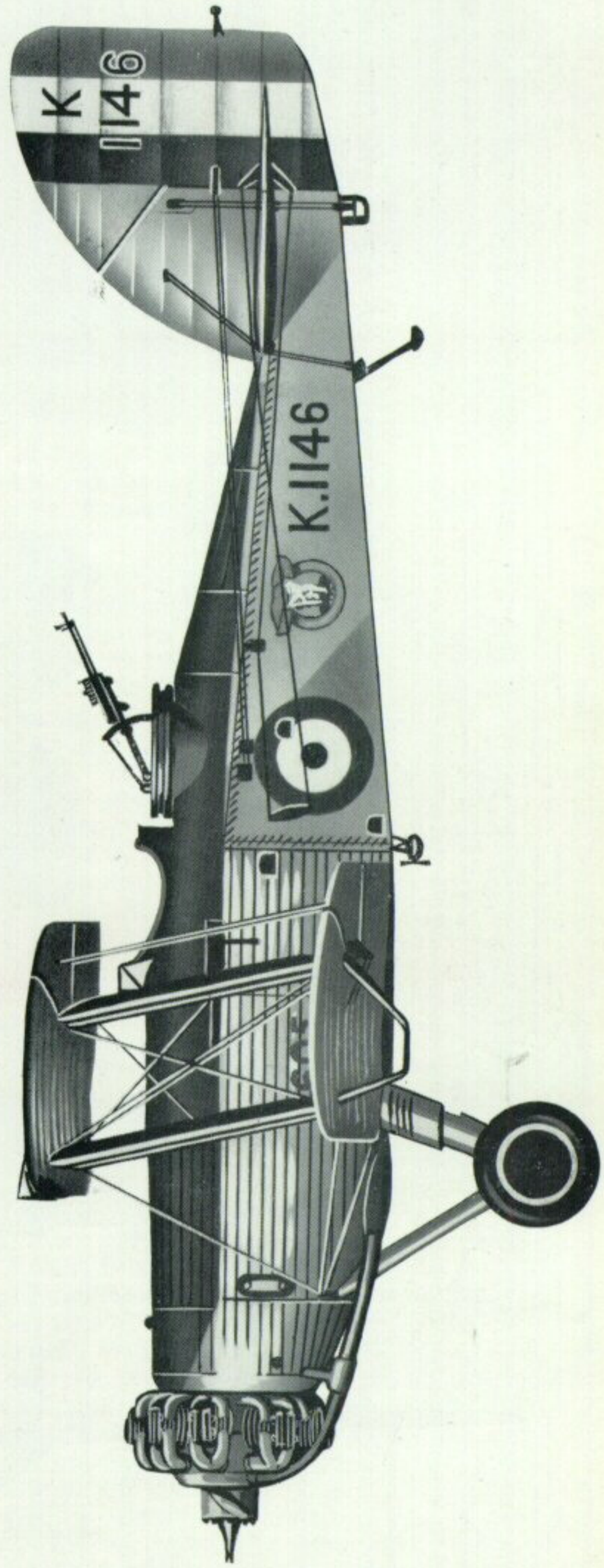
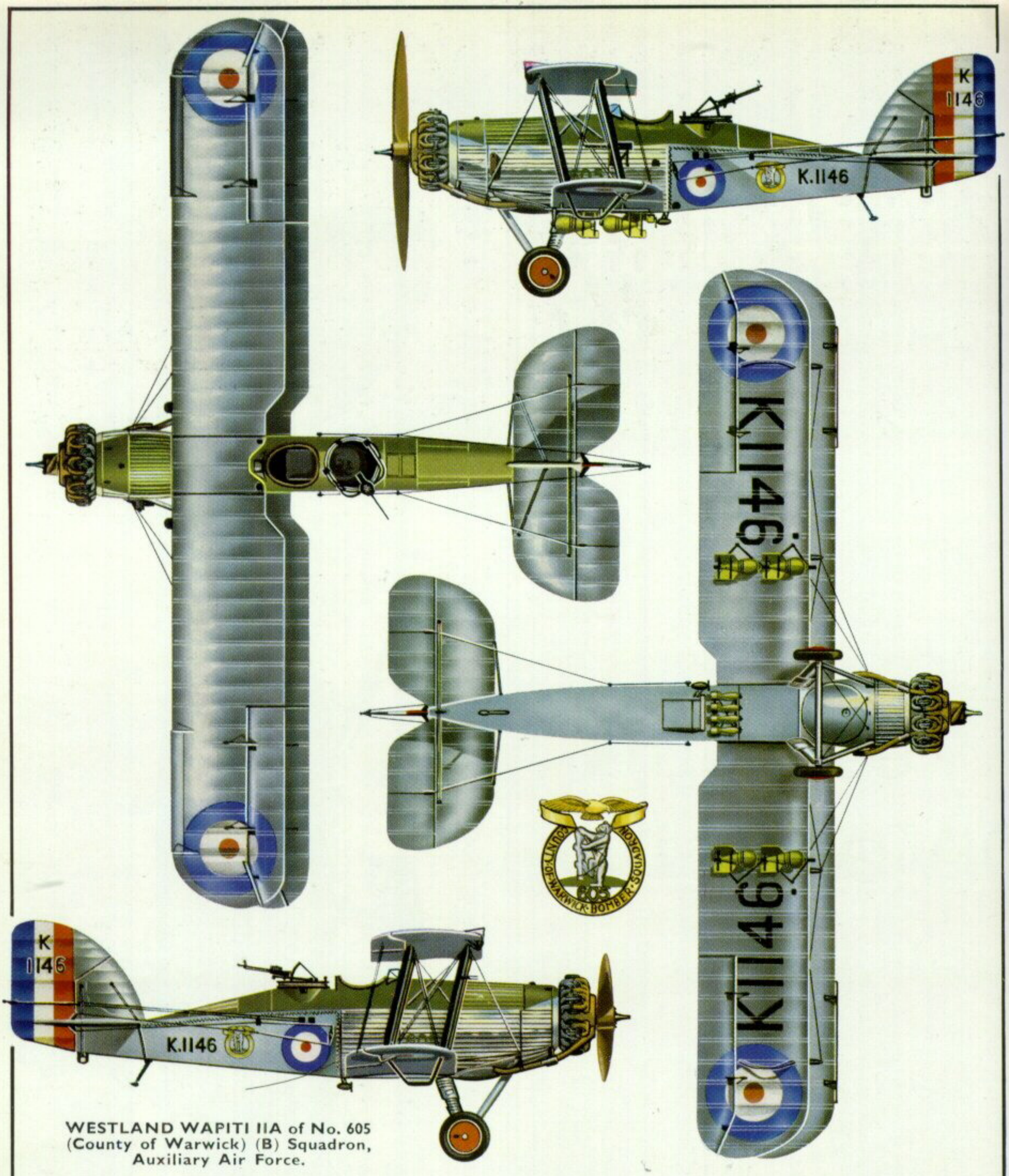
PROFILE PUBLICATIONS

The Westland Wapiti

NUMBER 32





WESTLAND WAPITI IIA of No. 605 (County of Warwick) (B) Squadron, Auxiliary Air Force.

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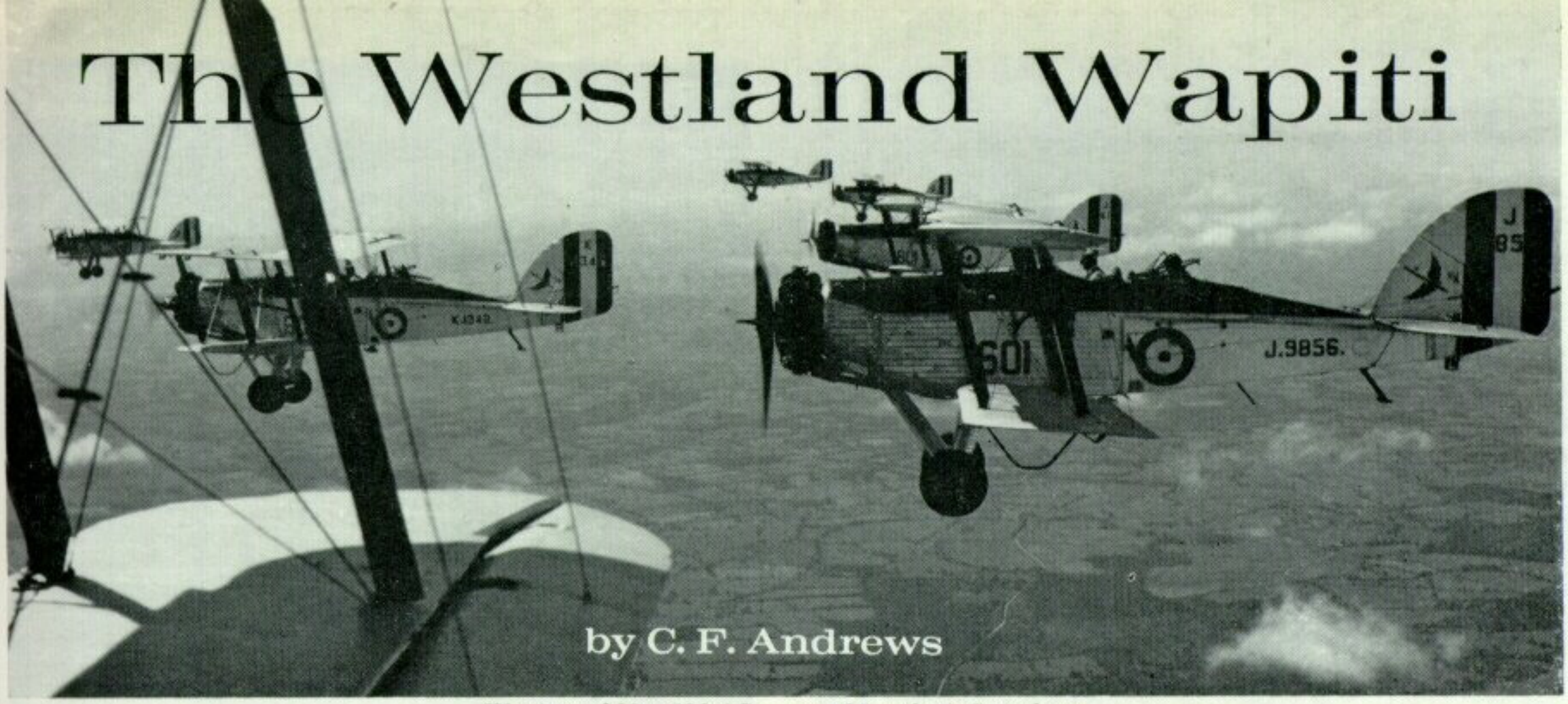
The Westland Wapiti



by C. F. Andrews

Wapitis of No. 601 (County of London) Squadron.

The general purpose military aeroplane grew out of the practice in W.W.I of utilising the same type of aircraft for different tactical duties. It was not uncommon for the same machine to be used for light bombing sorties, artillery observation patrols and other reconnaissance flights involving the use of wireless and photographic apparatus; for message carrying by direct ground signals or purely between airfield and airfield, or for individual personnel-carrying duties, including ambulance patients. After the war, these diverse requirements tended to be channelled into two distinct classes, the Army co-operation aeroplane, exemplified by the Bristol Fighter, and the general purpose type, the first of which was the D.H.9A.

Both these aircraft, known popularly and respectively as the "Brisfit" and "Nine-Ack", soldiered on bravely in the years following the war at a time when the Royal Air Force was reduced to a mere skeleton for want of Government funds. The time arrived at length when replacements became inevitable, despite the reluctance of the authorities to sanction financial outlay for new types on the one hand and of the R.A.F. to surrender their beloved "old timers" on the other. In the case of the D.H.9A this came in 1927 when a long-drawn-out competition was held at the Aircraft and Armament Experimental Establishment at Martlesham Heath to decide on a replacement. Eventually the contract was awarded to the Westland Wapiti, for reasons now stated.*

One of the requirements issued by the Air Ministry for the D.H.9A replacement was that it should be able to use as many parts of that aeroplane as possible. The parent firm for the D.H.9A had been the Westland Aircraft Works of Yeovil, Somerset, and it was quite natural, therefore, that this Company should enter an aeroplane for the competition closely resembling the D.H.9A, with so many components on hand from which to re-design and re-engineer a prototype.

The Westland Aircraft Works were founded in 1915 by Percy and Ernest Petter as a branch of Petters Limited, the West Country oil engine manufacturers, principally to construct aircraft for the Admiralty. The first contract was for Short seaplanes. Later contracts included the D.H.4 day bomber and its successor, the D.H.9. The job of converting the D.H.9 to take the more powerful and reliable Liberty engine in place of the Siddeley Puma was given to Westlands and the airframe was re-designed to larger dimensions. Westland drawings were then used by all other sub-contractors.

SPECIFICATION 26/27

From the requirement for a general purpose aeroplane in 1927 the specification 26/27 was drawn up and no fewer than eight entries emerged, not all of which were to official tender, for some entered as private ventures. They were the Armstrong Whitworth Atlas G.P., Bristol Beaver, Gloster Goral, de Havilland Stag, Fairey IIIF, Vickers Valiant, Vickers Vixen VI (Condor) and the Westland Wapiti. Supplementary preferences were expressed for all-metal airframes, then not mandatory but desirable, and for the Napier Lion liquid-cooled engine, large stocks of which were held in stores. None of the Lion-powered entries showed up very well in the competition.

One of the most favoured entries was the Vickers Valiant with an all-metal airframe and the same engine as the Wapiti, the 420 h.p. Bristol Jupiter VI air-cooled radial. However, the facility of the Wapiti in absorbing D.H.9A spares carried the day as large stocks of components for "Nine-Acks" were held on R.A.F. stations, particularly overseas. The financial saving in accepting the Wapiti was, therefore, attractive to the Air Ministry on its limited budget, and the all-round performance of the aeroplane clinched the deal.

Most of the early Westland designs were attributable to Robert Bruce, who had been closely connected with Admiralty aircraft design and had joined the Westland Aircraft Works as manager soon after its establishment. With him was Arthur Davenport who at that time was responsible as chief draughtsman for component and detail design and who later became chief designer. After the D.H.9A, Westlands undertook a second re-design of the original D.H.9 for a fleet-spotting type with pilot, gunner and a prone observer. This machine, known as the Westland Walrus, was of much greater span than the "Nine-Ack" and its ungainly appearance was symptomatic of the times, that of "make-do and mend". Bruce and Davenport thus had some experience of utilising 9A design techniques when the Wapiti came along, which was in effect the third re-design of the D.H.9, itself intended as a development of the D.H.4.

**The name Wapiti appears to have been adopted from the project design stage and conformed to Air Ministry nomenclature for the general purpose class as that of a mammal. It is another name for the North American elk.*

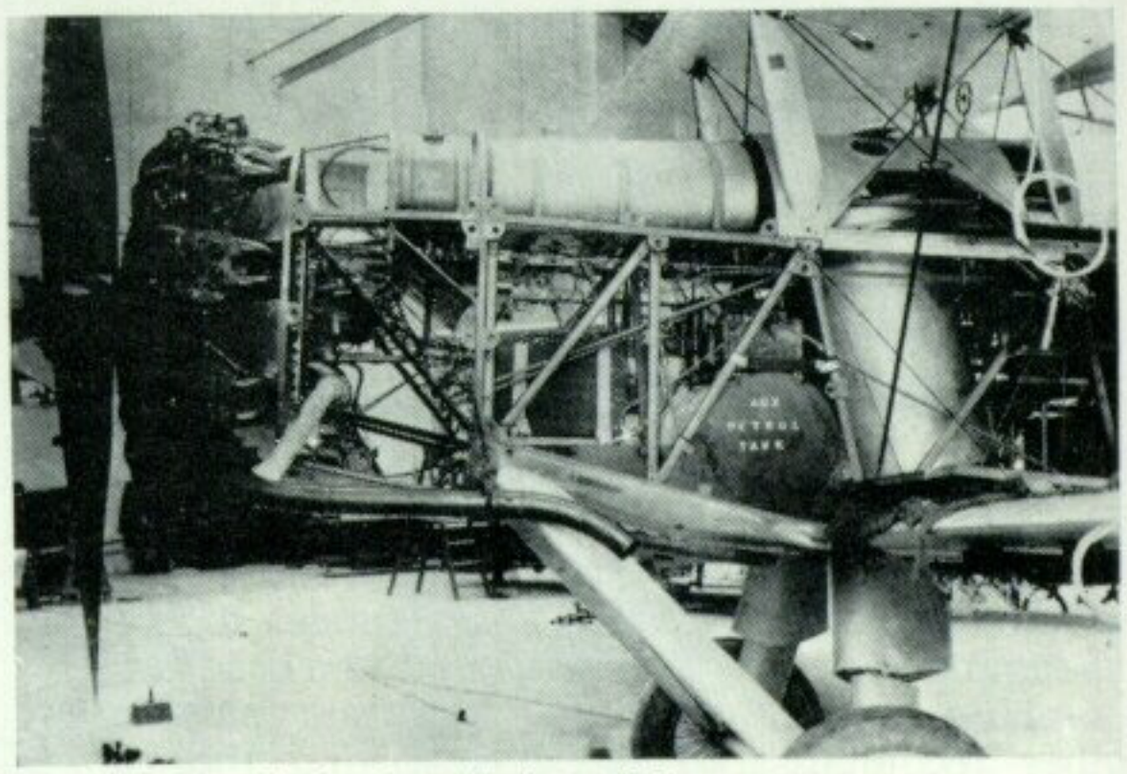
The prototype Wapiti *J8495*, had wings, tail surfaces, ailerons and interplane struts which were all D.H.9A components. The fuselage entailed considerable re-design to meet Service requirements and was a little wider and a foot deeper than that of the D.H.9A. The undercarriage was of an improved type originally schemed for that aeroplane by Westlands. A curious error only showed up on the first test flight of the Wapiti prototype, made early in 1927 by Major L. P. Openshaw. He reported that the rudder was ineffective. On investigation it was found that in the detail design of the fuselage a bay of a foot and a half had been omitted from the fuselage structure as compared with the length of the wind tunnel model, on which calculations of stability and control had been based. In addition, the increased side area of the new fuselage must have affected the problem to a certain extent.

FIN/RUDDER GROWTH

As the drawings were completed and production of the first 25 aircraft already planned no attempt was made to rectify the omission, so the fin and rudder of the Wapiti grew and grew as flight trials proceeded until from the original D.H.9A configuration emerged the familiar large shape so characteristic of all Wapitis. Not until a fourth re-design of the basic D.H. configuration was undertaken in the Wapiti Mark V was the correct tail moment arm incorporated by restoring the missing bay, so increasing the overall length.

The prototype Wapiti appeared in the R.A.F. Display of 1927 with a larger rudder, but the final form of the vertical surfaces was decided later when the production line was established. The first 25 aircraft were of wooden construction with the

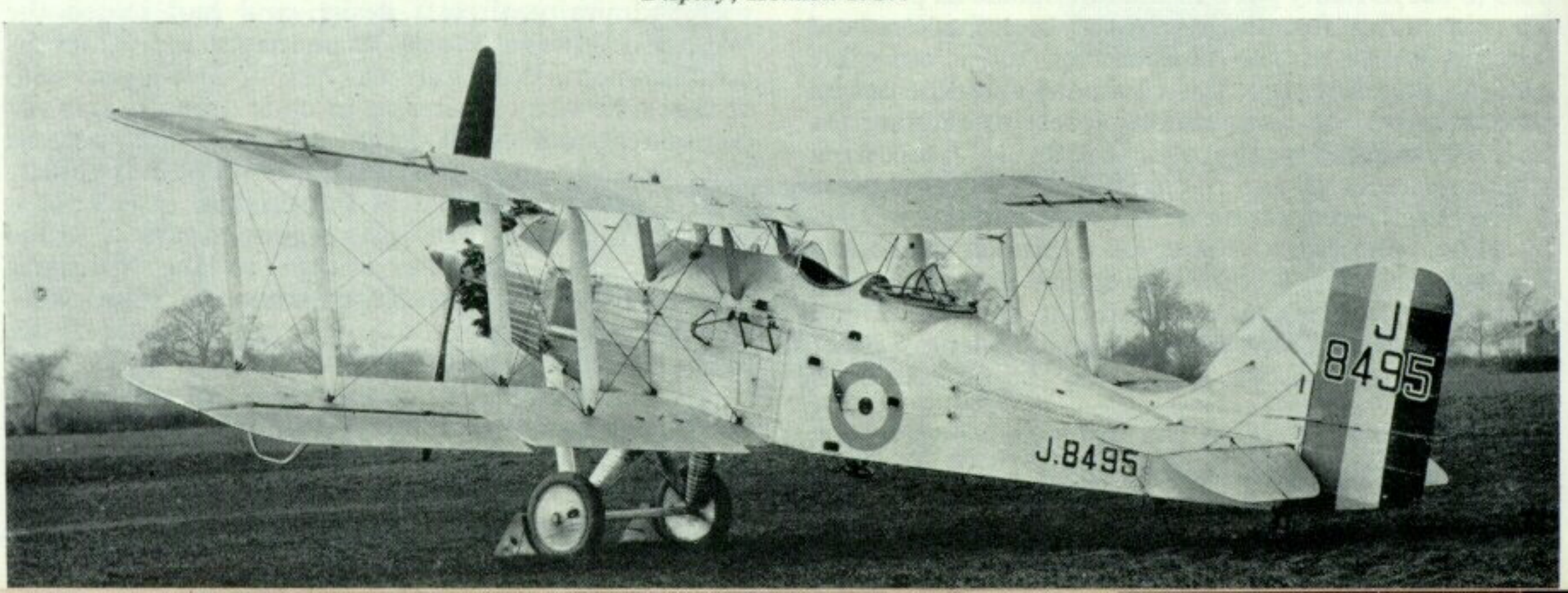
The prototype Wapiti with D.H.9A-type wings and tail.

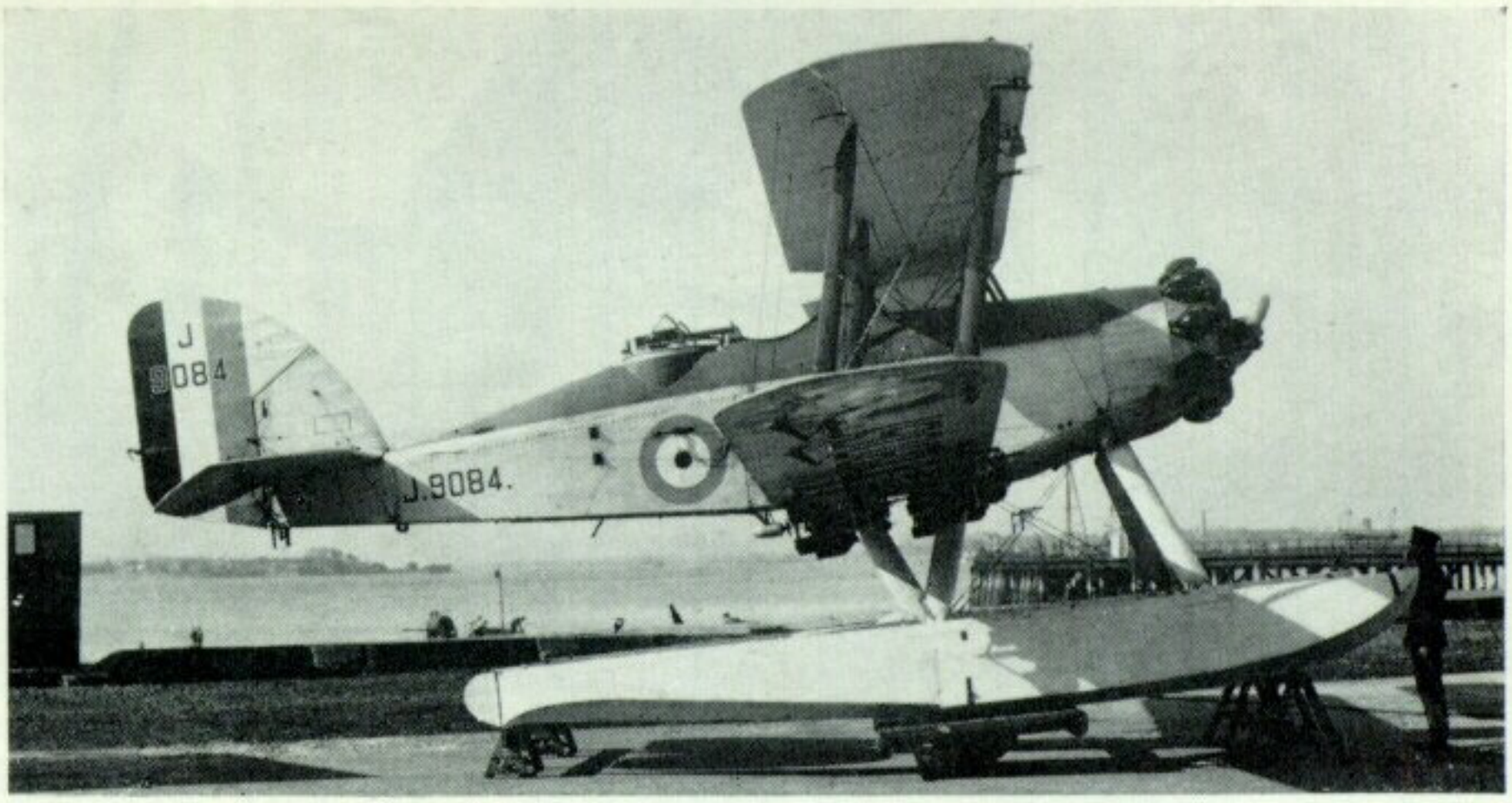


Engine installation of the prototype.

exception of the front fuselage which was a structure of square section duralumin tubes. Westlands were developing all-metal airframes at that time, like most other constructors, in response to the official edict that after a certain period no new aircraft orders would

Above: *Prototype Wapiti*, J8495, *with modified fin and rudder, photographed during general purpose aircraft competition at Martlesham Heath* (Photo: Air Ministry). Below: J8495 *with large fin and rudder and fin fillet, as perpared at Yeovil for the R.A.F. Display, Hendon 1927.*





Wapiti I on floats at the Felixstowe base of the Marine Experimental Establishment, circa *1928.*
(Photo: Air Ministry)

be placed unless they conformed to that requirement. As stated later this was achieved in the Wapiti when the Marks II and IIA arrived. Handley Page slots were fitted from the Mark IA onwards as standard and the Wapiti was in fact the first production aeroplane so equipped, at least as far as new Service aircraft were concerned.

The Wapiti was officially adopted in 1928 as the standard R.A.F. general purpose type. In its subsequent career many variants appeared, to satisfy varying requirements and duties and while the basic configuration of the aeroplane remained static, its internal construction and equipment underwent changes.

THE WAPITI MARK BY MARK

Wapiti I
This first production version of the Wapiti had a front fuselage of square-section duralumin tubes, wooden rear fuselage, wooden wings and centre-section, and a wooden tail unit—except the rudder, which was metal. The major portion of the front fuselage was covered with aluminium and there were differences in ailerons and undercarriage from the prototype. The large fin-and-rudder assembly finally used was characteristic of all later Wapitis.

Wapiti IA
This designation related to the Wapiti I as fitted with a geared Jupiter VIII engine in place of the direct-drive Jupiter VI and having increased wing stagger. The type was supplied to the Royal Australian Air Force.

Wapiti II
This was a development, to specification 16/31, of the composite construction Mark I. In this later Mark II airframe, the rear fuselage members were of duralumin tube similar to those in the front fuselage and the wings were metallised but closely corresponding in general detail to the wooden members of the D.H.9A. The Wapiti Mark II, powered with the geared Jupiter VIII, may be regarded as an interim sub-type preceding the standard Mark IIA and according to Air Ministry records, only ten were made.

Wapiti IIA
The all-metal version of the Wapiti, first fitted with a geared Jupiter VIII engine and widely used in the R.A.F. by Regular and Auxiliary Squadrons. Front and rear fuselage were of square-section duralumin tube, and the mainplanes were designed and manufactured by the Steel Wing Company, a subsidiary of Gloster Aircraft Ltd. Towards the end of the Wapiti contracts the metal wings and interplane struts were being made by Westland, to the Steel Wing Company's designs. The ailerons, centre-section, tailplane, elevator, fin and rudder were mainly of duralumin, the ribs being dural pressings.

Extensively used by the R.A.F. overseas, the Wapiti IIA was employed both as a general purpose aircraft and—to a lesser extent—on Army co-operation duties. As used by the R.A.F. it had a Jupiter VIII, VIIIF, IXF or XFA, but a Jupiter XIF was installed experimentally. With the Jupiter VIII, and flying at the normal gross weight of 4,900 lb. the maximum speed was 140 m.p.h. at 5,000 ft. Normal range was 530 miles, but this could be increased to 560 miles by fitting an auxiliary tank beneath the fuselage. Landing speed was 58 m.p.h. and stalling speed (engine on) a

Wapiti IA for the Royal Australian Air Force with Jupiter VIII and "split axle" undercarriage.

Australian Wapiti on skis as equipped for Antarctic exploration.

Wapiti IIA fitted with long-range underwing tanks and Jupiter IXF with distinctive exhaust collector ring. The latter was standardised on R.A.F. Wapitis of later vintage.

mere 42 m.p.h. Armament, as on earlier Marks, was a synchronised Vickers gun, mounted outside the fuselage to port, and a Lewis gun on a Scarff ring. Provision was made under the wings for bomb loads up to 590 lb. A special undercarriage, known as the Army co-operation type, floats or skis could be fitted in place of the normal cross-axle undercarriage, as standardised on R.A.F. production machines. Goodyear "air-wheels" were fitted to a number of Wapiti IIAs in R.A.F. service overseas.

Wapiti III

This Mark number was applied to the South African Wapitis, four of which were built at Yeovil in 1932 with the Jupiter IXF engine and 27 by the S.A.A.F. workshops at Roberts Heights, Pretoria, with the Jaguar VI engine. One of the S.A.A.F. Wapitis was equipped with an enclosed cabin and carried the abbreviated civil registration "615" (PFA-*J615* in full). It was used by the South African Civil Air Board as an executive transport and was powered with a Jupiter IXF.

Wapiti IV

A further improved Wapiti was projected by restoring the missing fuselage bay referred to in connection with the prototype. This Mark was a submission for Spain and was to be powered with the 650-h.p. Hispano-Suiza 12N*bis* engine. It had a rakish nose with a Fairey-Reed metal propeller and spinner. As far as can be ascertained it was not completed in this form (see Mark VIII) but from the project the Mark V was developed.

Wapiti V

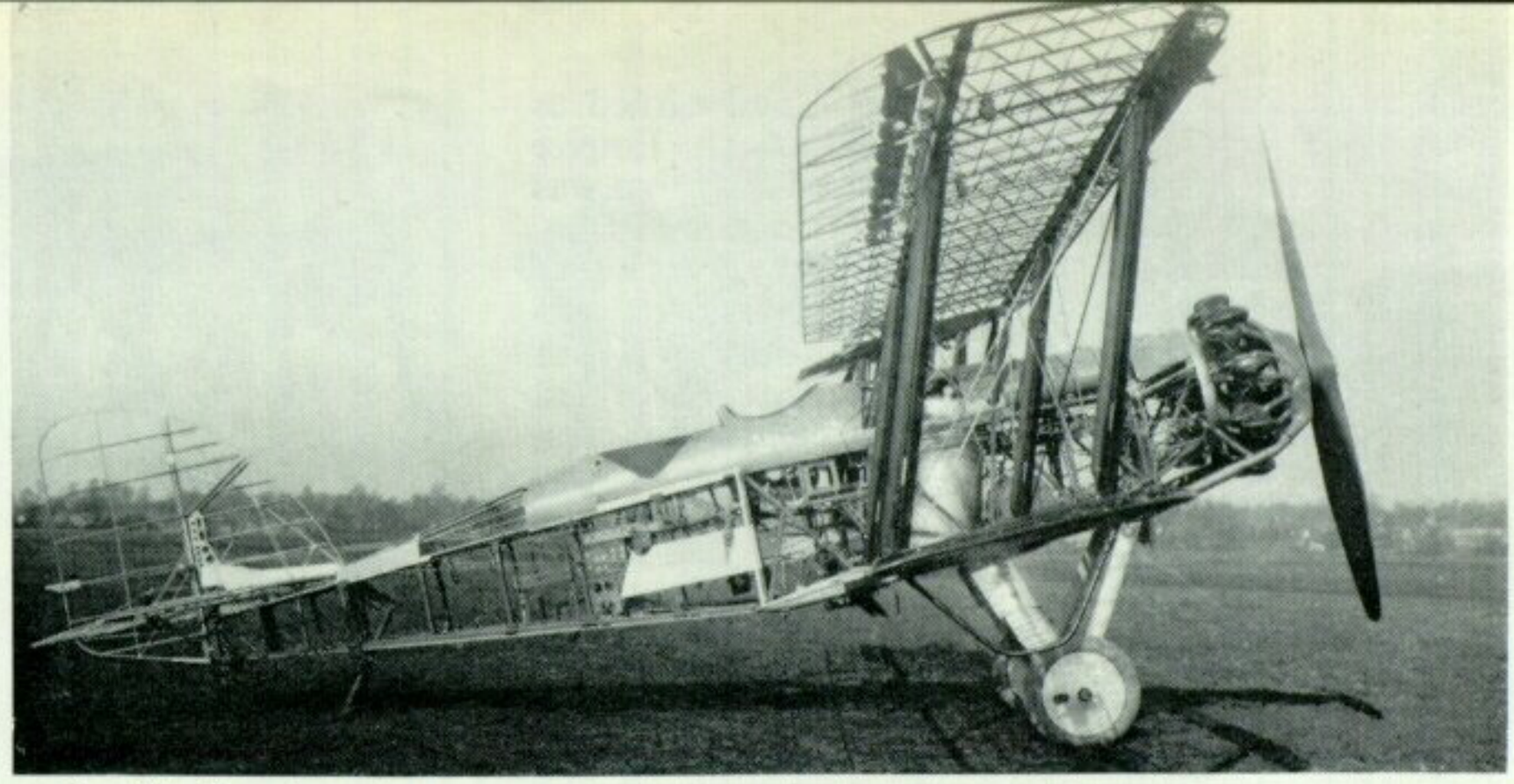
In one form the Wapiti V had an Armstrong Siddeley Panther engine, a long fuselage as on the Mark IV and a strengthened cross-axle undercarriage, with brakes. Early in 1931 as G-AAWA it was demonstrated by Mr. H. J. Penrose, Westland's chief test pilot, in Argentina and Uruguay in connection with the British Empire Exhibition at Buenos Aires. The same designation was applied to the long-fuselage Wapiti supplied to the Air Ministry and adapted for general purpose and Army co-operation duties. The lengthened fuselage gave the necessary wide c.g. travel to meet varying conditions of loading and conferred a greater measure of fore-and-aft control near the ground. Other innovations were a rudder of deeper chord, a strengthened undercarriage, with wheel brakes, and a tailwheel. This Wapiti was exhibited in the "New and Experimental" park at the R.A.F. Display of 1930, and for a period was fitted with the Bristol Draco direct-injection engine and an experimental four-blade magnesium-alloy airscrew. The Mark V was built in small numbers.

Wapiti VI

In 1932 a dual control trainer to specification 17/31 was built in for the Air Ministry. It was powered with the Jupiter IXF and carried no armament.

Wapiti VI trainer as used by the Royal Air Force.

Uncovered Wapiti IIA disclosing all-metal construction.



Wapiti VII
This was the original designation of the P.V.6, or Wallace, later described.

Wapiti VIII
In 1931, the last variant of the Wapiti appeared as the Mark VIII. The completed Mark IV, fitted with a Jaguar VI, was demonstrated to the Central Chinese Government, who subsequently bought four of the improved type, powered with the Armstrong Siddeley Panther IIA and equipped with the split-axle undercarriage. These were designated as Mark VIII Wapitis.

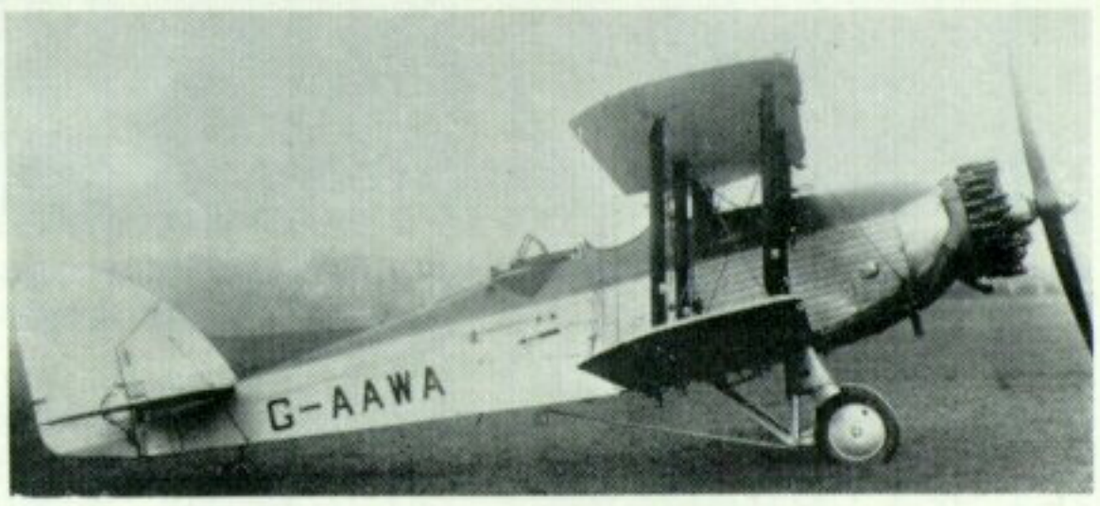
SPECIAL WAPITIS

Wapiti (Bristol Phoenix)
A Wapiti I airframe, first adapted as a flying test bed for the Bristol Phoenix I compressed-ignition air-cooled engine, was later fitted with a moderately supercharged Phoenix II. With this engine, and piloted by Harald Penrose, it attained a height of 28,000 ft.—a record for a diesel-engined aircraft. At ceiling, Mr. Penrose reported, there was little sign of failure to burn the fuel properly. Special precautions had to be taken to avoid excessive cooling of the oil and the tank was covered with felt. Mr. Penrose himself used oxygen gear with electric heating to prevent moisture in the oxygen from freezing at the reducing valve.

Wapiti (Bristol Pegasus)
The records of the engine division of the Bristol Aeroplane Company show that Wapiti prototype *J8495* was used as a test-bed for the Pegasus I.

Wapiti (for H.R.H. The Prince of Wales)
A Jupiter VI-engined Wapiti I, resembling in appearance the Wapiti VI (T), was used by the then Prince of Wales as his personal aircraft. A similar machine was built to act as escort.

Wapiti (Flight Refuelling)
A standard Wapiti IIA, *K1142*, was equipped for the early experiments with flight refuelling, as a receiver



The first Wapiti V, with civil registration and A-S Panther engine, as demonstrated by Mr. Harald Penrose for the Westland Aircraft Company in South America in 1931.

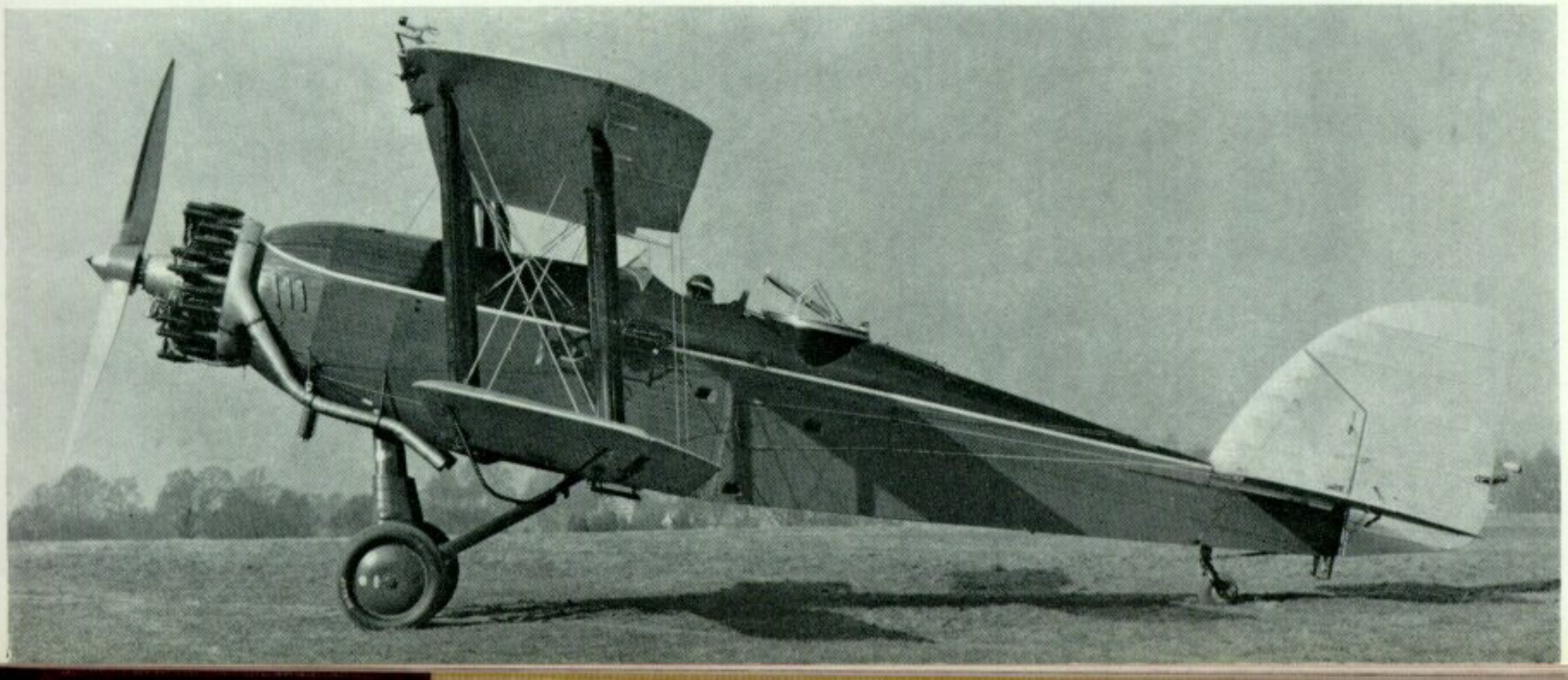
aircraft, in official trials with that system of extending the range, the tanker aircraft were the Virginia, and similar types. It operated mainly from the R.A.E.

Wapiti VII Conversion (P.V.6)
Early in 1932 Westland were able to annouce a new, private-venture, general purpose aircraft, developed from the Wapiti and known at the time as the P.V.6 but later named the Wallace. It was a conversion of the original Panther-engined Wapiti V which Mr. Penrose had demonstrated in South America during 1931, and the engine was one of the earliest of the Bristol Pegasus moderately supercharged series. Later this same aeroplane was converted for the Houston Mount Everest expedition of 1932–33.

THE WAPITI IN SERVICE

In service with the R.A.F. and other air forces, the Wapiti faithfully followed the pattern pioneered by

The sleek Wapiti VIII as supplied to the Central Chinese Government in 1931 with Panther IIA engine. Note tailwheel and exhaust collector ring.



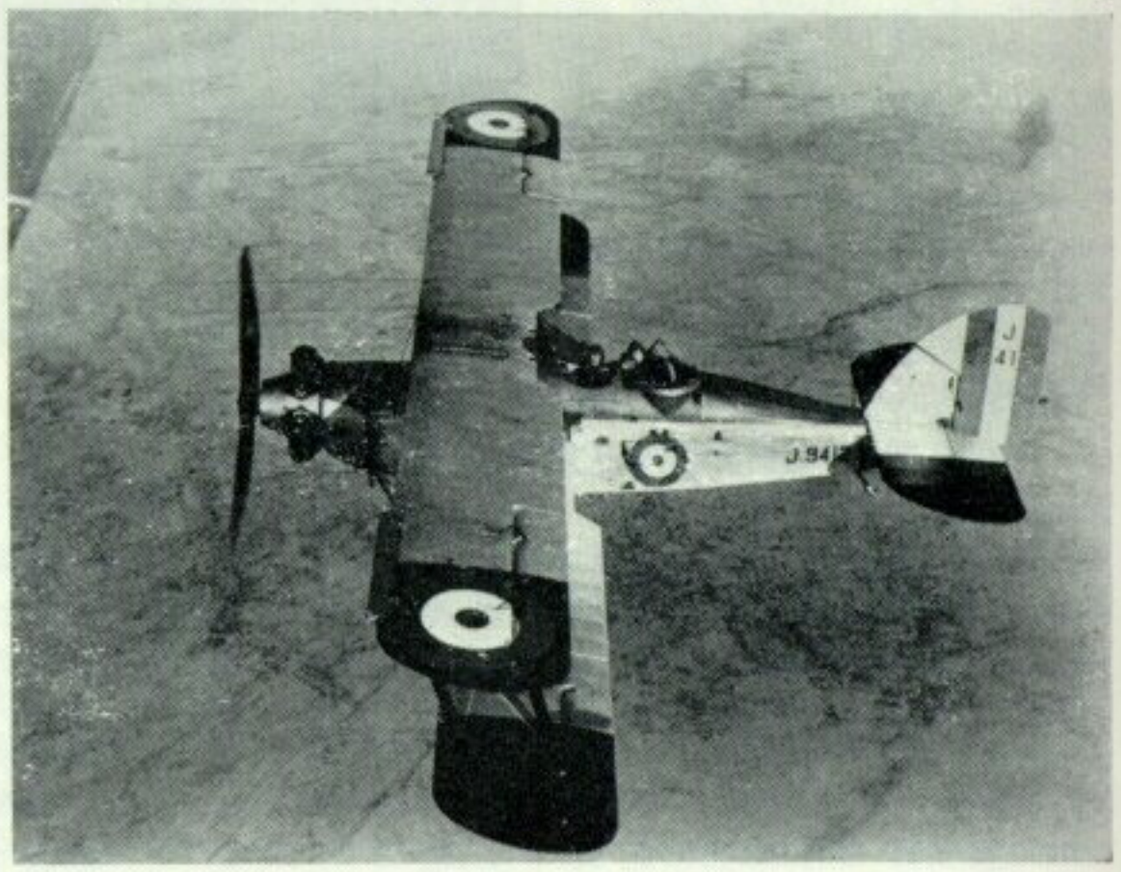
its famous forebear, the "Nine-Ack" and earned as undying a tradition, very largely as an Empire "policeman". There was no operational duty that was beyond it and whether over the desert wastes of Iraq, in the mountains of the North-West Frontier of India or the burning sands of Arabia, over the outback of Australia or the sub-tropical bush of South Africa, the Wapiti served with distinction, decorated at times with all sorts of official and unofficial excrescensies (including a spare wheel) as an all-purpose transport, looking like the proverbial airborne Christmas tree thus following D.H.9A tradition.

Many variants of the Wapiti and its development, the Wallace, were produced, as would be expected of a general purpose aeroplane that was in active service from 1928 to at least the outbreak of W.W.II in 1939, when No. 27 Squadron of the R.A.F. in India received Bristol Blenheims as replacements. Previously the Middle East Squadrons had been re-equipped with Vickers Vincents in place of Wapitis. There was for example an Army co-operation version, a seaplane version with floats by Short Bros. of Rochester, an Arctic Wapiti with a ski undercarriage, a long-range version for desert operation, the target-towing variant and the two-seat trainer.

The first R.A.F. Squadron to receive the Wapiti was No. 84 at Shaibah, Iraq in 1928, and re-equipping of Nos. 30 and 55 there followed. In India it was used by Nos. 5, 11, 20, 27, 28, 31 and 60 Squadrons. It entered service with the Auxiliary Air Force at home with No. 600 Squadron at Hendon in October 1929 and later equipped A.A.F. Squadrons Nos. 501 (Filton), 502 (Aldergrove), 601 (Hendon), 602 (Renfrew and Abbotsinch), 603 (Turnhouse), 604 (Hendon), 605 (Castle Bromwich), 607 (Usworth) and 608 (Thornaby). Impressive demonstrations of air drill were given by Wapitis of the Auxiliary Air Force in the R.A.F. Displays at Hendon in 1931, 1932 and 1933.

During the historic air evacuation of civilians from Kabul, Afghanistan at the end of 1929, a Wapiti made the first flight from Peshawar on the North-West Frontier to Kabul through the hazardous Khyber Pass and Wapitis of No. 20 Squadron escorted Vickers Victoria transports of No. 70 Squadron in the same operation. In January 1933 four Wapitis of No. 28 Squadron flew 6,200 miles from Ambala in the Punjab to Singapore and return.

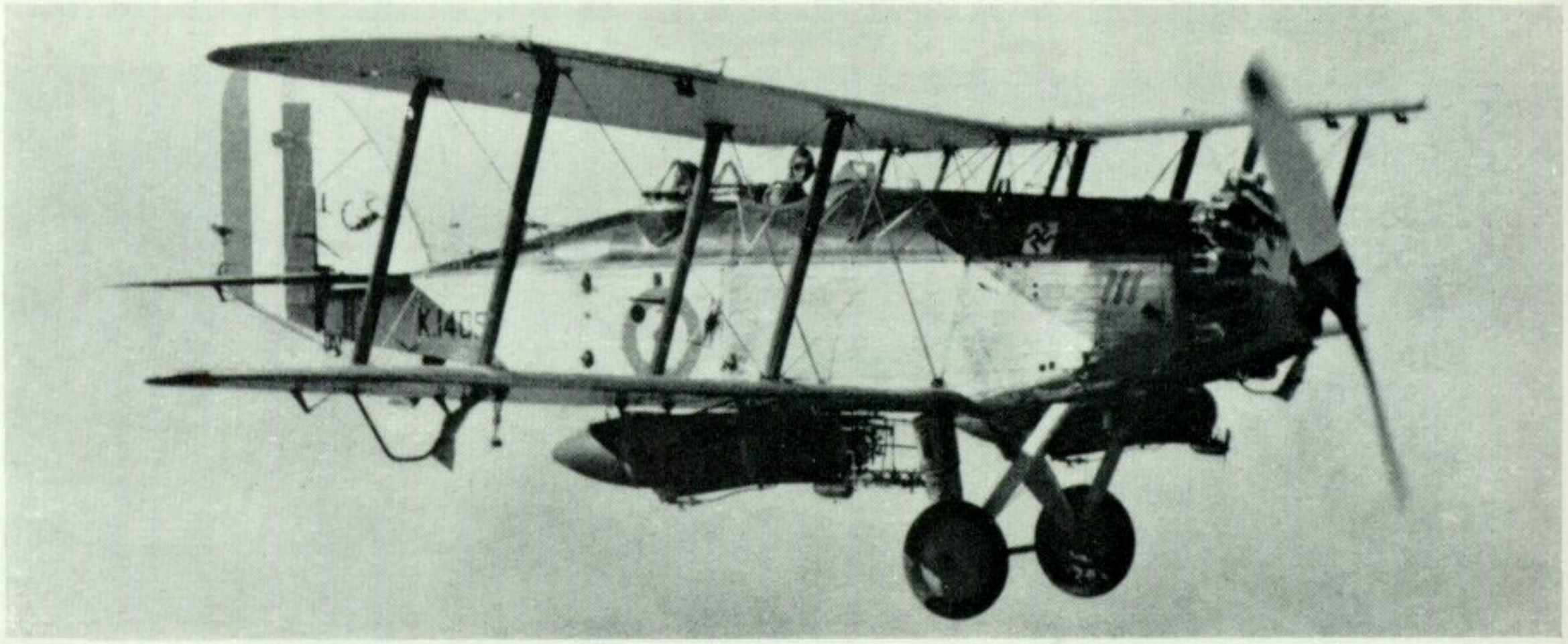
A Wapiti of No. 30 Squadron flying over the desert in Iraq.

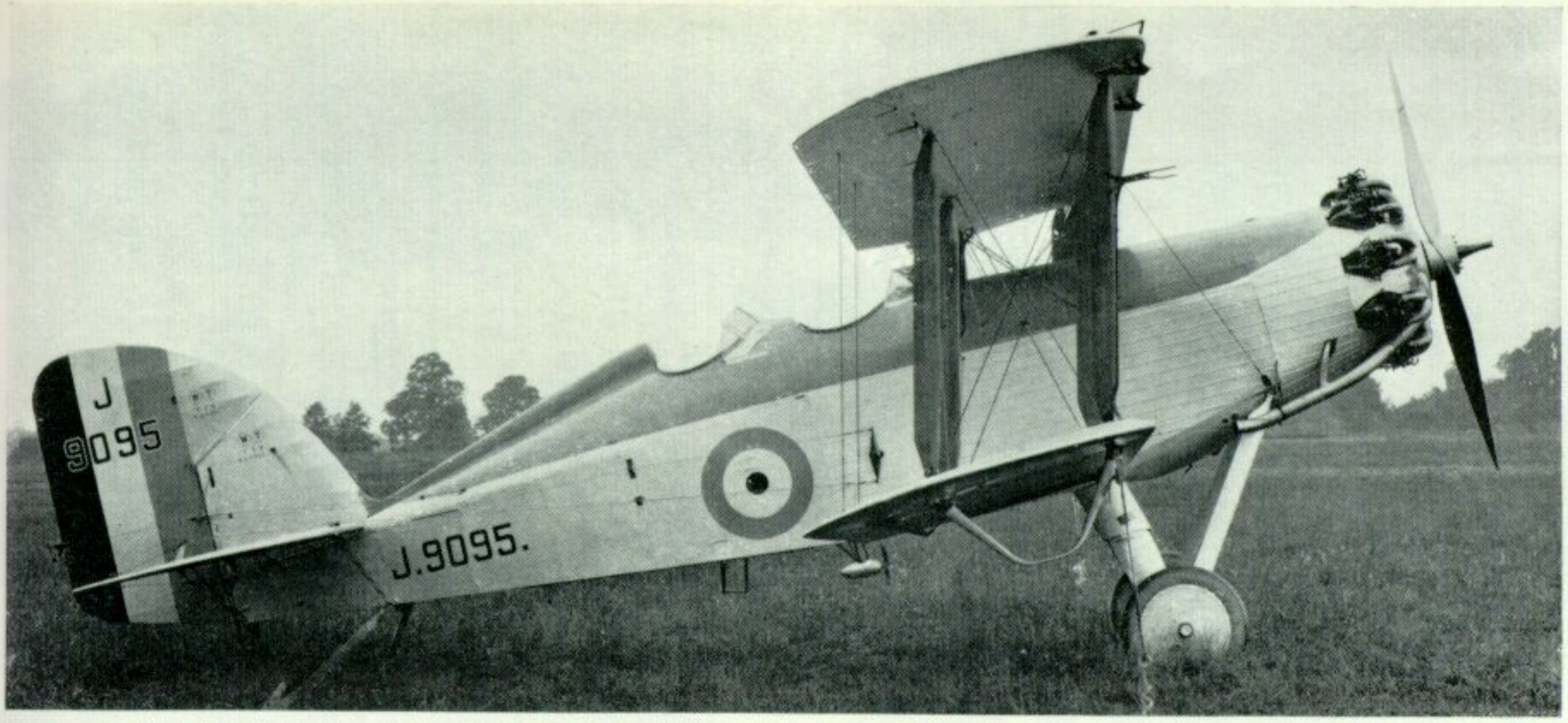


Sister aircraft with red wing and tailplane tips. Paint was aid to locate aircraft grounded in desert in the event of a forced landing. This practice was first introduced on D.H.9As, which the Wapiti replaced. (R.A.F. official photos)

In 1935 the Royal Canadian Air Force purchased 24 Wapitis from the R.A.F. and equipped No. 3 Squadron, R.C.A.F. at Trenton in 1937. In 1938 the Squadron flew its Wapitis from Ottawa to Calgary and later in 1939, to Halifax. Re-designated No. 10 (Bomber Reconnaissance) this Squadron used its Wapitis as an air strike force and as trainers until April 1940 when they were replaced by Digbys. In July, 1940 the remaining Wapitis were sent to the Technical Training School at St. Thomas. Although the "payload" of the Wapiti was supposed to be 1,000 lb. the most that No. 10 R.C.A.F. could carry on its aging Wapitis was 500 lb. without an excessively long take-off run. The

The last Wapiti of No. 84 Squadron flying between Shaibah and Hinaidi. Long-range tanks were fitted and picketing gear installed under the centre fuselage. (R.A.F. official photo)





The special Wapiti IA for the Prince of Wales (now Duke of Windsor) with V.I.P. rear cockpit, metal rear fuselage panels and Fairey-Reed metal propeller.

first of the Wapitis for the Royal Australian Air Force was delivered in February, 1929 but the 27 South African Air Force Wapitis were built in Australia under licence. In 1931 the Hedjaz created an air force of four Wapitis while the Central Government of China also acquired four about the same time.

Westlands built 565 Wapitis in all the variants including some completed as Wallaces. Many Wapitis were also converted to Wallace standard at a later date. So the basic de Havilland conception for a single-engined day bomber, the D.H.4 of 1916, survived through its re-designs up to and including at least part of W.W.II largely through the ingenuity of the Westland designers and engineers in the successive stages of development outlined in this *Profile*.

SPECIFICATION OF WAPITI MARK IIA (with Bristol Jupiter VIIIF and XFA and Armstrong Siddeley Jaguar and Panther geared engines)

Type: Two-seat general purpose landplane or seaplane.

Wings: Equal-wing, staggered, two-bay biplane. Top centre-section carried above fuselage on four cross-braced struts. Two pairs of steel interplane struts on either side of fuselage. Wing structure of metal, covered with fabric. "Frise" type ailerons fitted to all four planes. Handley Page automatic slots fitted as standard.

Fuselage: Rectangular section, with domed top. Of all-metal construction. Fuselage in three sections, the front section including the engine-plate and first bay, the central section running from the first bay to aft of the pilot's cockpit, and the rear section from the pilot's cockpit to the rudder-post. These sections were built of square tube, either of duralumin or steel, steel being used in the most highly stressed positions. The first two sections were covered with aluminium cowling, with longitudinal corrugations to give stiffness, and the rear section covered with fabric.

Tail Unit: Monoplane type. Metal-framed, covered with fabric. Balanced rudder. Adjustable tailplane.

Undercarriage: Straight or split-axle type. Rear legs incorporate Westland patent oleo-pneumatic shock-absorbing units. Twin, long, single-step, duralumin floats, or skis may be substituted for the wheel undercarriage. Army co-operation aircraft fitted with swivelling and self-centring tailwheel.

Powerplant: One Bristol "Jupiter" VIII.F, IX.F or X.FA, Armstrong Siddeley "Jaguar S" or "Panther II" partially or fully supercharged radial air-cooled engine. Fuel contained in two tanks, the main tank holding 68 gallons (308 litres) and gravity tank 40 gallons (182 litres), both tanks being in the fuselage. An auxiliary tank of 23 gallons (104·5 litres) capacity may be installed for long-distance flying, and 15 gallons (68·25 litres) of oil can be carried for long-range work, all in the fuselage.

Wapiti V with Bristol Draco direct injection engine and Bristol magnesium four-blade propeller. The engine down-draught air intake is located behind top cylinders.

Wapiti with Bristol Phoenix diesel engine and Townend drag-reducing cowling ring as used for high altitude research.

Accommodation: Pilot's cockpit behind the trailing-edge of top plane, with observer's cockpit immediately behind. Pilot's cockpit fitted with a special rudder bias-gear taking torque load off pilot's feet on rudder-bar. Armament consists of one Vickers gun, on left side of fuselage, firing forward through airscrew, and one Lewis gun, on Scarff mounting, on rear cockpit. Prone bombing position for observer, complete with instruments. Bomb loading up to 580 lb. can be carried. Photographic camera in bay behind rear cockpit. Wireless apparatus in deck fairing, behind observer. Oxygen equipment for crew of two carried. Additional equipment, including extra petrol tank, spare wheel and tail-skid, fitter's tool box, engine spares, normal and emergency rations, water, bedding, personal equipment, etc., may be stowed inside the machine.

Dimensions: Span 46 ft. 5 in. (14·1 m.). Length (landplane—short fuselage) 32 ft. 6 in. (9·9 m.). Length (landplane—long fuselage) 34 ft. 2 in. (10·42 m.). Length (seaplane—short fuselage) 33 ft 10¾ in. (10·3 m.). Length (seaplane—long fuselage) 35 ft. 8¾ in. (10·9 m.). Height (landplane) 11 ft. 10 in. (3·6 m). Wing area 488 sq. ft. (45·4 sq. m.).

LANDPLANE

Weights: ("Jupiter" VIII.F geared engine).—Weight empty 3,810 lb. (1,440 kg.). Disposable load 2,220 lb. (1,010 kg.). Weight loaded 5,400 lb. (2,450 kg.).

Weights: ("Jupiter" X.FA geared and supercharged engine).—Weight empty 3,320 lb. (1,507 kg.). Disposable load 2,080 lb. (943 kg.). Weight loaded 5,400 lb. (2,450 kg.).

Weights: ("Jaguar" geared engine).—Weight empty 3,160 lb. (1,433 kg.). Disposable load 2,240 lb. (1,017 kg.). Weight loaded 5,400 lb. (2,450 kg.).

Weights: ("Panther" geared and supercharged engine).—Weight empty 3,200 lb. (1,450 kg.). Disposable load 2,200 lb. (1,000 kg.). Weight loaded 5,400 lb. (2,450 kg.).

Weights: ("Panther" geared and supercharged engine).—Weight empty 3,340 lb. (1,515 kg.). Disposable load 2,060 lb. (935 kg.). Weight loaded 5,400 lb. (2,450 kg.).

SEAPLANE

Weights: ("Jupiter" VIII.F geared engine). Weight empty 3,630 lb. (1,645 kg.). Disposable load 1,770 lb. (805 kg.). Weight loaded 5,400 lb. (2,450 kg.).

Weights: ("Jupiter" X.FA and "Panther" geared and supercharged engines).—Weight empty 3,720 lb. (1,685 kg.). Disposable load 2,130 lb. (965 kg.). Weight loaded 5,850 lb. (2,720 kg.).

Weights: ("Jaguar" geared engine).—Weight empty 3,610 lb. (1,635 kg.). Disposable load 1,790 lb. (815 kg.). Weight loaded 5,400 lb. (2,450 kg.).

Weights: ("Panther" geared engine).—Weight empty 3,650 lb. (1,655 kg.). Disposable load 1,750 lb. (795 kg.). Weight loaded 5,400 lb. (2,450 kg.).

LANDPLANE

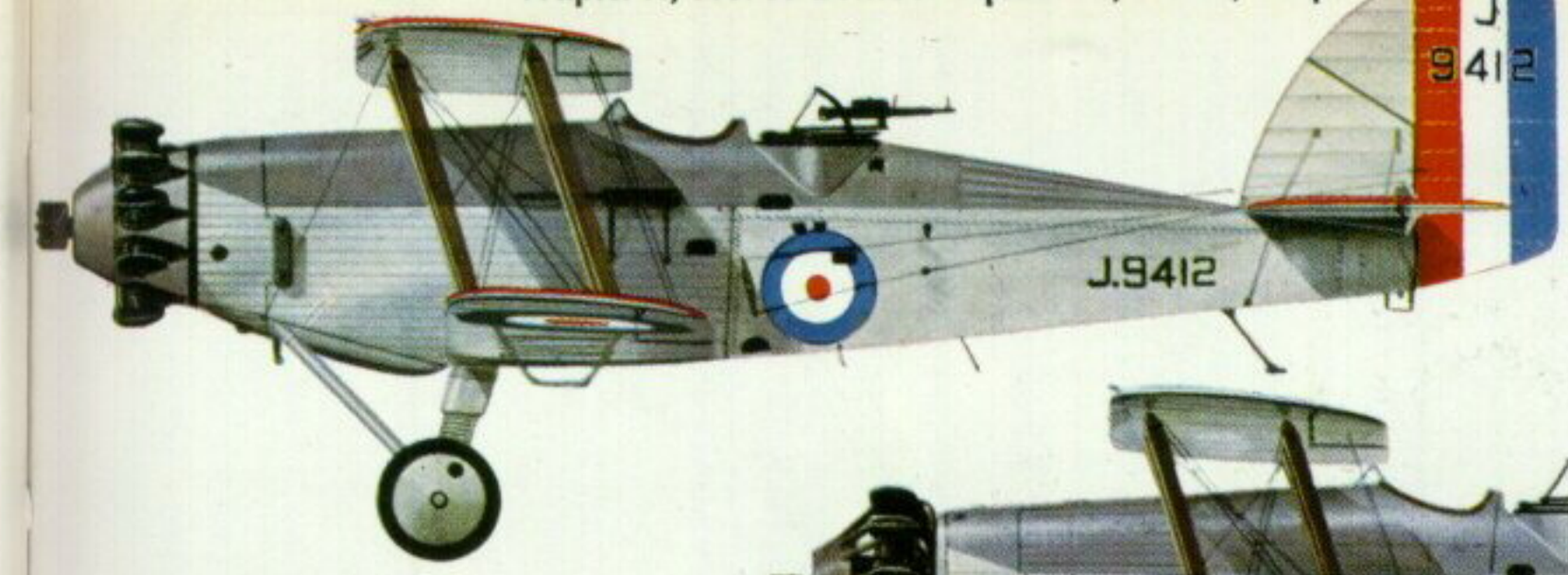
Performance: (460/480 h.p. "Jupiter" VIII.F geared engine).—Speed at 5,000 ft. (1,525 m.) 140 m.p.h. (225 km.h.). Speed at 10,000 ft. (3,050 m.) 136 m.p.h. (218 km.h.). Speed at 15,000 ft. (4,575 m.) 129 m.p.h. (207 km.h.). Stalling speed (engine off) 56 m.p.h. (90 km.h.). Climb to 5,000 ft. (1,525 m.) 4·3 mins. Climb to 10,000 ft. (3,050 m.) 9·5 mins. Climb to 15,000 ft. (4,575 m.) 17·5 mins. Service ceiling 20,600 ft. (6,300 m.). Range (normal) 530 miles. Range (with extra tank) 660 miles (1,060 m.).

Performance: (510/573 h.p. "Jupiter" X.FA. geared and supercharged engine).—Speed at 12,000 ft. (3,650 m.) 160 m.p.h. (258 km.h.). Speed at 15,000 ft. (4,575 m.) 159 m.p.h. (256 km.h.). Speed at 20,000 ft. (6,100 m.) 155 m.p.h. (248 km.h.). Landing speed 58 m.p.h. (93 km.h.). Initial rate of climb 1,210 ft./min. (370 m./min.). Climb to 10,000 ft. (3,050 m.) 8·2 mins. Climb to 15,000 ft. (4,575 m.) 12·6 mins. Climb to 20,000 ft. (6,100 m.) 19·3 mins. Service ceiling 27,000 ft. (8,250 m.). Range at cruising speed (normal) 310 miles (500 km.). Range (with extra tank) 560 miles (900 km.).

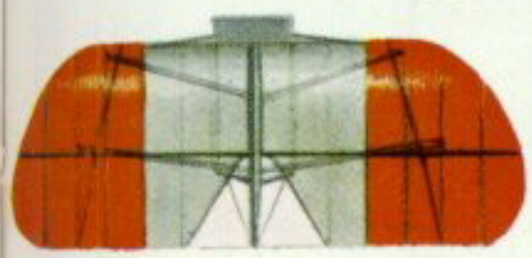
Performance: (486/512 h.p. "Jaguar" geared engine).—Speed at ground level 136 m.p.h. (218 km.h.). Speed at 5,000 ft. (1,525 m.)

No. 605 (County of Warwick) Auxiliary Squadron in "Vee" formation.

Wapiti II, No. 30 Bomber Squadron, Mosul, Iraq.



Red wing and tailplane tips for easy location of grounded a/c in the desert.



Red wing and tailplane tips for easy location of grounded a/c in the desert.

Wapiti IIa, No. 60 Bomber Squadron, North West Frontier, India.

Wapiti IIa, No. 501 'County of Gloucester' Bomber Squadron, Filton, U.K. Squadron Commander's Aircraft.

◀

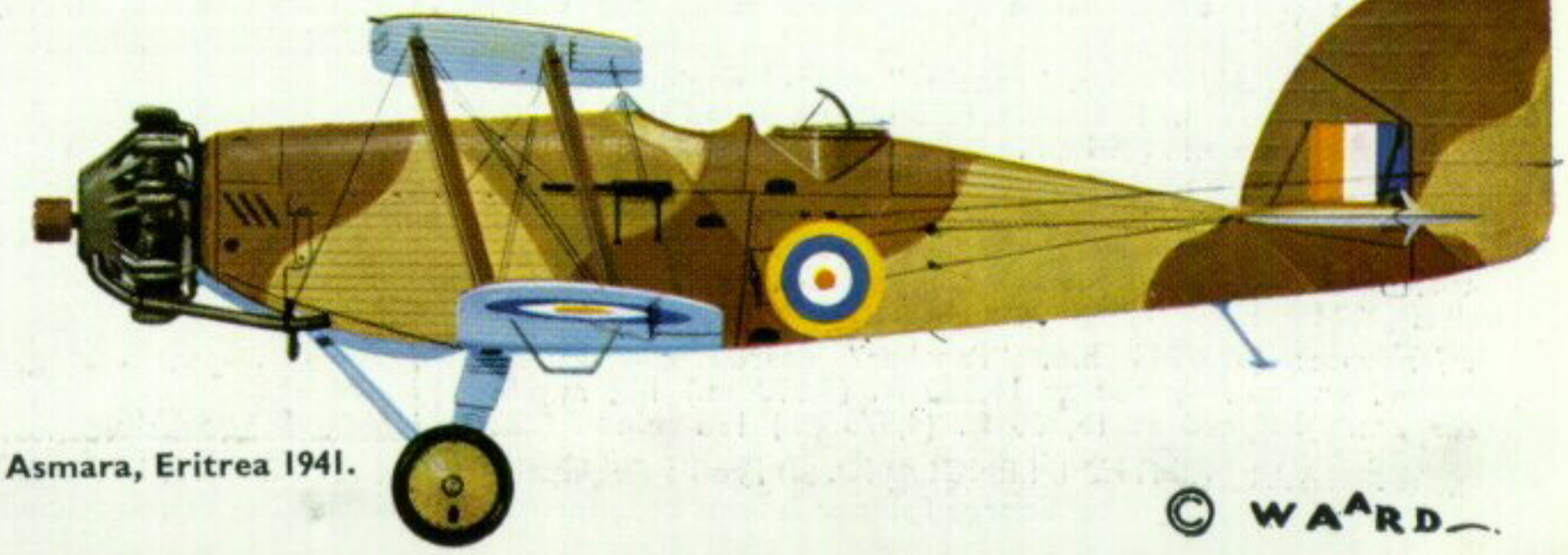
Squadron Leader's Pennant.

No. 600 Squadron.

Wapiti IIa, No. 600 'City of London' Bomber Squadron, Hendon, U.K. Squadron Commander's Aircraft.

Wapiti III fitted with a cabin for executive transport of the S.A. Civil Air Board, South African Air Force.

Wapiti III, No. 4 'City of Durban' Bomber/Fighter Squad. on. Operational on the 4th September 1939 on inshore coastal recce. South African Air Force. The serials of Jupiter-engined Wapitis had the prefix letter J, Panther-engined variants the prefix letter P



Wapiti III, Communications Unit, Asmara, Eritrea 1941.

Wapitis of No. 600 Squadron. Note Squadron Leader's tail pennant.

132 m.p.h. (212 km.h.). Speed at 10,000 ft. (3,050 m.) 126 m.p.h. (203 km.h.). Speed at 15,000 ft. (4,575 m.) 116 m.p.h. (187 km.h.). Stalling speed (engine off) 56 m.p.h. (90 km.h.). Climb to 5,000 ft. (1,525 m.) 5·2 mins. Climb to 10,000 ft. (3,050 m.) 12·7 mins. Climb to 15,000 ft. (4,575 m.) 25·4 mins. Service ceiling 18,200 ft. (5,550 m.). Range (normal) 530 miles (852 km.). Range (with extra tank) 650 miles (1,045 km.).

Performance: (527/570 h.p. "Panther" geared engined).—Speed at 5,000 ft. (1,525 m.) 139 m.p.h. (224 km.h.). Speed at 10,000 ft. (3,050 m.) 134 m.p.h. (215 km.h.). Speed at 15,000 ft. (4,575 m.) 125 m.p.h. (201 km.h.). Stalling speed (engine off) 56 m.p.h. (90 km.h.). Climb to 5,000 ft. (1,525 m.) 4·3 mins. Climb to 10,000 ft. (3,050 m.) 10 mins. Climb to 15,000 ft. (4,575 m.) 18·5 mins. Service ceiling 20, 600 ft. (6.300 m.). Range (normal) 500 miles (804 km.). Range (with extra tank) 610 miles (980 km.).

Performance: (499/546 h.p. "Panther" geared and supercharged engine).—Speed at 11,500 ft. (3,500 m.) 155 m.p.h. (250 km.h.). Speed at 15,000 ft. (4,575 m.) 152 m.p.h. (245 km.h.). Speed at 20,000 ft. (6,100 m.) 144 m.p.h. (232 km.h.). Landing speed 58 m.p.h. (93 km.h.). Initial rate of climb 910 ft./min. (277 m./min.). Climb to 10,000 ft. (3,050 m.) 10·5 mins. Climb to 15,000 ft. (4,575 m.) 16·3 mins. Climb to 20,000 ft. (6,100 m.) 16·3 mins. Service ceiling 26,000 ft. (7,920 m.). Range at cruising speed (normal) 310 miles (500 km.). Range (extra tank) 560 miles (900 km.).

SEAPLANE

Performance: (460/480 h.p. "Jupiter" VIII.F geared engine).—Speed at 5,000 ft. (1,525 m.) 134 m.p.h. (215 km.h.). Speed at 10,000 ft. (3,050 m.) 129 m.p.h. (207 km.h.). Speed at 15,000 ft. (4,575 m.) 121 m.p.h. (195 km.h.). Climb to 5,000 ft. (1,525 m.) 5·5 mins. Climb to 10,000 ft. (3,050 m.) 12·3 mins. Climb to 15,000 ft. (4,575 m.) 24 mins. Service ceiling 18,100 ft. (5,510 m.). Range (normal 490 miles (788 km.). Range (with extra tank) 610 miles (980 km.).

Performance: (510/573 h.p. "Jupiter" X.FA geared and supercharged engine).—Speed at 12,000 ft. (3,940 m.) 155 m.p.h. (250 km.h.). Speed at 15,000 ft. (4,575 m.) 153·5 m.p.h. (247 km.h.). Speed at 20,000 ft. (6,100 m.) 147 m.p.h. (236 km.h.). Initial rate of climb 970 ft./min. (295 m./min.). Climb to 10,000 ft. (3,050 m.) 10 mins. Climb to 15,000 ft. (4,575 m.) 15·5 mins. Climb to 20,000 ft. (6,100 m.) 24·5 mins. Service ceiling 24,300 ft. (7,400 m.). Range at cruising speed (normal) 290 miles (470 km.). Range (with extra tank) 520 miles (840 km.).

Performance: (486/512 h.p. "Jaguar" geared engine).—Speed at sea level 131 m.p.h. (210 km.h.). Speed at 5,000 ft. (1,525 m.) 127 m.p.h. (204 km.h.). Speed at 10,000 ft. (3,050 m.) 118 m.p.h. (190 km.h.). Climb to 5,000 ft. (1,525 m.) 7 mins. Climb to 10,000 ft. (3,050 m.) 18 mins. Climb to 15,000 ft. (4,575 m.) 45 mins. Service ceiling 15,500 ft. (4,730 m.). Range (normal) 490 miles (790 km.). Range (with extra tank) 600 miles (965 km.).

Performance: (527/570 h.p. "Panther" geared engine).—Speed at 5,000 ft. (1,525 m.) 134 m.p.h. (215 km.h.). Speed at 10,000 ft. (3,050 m.) 128 m.p.h. (205 km.h.). Speed at 15,000 ft. (4,575 m.). 118 m.p.h. (190 km.h.). Climb to 5,000 ft. (1,525 m.) 5·3 mins. Climb to 10,000 ft. (3,050 m.) 12 mins. Climb to 15,000 ft. (4,575 m.) 24·5 mins. Service ceiling 18,000 ft. (5,500 m.). Range (normal) 450 miles (724 km.). Range (with extra tank) 560 miles (900 km.).

Performance: (499/546 h.p. "Panther" geared and supercharged engine).—Speed at 11,500 ft. (3,500 m.) 142 m.p.h. (229 km.h.). Speed at 15,000 ft. (4,575 m.) 138 m.p.h. (222 km.h.). Speed at 20,000 ft. (6,100 m.) 127 m.p.h. (204 km.h.). initial rate of climb 740 ft./min. (225 m./min.). Climb to 10,000 ft. (3,050 m.) 13·2 mins. Climb to 15,000 ft. (4,575 m.) 20·8 mins. Climb to 20,000 ft. (6,100 m.) 34 mins. Service ceiling 22,300 ft. (6,800 m.). Range at cruising speed (normal) 290 miles (470 km.). Range (with extra tank) 520 miles (840 km.).

(Note: All the above performances are based on results obtained by the Company and also by official Air Ministry tests under standard atmospheric conditions.)

WAPITI PRODUCTION FOR A.M.

Prototype
J8495

MARK I
J9078–J9102 (25)

MARK II
J9237–J9246 (10)

MARK IIA
J9247 (proto.), *J9380–J9414* (35), *J9481–J9514* (34), *J9592–J9636* (45), *J9708–J9724* (17), *J9835–J9871* (37), *K1122–K1157* (36), *K1254–K1309* (56), *K1316–K1415* (100), *K2252–K2320* (69).

MARK V
J9725–J9759 (35)

T. MARK VI
K2236–K2251 (16)
TOTAL : 517

INDIVIDUAL SERIALS AND CONVERSIONS

J9084 was floatplane; *J9082* and *J9083* had dual control; *J9380–J9414* Mk.IIAs composite wood/metal structure for overseas (see ref. to 9A spares in text); *J9497* and *J9498* were floatplanes; batch *J9481–J9514* went to India; *J9605* and *J9864* converted to Wallaces *K3677* and *K3676*; *K2306–K2320* converted to Wallaces *K4337–K4348* and *K5071*, *K5072*, *K5073*; *K2289–K2305* went to India; batch *K1254–K1309* was for Army co-op. in India.

R.A.F. WAPITIS TRANSFERRED TO R.C.A.F.

J9612, *J9617*, *J9868–J9871*, *K1139*, *K1143*, *K1146*, *K1148*, *K1149*, *K1152*, *K1318*, *K1322*, *K1324–K1330*, *K1336*, *K1342*, *K1366*, *K1378*.

R.A.A.F. SERIALS
A5-1 – A5-28 (28)

S.A.A.F. SERIALS
P601–P604 (4)

Export
P605–P631 (27)
S.A. Production

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