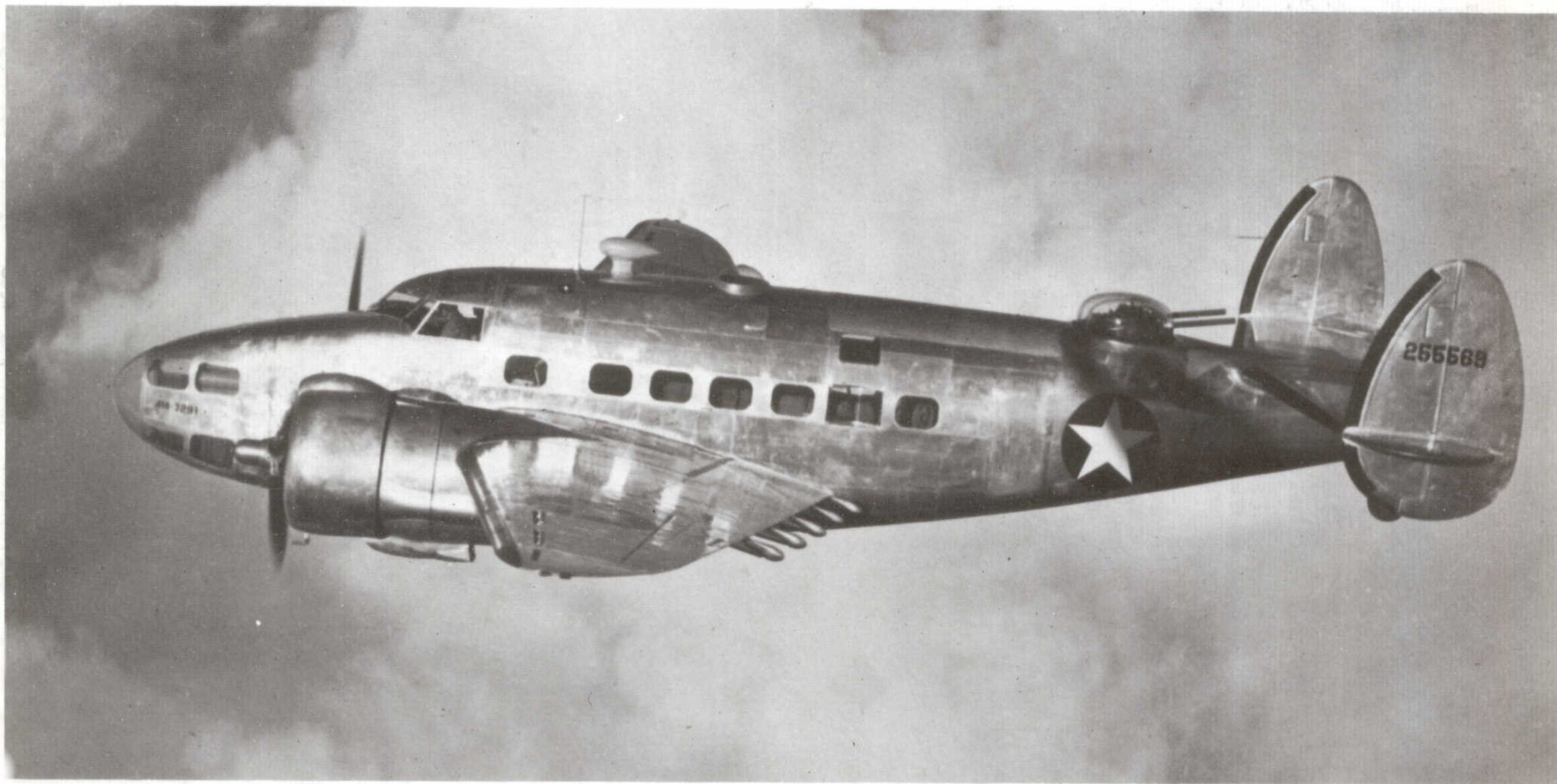
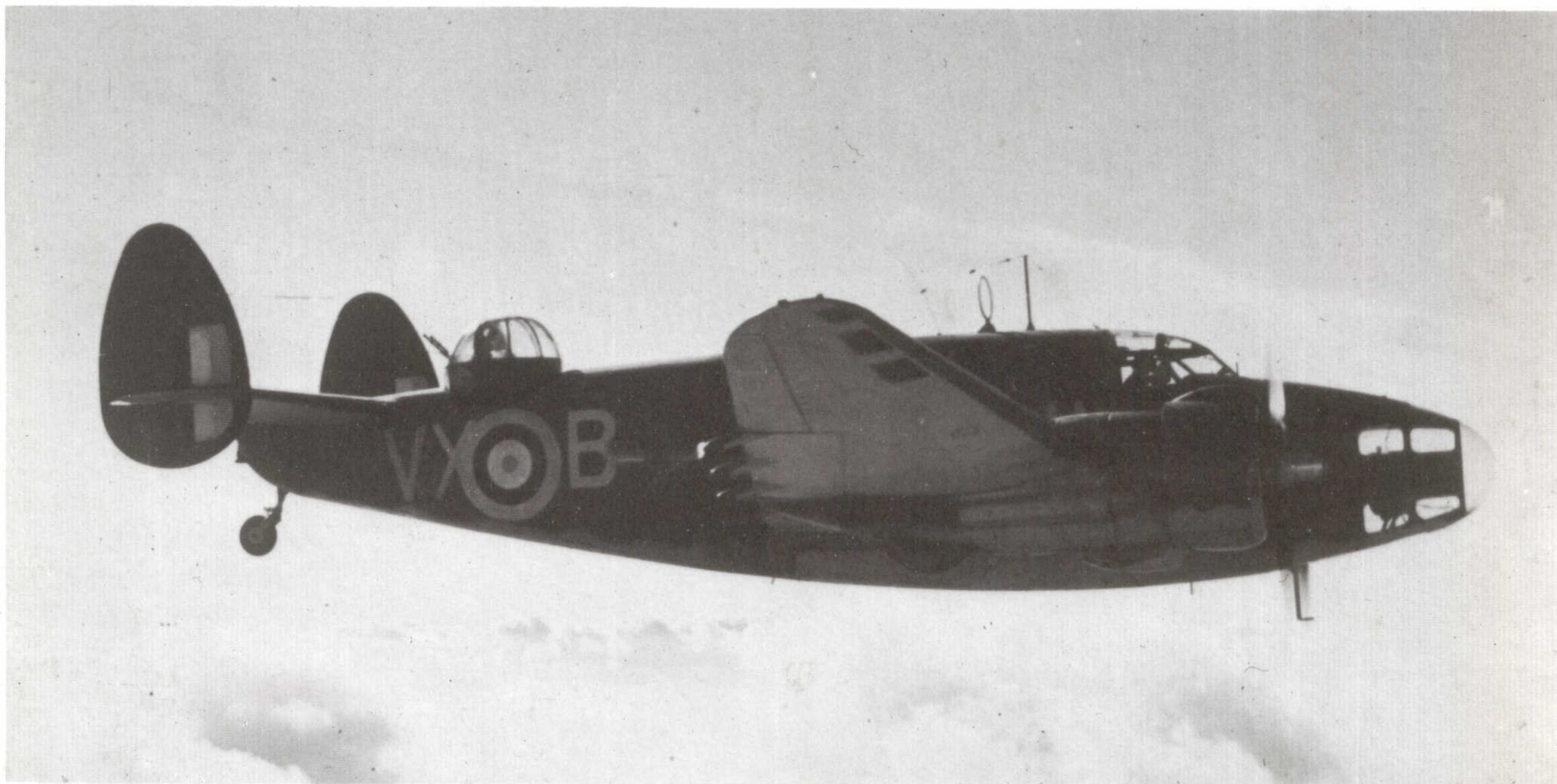


PROFILE Aircraft



Lockheed Hudson Mk I to VI

40p/\$2.00





Editorially speaking . . . No. 21

THAT OLYMPIAN figure in the Editorial Chair, as those within hailing distance will attest, is rarely lost for the odd word or two or three. But in respect of the current Hudson *Profile* and the forthcoming Fulmar, the operative word is dumbfounded.

However, to remain speechless for a second longer would be to rob the reader of the reason for this nonplussed state. Simply that you will not find in print (until now) a comprehensive story on either the Hudson or the Fulmar. This is extraordinary since both, in their quite different ways, were important combat aircraft of World War Two.

Put aside the exigencies of wartime censorship and be amazed that it has taken nearly three decades to rectify these omissions.

Of course this *Profile* is not the complete story of the Hudson; and it is not proper to hide behind the convenient phrase of 'space limitations' (though this will be obvious even at a cursory glance)—the simple truth is that some allocations and uses of the Hudson have defeated patient research.

Those who built the Hudson at Lockheed—including actor Robert Mitchum—should know the team has done its best to score a home run. The Lockheed Vega employees gave the Royal Air Force a Hudson. Now, under the beady eye of the Workhouse Master, the artists in their Windsor garret (and that's virtually true!) have portrayed that Hudson, and others, in magnificent detail to provide a worthy tribute to a rugged veteran of World War Two.

Strangely enough, this Oracle does not recall ever having seen in print a thank-you letter for that Hudson. Oh well, better late than never, Lockheedians: 'Thank you!'

Oh yes, did you know that one of the best Navy signals can be attributed to a VP-82, US Navy PBO-1 Hudson pilot? 'Sighted sub, sank same'.

CHARLES W. CAIN

ABOUT THE AUTHOR

No. 253: Lockheed Hudson Mk I-VI

Christopher F. Shores, ARHistSoc is a Londoner and, as superbly fits his major aviation interest, he lives within walking distance of the wonderfully appointed and recently opened Royal Air Force Museum at Hendon, in north-west London.

For many years now he has been the Air Aces Specialist for Air-Britain and, not unnaturally, among his commercially-published 'hardbacks' are those dealing with this subject.

Chris Shores is happy to describe himself as a 'part-time' writer, the working week being taken up with duties as a Chartered Surveyor with BOAC (now renamed British Airways). He is author or co-author of a number of well-known books including *Aces High*, *Fighters over the Desert* and *2nd TAF*. Several other books will be published shortly.

Devotees of *Aircraft Profiles* will know that Chris Shores has been responsible for earlier works: No. 217—*Brewster Buffalo* (USN's F2A and Export Models 239 to 439) and No. 232—*Martin Maryland & Baltimore* (RAF Maryland Mk I & II; Baltimore Mk I to V and USAAF A-30).

YOUR NEXT AIRCRAFT PROFILE



No. 254: Fairey Fulmar Mk I & II

In the space of two years—September 1940 to August 1942—the rarely publicised two-seat Royal Navy carrier fighter, the Fairey Fulmar, destroyed no fewer than 112 enemy aircraft in air combat and damaged over 80 more . . . between a trio of Fulmars, a tri-motor Blohm und Voss BV 138 reconnaissance flying-boat was accorded some 18,000 rounds of 0.303-in. ammunition fired by 24 Brownings (and survived!) . . . rear defensive armament on occasions (since official armament was not provided) comprised a Tommy-gun, a Verrey Pistol and a Most Secret Weapon, 'Pusser's Brown', otherwise Gov't. Issue Paper. The last-mentioned (in elastic banded packages), once in the slip-stream, would burst asunder and confound the enemy!

David Brown is the author and his past two *Aircraft Profiles* are both 'Royal Navy': No. 224—*Supermarine Walrus I & Seagull V*, and No. 240—*Fairey Barracuda Mk I-V*. For the Fulmar four pages of colour artwork, David Brown's artist is, third time round, P. Endsleigh Castle, ARAeS.

HUDSON FULL CIRCLE

The Editor looks back over his shoulder



When did you last see a genuine camouflaged Hudson . . . when did you first see one? For me, the first time was on a cold and misty morning in early December 1941. I'd been an aviation editorial assistant for 11 months so maybe it was because Speke Airport, Liverpool, was a long train journey from London . . . who can tell? Anyway, they gave me the job of reporting on new American aircraft arriving in England.

You don't notice the cold and the damp when you're that close to aircraft you've only seen in photos and silhouettes before. So if you think the character on his own (on the other side of a Curtiss Kittyhawk I, RAF serial AK575, legs slightly apart and almost in line with the fuselage roundel) could be just another reporter saying 'that's me, folks', you'd score ten out of ten. The photographer was Leslie Hammond of *The Aeroplane*. Later he was to take Official photos (for aircraft recognition purposes)—from a Hudson.

Peering out of the mist are two Hudson IIIs and a Boston III. A Boston (No. 107 Squadron RAF) was to become the first flight experience for the reporter on a later occasion. But never a flight in a Hudson. If you looked closely, the Hudson might have been a little corpulent but it had superbly simple lines!—CWC

Now available

American Bombers of World War Two Volume One.

By Roger A. Freeman

Size 8 × 10 in. wide (landscape format). Illustrated, 72 pages including 12 pages of full-colour 5-view drawings and 92 b&w photographs. Data tables. Production summaries. Military serial lists and breakdowns. Hard-back laminated full-colour covers.

ISBN 0 85064 020.

Price (UK only): £2.75.

Profile Publication Ltd's associate company, Hylton Lacy Publishers Ltd. is responsible for the deservedly popular *Men & Machines* library series of which this latest volume is No. 12. Other books in this combat aircraft of World War Two series deal with British, German, French and American fighters and bombers.

The author, Roger A. Freeman, needs no introduction as an authority on aircraft of the USAAF in WW2. For this first volume devoted to American bombers, he has selected the Boeing B-17 Fortress, Martin B-26 Marauder, Douglas A-20 Havoc and the little-known Consolidated B-32 Dominator. The B-32 will intrigue everyone—including the 'experts' of USAAF bombardment aircraft.

Something to say?

Letters (concise and constructive, please!) to: Editorially speaking . . . Aircraft Profiles, Profile Publications Ltd., Coburg House, Sheet Street, Windsor, Berks SL4 1EB, England.

FRONT COVER

Here we keep a previous promise to identify photographs shown only on the front cover. Upper only: A standard-range Hudson Mk III of No. 206 Squadron (code VX-B). Unusually, it has a whip aerial behind the D/F loop.

(Photo: IWM, ref. CH6573)

A NOTE TO OUR US READERS from the publisher

As from April 1 1973 we have established a Sales office in the US. This means that you will be able to obtain your Profile requirements without the problems of overseas mailing; Ralph M. Neil (formerly Continental Air Lines), has joined the company as Manager, North America and is based in the Los Angeles area.

If you have any problems or enquiries please contact Ralph at: Profile Publications Limited, PO Box 2368, Culver City, California 90230 Telephone: 213 398 2500

We would also welcome all dealer inquiries.

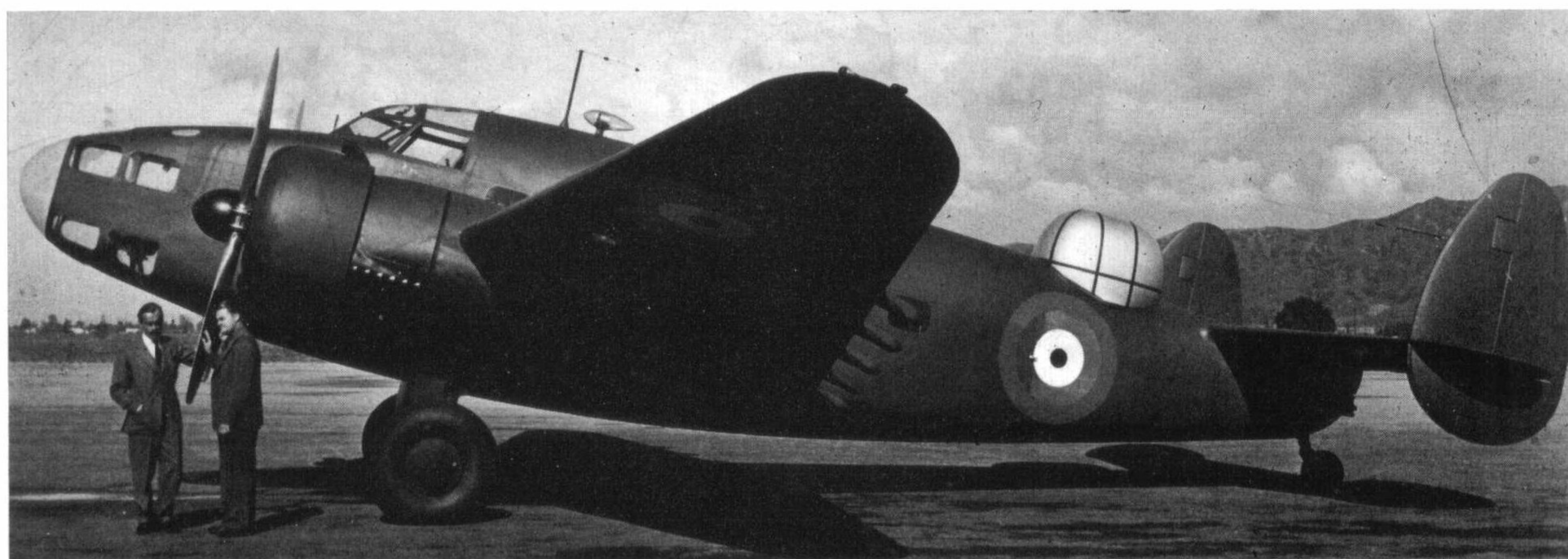
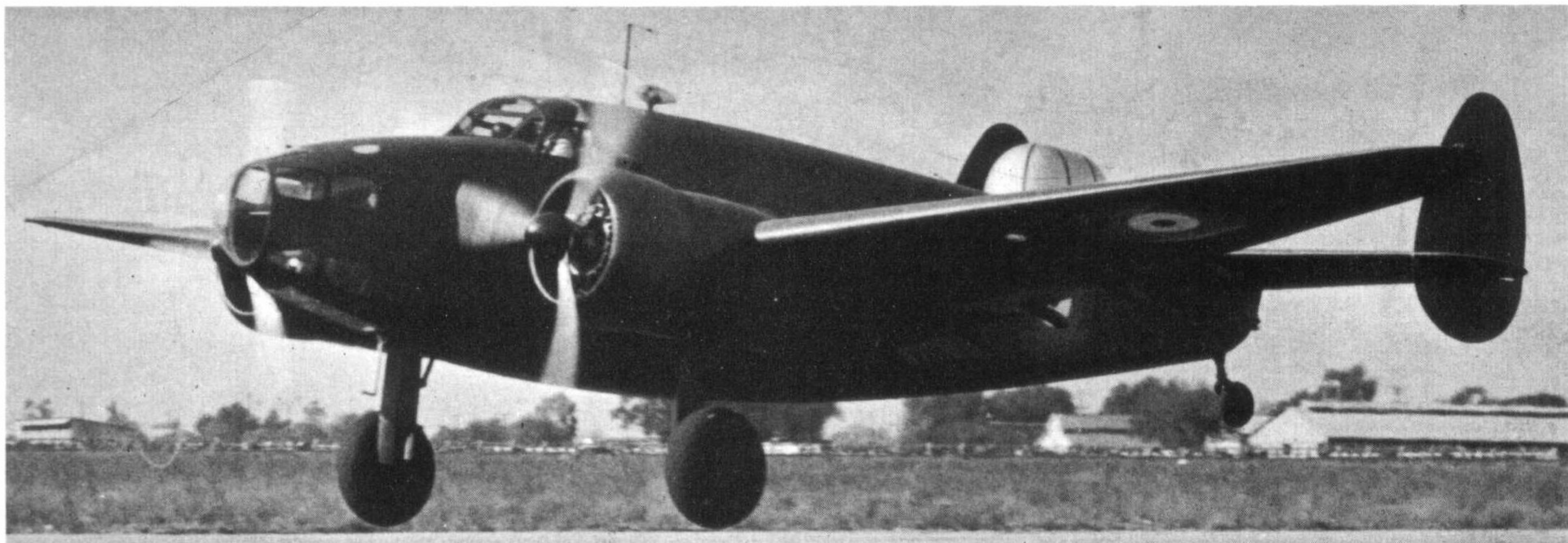
Aircraft Profile No. 250 BAC/Aerospatiale Concorde

The publishers wish to apologise for the delay in the publication of Number 250. So much additional material has been presented to the Editor, that it's necessitated a complete re-vamp.

This Profile contains additional colour, pictures and text. The price will be 50p each

No 250 will be available in May (US in July)

John Hacker



Lockheed Hudson Mk I to VI

by Christopher F. Shores, ARHistSoc

Originally required as a navigational trainer, the military conversion of the new 11-passenger Lockheed Model 14 'Super Electra' was so promising of performance that the bold decision was taken to order hundreds 'off-the-drawing-board' in mid-1938. To be known as the Lockheed Model 214 Hudson Mark I, this aircraft was to become a standard land-based general reconnaissance (maritime patrol) bomber of Royal Air Force Coastal Command; and to replace the Avro Type 652A Anson Mk I for which it had first been viewed as supplying the latter's navigator needs.

Coincidentally, it was the first of British Airways' new Model 14s (registration G-AFGN) that transported the Prime Minister Neville Chamberlain to Germany in September 1938 in one of his last attempts to maintain the uneasy peace in Europe.

Perhaps it was fitting that, on the second day

of World War Two, the first RAF guns to be fired in anger at the *Luftwaffe* should have been those of a pair of Hudsons (No. 224 Squadron) engaging a Dornier Do 18 flying-boat.

In retrospect, it may be said that in the months to come, the gamble of purchasing an untried bomber was to be richly rewarding; and especially so at a time when the British aircraft industry was concentrating on supplying the priority needs of RAF Fighter and Bomber Commands.

Birth of the Hudson Mk I

The original British Purchasing Commission (later Mission) arrived in the United States in April 1938. Significantly, one of its members was Air Commodore A. T. Harris—later to become Air Chief Marshal Sir Arthur Harris, Commander-in-Chief of RAF Bomber Command.

In touring the US aircraft industry, one of the

In the beginning . . . the first Hudson flew on December 10 1938 without the military serial N7205 on rudders, rear fuselage and under wings (see colour side view No. 2). Orthochromatic film gives false reading to British roundel's outermost yellow circle. This Hudson was shipped to England and re-assembled complete with dummy rear turret. Two-tone camouflage looks hand painted and was probably local approximation of RAF 'Bomber Command scheme'. Only outer half of each propeller blade rear face is painted black. (Photos: Planet News via Flight International)

Commission's tasks was to select a 'multi' (in this case, two-motor) navigational trainer. The industry welcomed not only British prospective buyers but also other missions from Europe—the French in particular were to place substantial orders for fighters and bombers.

Eventually, the British party visited the Lockheed Aircraft Corporation at Burbank, California. Once the specification was known, Lockheed proposed a relatively simple conversion of their new commercial Model 14-F62. Without further ado, they prepared in just two days a military project which led, in a further two days, to a full-size mock-up incorporating the Commission's basic requirements.

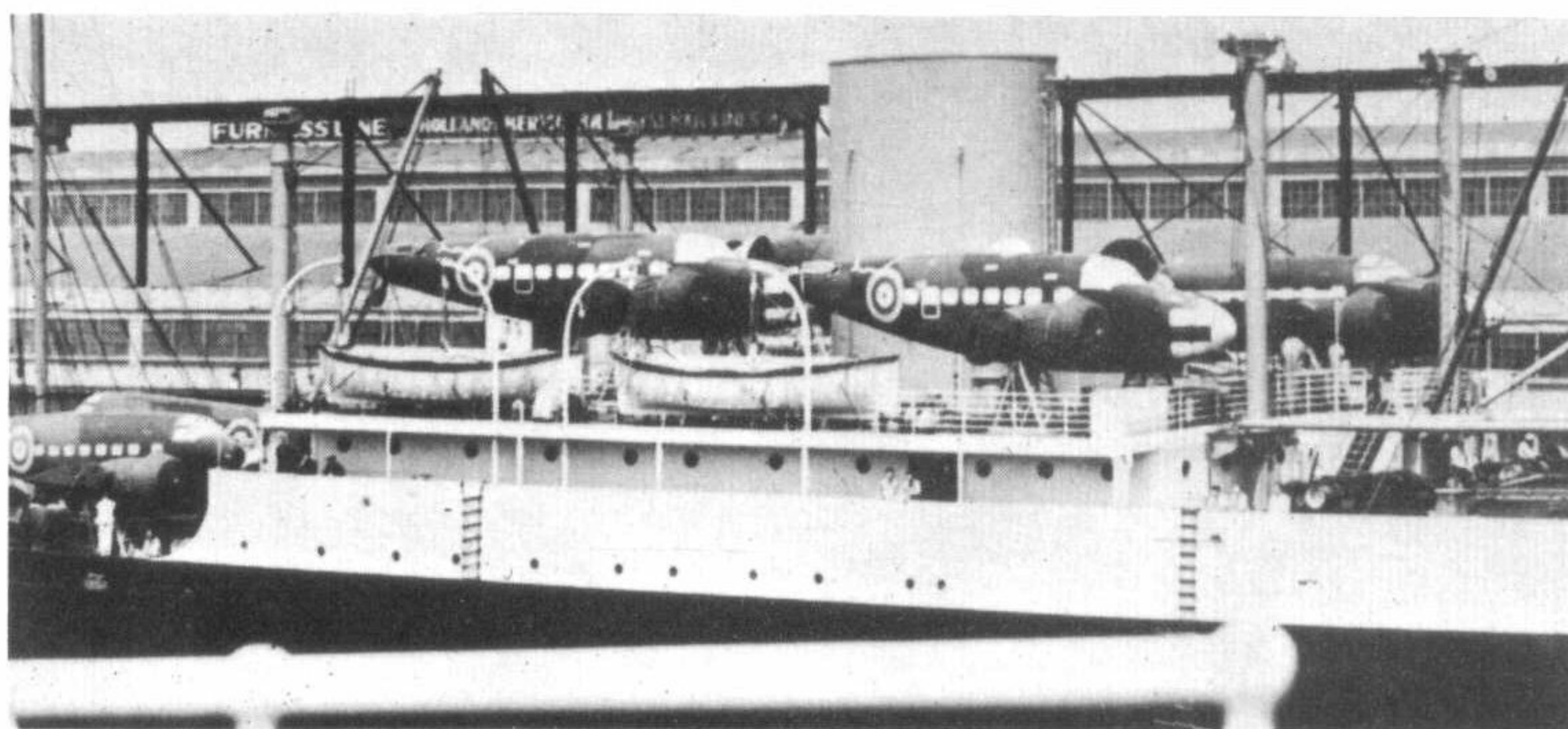
Examining Chief Designer Hall L. Hibbard's projected performance data, the BPC came to an equally speedy conclusion that the projected Lockheed Model 214 offered all-round advantages over the Avro Type 652A Anson Mk I. The outcome was that Lockheed was awarded a contract to supply 200 examples (RAF serial numbers N7205 to N7404) of the Model 214 which was to be named the Hudson Mk I. When quantities were available, they would replace the Anson which, in turn, would be progressively relegated to the navigational training role first envisaged for the military conversion of the Model 14-F62.

Initial Hudson production

The first Hudson Mk I (N7205) flew at Burbank for the first time on December 10 1938. Since it was proposed to install a British designed and built power-operated dorsal turret (two 0.303-inch Browning machine-guns), the prototype was flown with only a mock-up approximation of the Boulton Paul turret. At this time, British gun turret 'state-of-the-art' was far in advance of anything immediately available in the USA. Turrets, therefore, would be fitted once the Hudsons had arrived in England. Ultimately, the first Hudson (N7205) did not arrive in the United Kingdom before March 1939; it passed directly to A&AEE (Aeroplane & Armament Experimental Establishment) where it remained as a test aircraft for the remainder of its useful life.

Thus, the first Hudson to be shipped to the UK, by way of the port of Liverpool, was the second example (N7206) on February 15 1939. Logically enough, it was sent to Boulton Paul Aircraft Ltd. for initial turret-fitting trials.

Although Lockheed had an arrangement with Cunliffe-Owen Aircraft Ltd. of Eastleigh, near



Southampton, for the erection of Model 14-F62s, the American parent company established in 1938 a subsidiary¹ at Speke Airport, Liverpool, to reassemble and flight-test the Hudsons. In view of Southampton's shorter access to German *Luftwaffe* two years later, the Liverpool port of entry was the right decision.

Three months were to pass before, in May 1939, the first RAF Coastal Command Hudson Mk I (N7212; 8th production) was delivered. The recipient was No. 224 (General Reconnaissance) Squadron based at RAF Station Leuchars, Fife-shire, Scotland. The squadron made preparations to phase out its Anson Mk Is.

Australian (Model 414) Mk I & II

Meanwhile, the initial RAF contract for 200 Hudson Mk Is had been amended to include a further 50 examples (P5116 to P5165); and, late in 1938, a similar quantity was ordered by the Australian Government for the Model 414 (RAAF serials A16-1 to A16-50). This was soon followed by a second order for 50 more (A16-51 to A16-100) incorporating some slight modifications.

The chief difference between the RAF's Model 214s and the RAAF's Model 414s was in the choice of powerplant. The British Hudsons had the single-row, 9-cylinder, Wright R-1820-G102A 'Cyclone 9' radials of 1,100 horsepower each, whereas the Australian examples had the two-row, 14-cylinder, Pratt & Whitney R-1830-SC3G 'Twin Wasp' radials of 1,050 h.p. each. The latter required cowlings of deeper chord.

¹ Known as the British Reassembly Division, LAC Ltd. A similar unit was later set-up at Renfrew Aerodrome, a short distance from Glasgow's King George V Dock at Govan. Then in May 1942—at the request of the US Army Air Forces—Lockheed began to build-up a 6,000-strong maintenance and overhaul base on the eastern shore of Lough Neagh, s.w. of Belfast's Aldergrove Airport.—Editor.

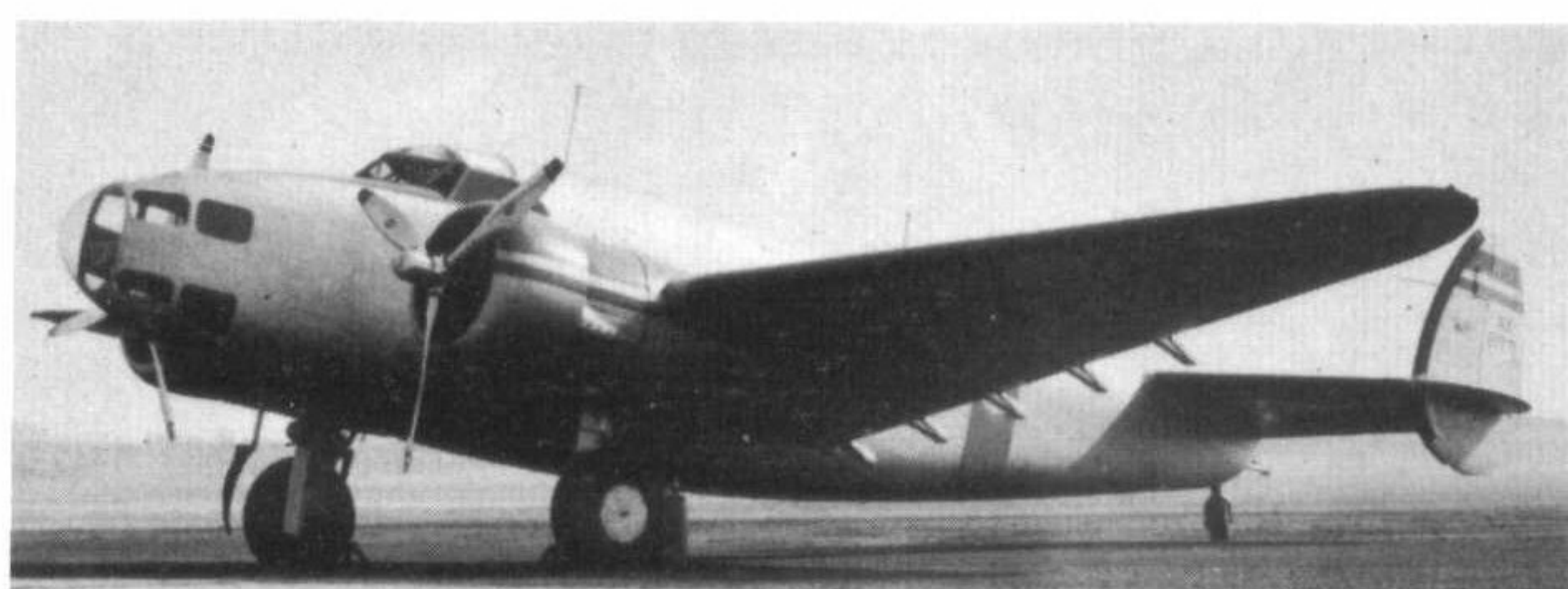
One of the very few photographs showing the method of shipping Hudson Mk Is from Los Angeles to Liverpool. Here, the British motorship m.s. Lockhaven, about to depart in late May 1939, has no fewer than six as deck cargo.

(Photo: Wide World E.1788)

Civilians—(Left) Howard Hughes' Model 14 (NX18973) being readied at Floyd Bennett Field, New York, for the round-the-world flight of July 10-14 1938. Subject of colour side view No. 1.

(Right) An early Hudson (a Mark I) was registered to the Sperry Gyroscope Company and used to test products and experimental equipment. This Hudson (NX21771) has the Hydromatic propellers of late Mk Is and the Mk IIs. Photograph was taken at La Guardia Field in late 1945.

(Photos: Harold G. Martin, Miami, USA)



The first delivery of an RAAF Hudson was made on February 9 1940. To complicate matters, the Royal Australian Air Force applied Mark I to the first 50 and Mark II to the second 50. The RAF resolved this anomaly by bestowing Mk IV to the RAAF's Mks I and II.

British (Model 314) Mk II

Follow-up British orders were also forthcoming and totalled 1,860 examples. A further 100 Hudson Mk Is (T9266 to T9365) were required and also 20 Mk IIs (T9366 to T9385) which were given the Lockheed designation of Model 314. The two marks differed in respect of propeller units, the Mk I having the earlier two-position (coarse and fine pitch only) Hamilton Standards whereas the Mk II was the first to have the constant-speed Hamilton Standard Hydromatic units. Also, the Mk II had airframe increased strengthening members.

British (Model 414) Mk III

Essentially, the Hudson Mk III was a more powerful variant with an improved 'blind spot' defence. Service trials dictated that a retractable ventral rear gun position was required and this was incorporated in the Mk III. Increased engine output from 1,100 to 1,200 h.p. was possible by fitting the later Wright R-1820-G205As.

The first examples (from T9386 onwards) had normal range capability but 241 (from V9066) of the 428 Mk IIIs built had extra fuel tanks in the wings for long range operations.

Since the Hudsons were not built in strict sequence, the RAF serials must be taken as purely an aid to identifying mark numbers only. A breakdown of all military serials appears at the end of this *Profile*.

To round-off the Mk III serials, 54 were diverted to the Royal New Zealand Air Force, and three to the Royal Canadian Air Force.

British (Model 414) Mks IV & V

As already remarked, the RAF elected to re-number the Australian Mks I and II as the Mk IV

and in due course placed an order for 30 Hudson Mk IVs (AE609 to AE638) with the 1,050 h.p. Pratt & Whitney R-1830-SC3G 'Twin Wasp' radials. The Mk IV lacked the refinement of the Mk III's ventral gun position.

The Hudson Mk V followed the example of the Mk III by offering increased performance potential by using higher output P&W R-1830-S3C4G 'Twin Wasps' of 1,200 h.p. each driving Hamilton Standard two-position propellers (changed to HS Hydromatic units on the Mk VI). The ventral gun position was incorporated. A number of the first batch of 183 (AM520 to AM702) was reallocated to the RNZAF. The second and third batches of the 309 ordered were longer range variants; 19 (AE639 to AE657) and 207 (AM703 to AM909) completed the Mk V production series.

Like the Mk III, the Mk V was available in two versions, standard range (the first 183) and long range (207 examples) with extra wing tanks. The RNZAF took six short range (AM589 to AM594) and the RCAF 43 (from AM720) including one short range Mk V (AM576).

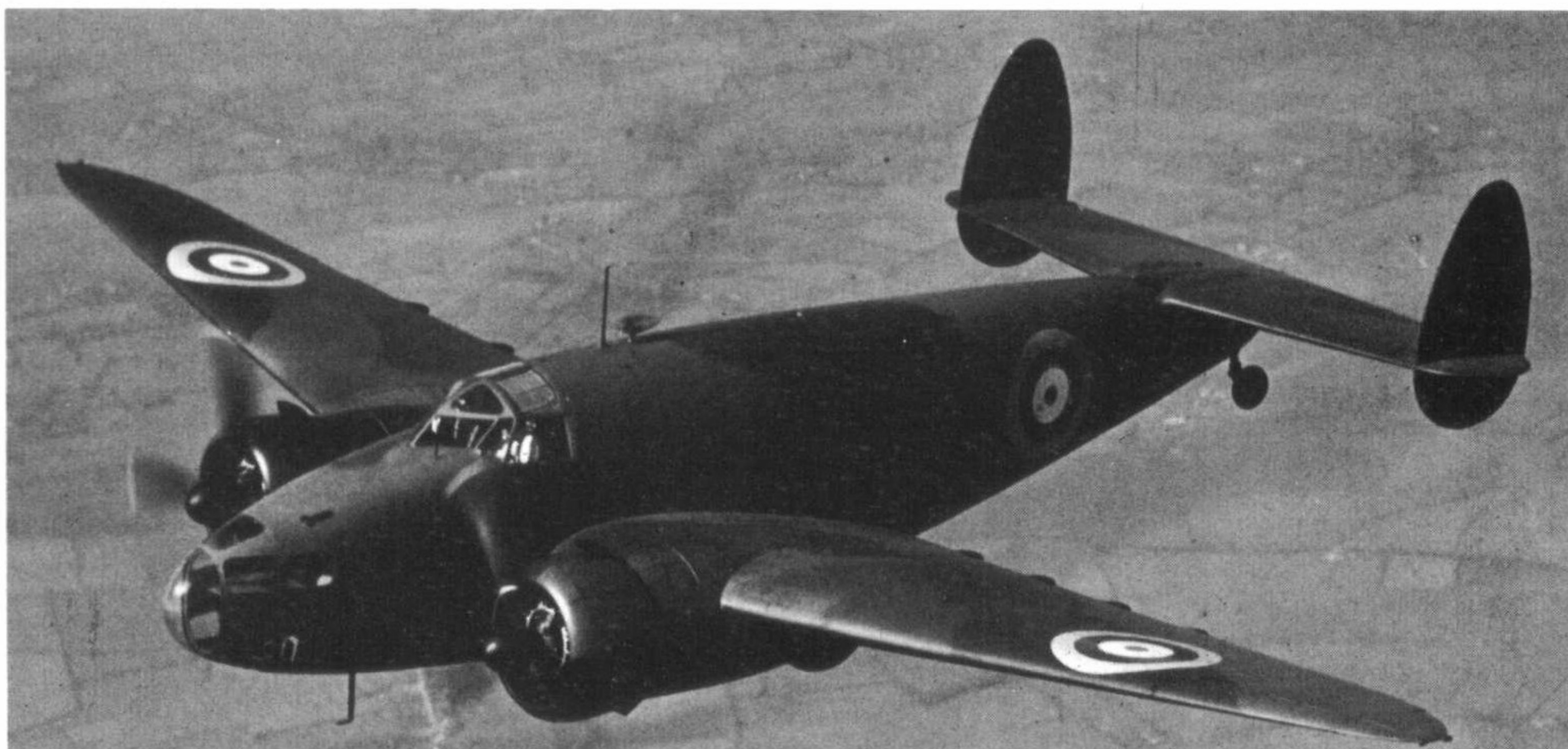
The Lend-Lease Bill

The British orders had not been completed when the historic Lend-Lease Bill was signed by President Roosevelt on March 11 1941. In consequence, the remaining aircraft (all Mk IIIs and IVs) were taken over for use under Lend-Lease funding.

In April 1941, batches of 200 Mk IIIs for the RAF and 52 Mk IVs for the RAAF were allocated and followed by more Mk IIIs in June.

Lend-Lease (Model 414) Mks IIIA, IVA & VI

With the move to Lend-Lease, the engine suffixes changed from commercial designations to those of the US Army Air Forces. Also, to distinguish the Lend-Lease examples from the original British-purchased Hudsons, the first two Lend-Lease models were known in British Commonwealth air forces as the Marks IIIA



A John Yoxall photo of the second Hudson (N7206) surprisingly at A&AEE, Martlesham Heath, April 29 1939, without the British power turret installed; yet to rear of nose transparencies, the muzzle of the left-hand 0.303-in. Browning is in evidence. The photo-ship on this occasion was an H.P. Hampden. (Photo: Flight, ref. 17108s)

(1,200 h.p. Wright 1820-87) and IVA (1,050 h.p. P&W R-1830-45).

There were three batches of the Hudson Mk IIIA: 417 (BW361 to BW777); 300 (FH167 to FH466); and 83 (FK731 to FK813). Although mainly employed by RAF Coastal Command, of the 800 built some 479 were diverted: to the US Navy as the PBO-1 (20), the US Army Air Forces as A-29 (153), and the remaining 306 went to the RCAF, RAAF, RNZAF and Chinese Air Force (see Table: Contract Summary).

All 52 of the Hudson Mk IVA went directly to the RAAF (A16-101 to A16-152) under Lend-Lease.

The last mark of Hudson¹ was the Mk VI with 1,200 h.p. P&W R-1830-67s; and, although similar to the Mk V, it was a utility version with quick conversion internally as a troop transport. RAF Coastal Command used the Mk VI with anti-shipping rocket projectiles under the wings. Four Mk VIs went to the RNZAF. There were two batches of the Mk VI variant: 100 (EW873 to EW972) and 350 (FK381 to FK730).

Hudsons of the RAF

General Mobilization of the Royal Air Force occurred on Thursday, August 24 1939. On that day, RAF Coastal Command was the first to 'go to war' by beginning regular reconnaissance patrols of the North Sea. This was the danger area; the starting point of attacks by the German Navy on British shipping and Royal Navy facilities.

On the second day of the war, September 4, the first Hudson 'incident' occurred. The British Air Ministry announced that a Hudson of No. 224 Squadron had become the first RAF aircraft to attack the *Luftwaffe*—a Dornier Do 18 tandem-Diesel flying-boat of a *Küstenfliegergruppe* (Coastal Aviation Group) normally engaged on similar open-sea reconnaissance duties.

After this early claim to fame, some two months were to pass before Hudsons could chalk up another 'first'—and this time clearly defined—namely that of being the first in RAF Coastal Command to destroy an enemy aircraft. The unit involved was No. 220 Squadron.

Until October 1939, the Leuchars-based No. 224 Squadron was the only one re-equipped with Hudsons. Then two more Anson squadrons—No. 233 also at Leuchars and No. 220 at Thornaby, s.w. of Middlesbrough in Yorkshire—both received Hudsons and were soon on patrol.

On November 10, two of the Thornaby aircraft flown by Sergeant Scotney (in Hudson with individual letter 'A'/220) and Flight Lieutenant Sheahan ('H'/220) set off on patrol. Over the North Sea they opened fire on a Do 18 and inflicted heavy damage which resulted in the flying-boat capsizing after an enforced sea alighting. The *Luftwaffe* records show that the victim was a Do 18 (*Werke Nr.804*) of 3. *Staffel*/

K.Fl.Gr.406 operating out of Borkum in the East Friesian Islands. Minutes later, Scotney intercepted a second Do 18 but it escaped into cloud but not before considerable damage had been inflicted.

Hudsons of No. 220 were active in other ways. Enemy minesweepers and smaller merchantmen were set upon as frequently as circumstances permitted—generally at the end of a shallow dive and at low level.

Such attacks were to become less and less a matter of chance interception as the then revolutionary radar began to be installed in aircraft of RAF Coastal Command. By the end of January 1940, 14 Hudsons and one Short Sunderland flying-boat had been fitted with the air-to-surface-vessel ASV Mk I device.

Hudsons were to play a part in helping to free some 300 British and Allied merchant seamen held prisoner aboard the *Altmark*, a German naval auxiliary supply tanker which had kept rendezvous with the commerce raider *Admiral Graf Spee* in the South Atlantic. The latter was the subject of the Battle of the River Plate on December 13; she was scuttled four days later. Patient searching for the *Altmark* was rewarded on February 16 1940. One of three of No. 220's Hudsons—Pilot Officer McNeil ('K'/220)—which had left Thornaby at 08.25, located *Altmark* around mid-day in Norwegian territorial waters. They landed back at base at 16:20, a fair indication of the Hudson's endurance capability. Another Hudson (N7241), this time from No. 233, spotted the prison ship in Josing Fjord the same day. That night, the Tribal-class destroyer HMS *Cossack*¹ entered Josing Fjord and completed the job with a resounding cry of 'The Navy's here!' from the boarding party.

In March 1940, a fourth Hudson squadron, No. 206 at Bircham Newton, Norfolk, began re-equipping and, on April 12, sent two of its bombers off on patrol for the first time. Three days earlier, Denmark and Norway had been invaded by Germany. This was to be one of the most testing periods for the Hudsons of RAF Coastal Command. They were required to fly bombing sorties against enemy-held airfields as well as other military installations, attacking convoys and supply vessels moving along the coastline and in the fjords. Soon enough, too, the Hudsons began to attract the attention of Messerschmitt fighters, the Bf 109s and the Bf 110s, and losses began to mount.

Nos. 220, 224 and 233 Squadrons were on the attack over Norway virtually every day, selecting shipping and land targets such as airfields. A fifth Hudson squadron, No. 269, newly re-equipped, sent three aircraft to Norway for the first time on May 1. The bombing target was Stavanger but a German fighter intercepted the formation and shot down one of the Hudsons.

Another late first production block Hudson Mk I (N7390) was ferried to Canada and on February 26 1940, it joined the RCAF as 785. It served with No. 11 (Bomber Reconnaissance) Squadron, RCAF, and remained in service until January 1943. Squadron code letters OY are RCAF and not RAF. (Photo: Canadian War Museum, ref. PL1184)

¹ See Warship Profiles: No. 2 HMS *Cossack* and No. 4 *Admiral Graf Spee*.

¹ USAAF/USN variants are detailed at the end of this Profile.

By this time, however, the ground fighting was mainly in northern Norway. For the remainder of May, patrolling Hudsons encountered fewer fighters but engaged several flying-boats as well as various types of bomber aircraft.

Bombing raids on targets in central and southern Norway were generally undertaken during the brief cover of night—an example being the bombing of Stavanger airfield May 16–17 by three Hudsons each from Nos. 224 and 269 Squadrons.

Following the Allied evacuation of Norway in early June, several attacks were launched from the air by the Royal Navy and the RAF against the *Scharnhorst* anchored in Trondheim harbour. Thus, on June 11, a force of 11 Hudsons from No. 269 pressed home their attack. Heavy defending *flak* and the attentions of Bf 109s accounted for the loss of two Hudsons. Other raids followed, sometimes Hudsons were joined by other types like Royal Navy Blackburn Skua dive-bombers and Coastal Command torpedo-bomber Bristol Beauforts.

Inevitably, the events in Norway were overshadowed by the immensity of the German successes in France and the Low Countries. In late May, Nos. 206 and 220 Squadrons were taking part in the covering operations for the evacuation of 300,000 troops from Dunkirk. Fresh from the fighting over Norway, three of this latter unit's aircraft arrived over Dunkirk during the afternoon of June 1 to see 40 Junkers Ju 87s dive-bombing British troops, and at once

all three split up and attacked. The results were most impressive. Pilot Officers J. Selley and K. Jonault each claimed two shot down with their front guns, while Selley's gunner claimed one more shot down and two badly damaged. Supermarine Spitfires then arrived and took over from the Hudsons.

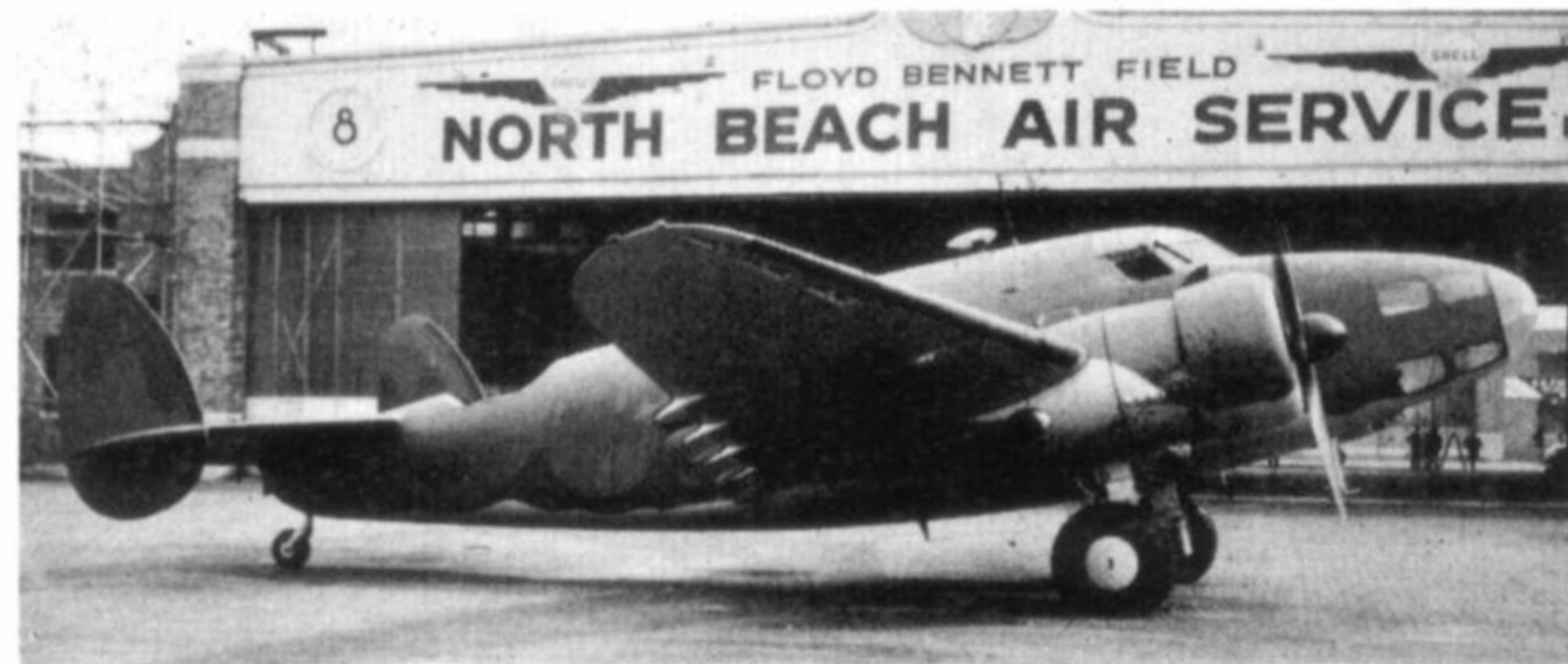
On June 3, three No. 206 Squadron aircraft arrived at Detling to undertake patrols, and that same evening observed nine Bf 109s attacking a formation of Royal Navy Skuas. Diving to intervene, they scored many hits, two fighters being claimed shot down, and the rest driven off with several damaged; two gunners, Leading Aircraftmen K. Freeman and W. D. Caufield received Distinguished Flying Medals for this action.

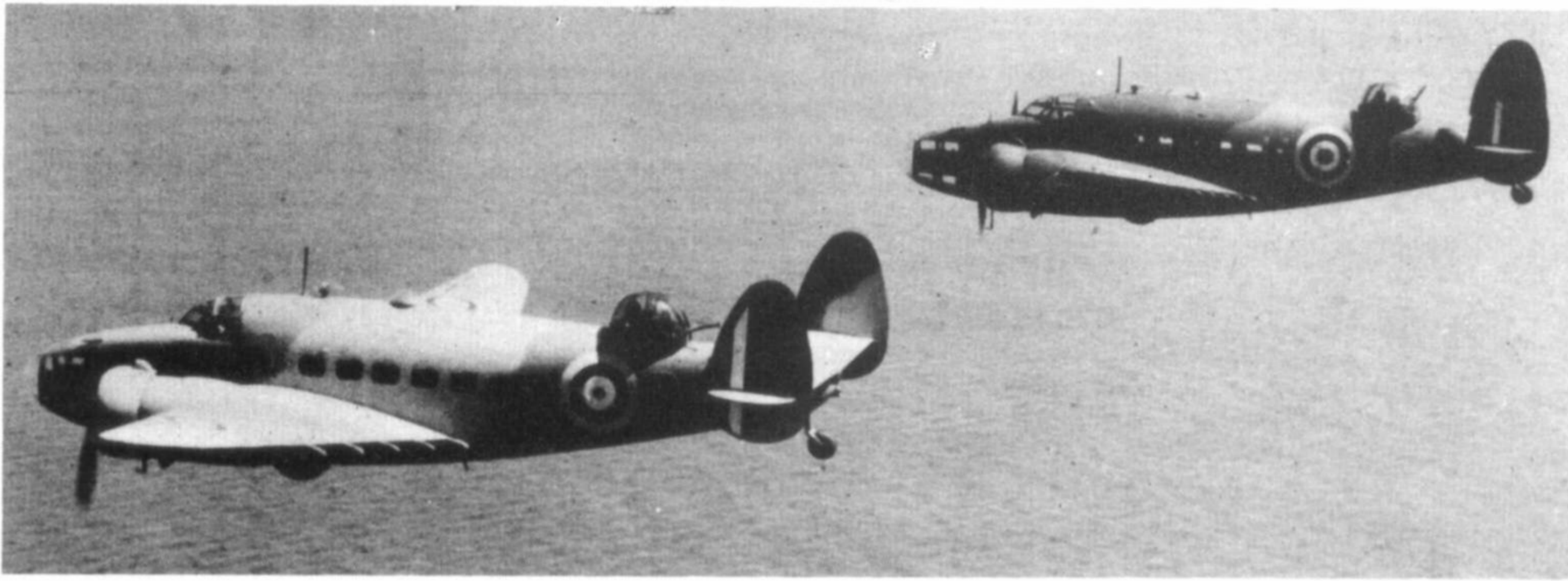
Operations continued over the Channel until the evacuation was complete, and on June 19 a Hudson of No. 206 Squadron flew to Bordeaux to transport the Polish embassy staff and General W. Sikorski and his aide to RAF Station Northolt, near London.

One of the least publicized roles of the Hudson in 1940 was that of PR or Photographic Reconnaissance. These activities were cloaked in secrecy. Even the military organization was subject to successive deliberately misleading titles: No. 2 Camouflage Unit in 1939 and PDU or Photographic Development Unit in 1940. Not until July 1940 was the real purpose admitted with the adoption of the title: No. 1 Photographic Reconnaissance Unit.

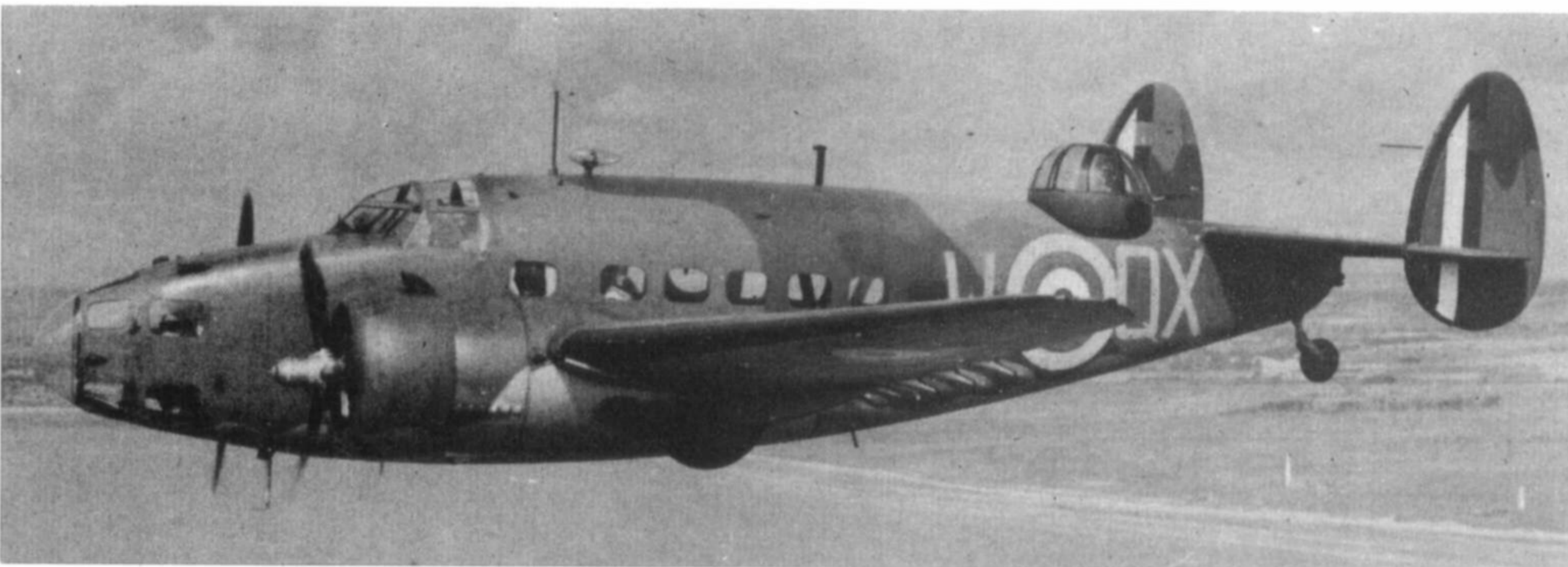
Behind the use of Hudsons for PR work was

Transcontinental shipment. (Left) Two Hudson Mk Is (N7345 and N7347) being ferried from the Californian plant to Canada are seen here at Salt Lake City on August 30 1939. Rear fuselage roundel has only two colours, blue encircling red which is once again in vogue today. (Right) The 197th Hudson Mk I (N7401) in July 1940 at Floyd Bennett Field, New York. Extra radio mast (ventral amidships) was for ferry pilot to fly the commercial 'airways' which was standard procedure; and no deviation to fly round the weather. Roundel positions indicated under wings and on rear fuselage—possibly in deference to America's Neutrality Act. (Photos: Associated Press via Flight International and Harold G. Martin, USA)





Two Hudson Mk Is of No. 220 Squadron, RAF (code: NR) which shot down a Luftwaffe Dornier Do 18 flying-boat on November 10 1939, over the North Sea; NR-A is in the foreground and NR-H to the rear. Fin vertical stripes and fuselage roundels show variations on a theme. (Photo: Imperial War Museum)



Last block of Hudson Mk Is, this one (T9277) of No. 233 Squadron, RAF Coastal Command has the Hydromatic propellers (fat hubs, no spinners) and the early ASV (Mk I) radar array, the nose and wing antennas being shown in close-up on page 167. Amidships can be seen the squat dorsal mast on which another antenna was mounted laterally. (Photo: IWM, ref. CH995)

one of aviation's most colourful characters, the inventor of the 'Sidcot' electrically-heated flying suit, Sidney Cotton. Assisting the French and British secret services before the war, Cotton had devised successful 'aerial survey' (PR) techniques and had been busily photographing parts of Italy and large tracts of Germany. This clandestine activity led Cotton—in 1939—to badger the British military authorities into creating the 'Heston Flight' (Supermarine Spitfires and Bristol Blenheims) at Heston Airport in west London. In the process, Cotton acquired two Hudson Is. One (N7364) was given the civil registration 'G-AGAR' in 1940 (ownership credited to Cotton's Aeronautical Research & Sales Corp. Ltd.) and flown to RAF Station Habbaniyah in Iraq. Then, bearing no external marks to show its origin, 'G-AGAR' was used to photograph the immediate confines of Baku and Batumi (respectively oilfields and oil port) in Soviet Transcaucasia.

A second Hudson Mk I of No. 2 Camouflage Unit, Heston, undertook equally hazardous sorties in the form of low-level and bad weather PR flights to Germany. These operations were conducted when the cloud cover was low enough to provide some degree of 'hide-and-seek' protection. A serving officer, Squadron Leader J. E. G. Archbald, RAF(Retd.) saw the Hudson in May 1940 and has since described¹ the special camouflage effect: Light Blue upper surfaces with Sea Green dapple and Off-White diagonal streaky lines superimposed on the

dapple; and, under surfaces, finished in Sky Type S or 'duck egg blue'. Elsewhere in this *Profile*, this No. 2 CU Hudson is the subject of a colour side-view artist's impression.

Another outstanding airman involved with Hudsons at this time was Captain D. C. T. Bennett, DSO, of British Overseas Airways Corp'n. In the late summer of 1940, Don Bennett arrived in Canada to become one of the co-founders of Atlantic Ferry². Weeks elapsed and then, under his leadership, seven Hudson Mk IIIs took off from Newfoundland's Hattie's

²See *Pathfinder* (Fredk. Muller, London, 1958), the autobiography of Air Vice-Marshal D. C. T. Bennett, CB, CBE, DSO.

Mast-head-height. An unidentified Hudson Mk I of 48 Squadron (ZS) shows off the camouflage pattern from above. Yellowish paint squares on wing and tail-plane are presumed to be gas-detector panels. In the early part of the war, all military vehicles had to carry such squares or diamonds. ASV Mk I on nose and wing/engine areas but no dorsal mast visible. (Photo: IWM, ref. CH1919)



¹See *Airfix Magazine* (London), December 1970.

Camp (Gander's original name) several hours after nightfall on November 10 and arrived 10½ hours later at RAF Station Aldergrove in Northern Ireland. This was the pioneer occasion of transatlantic ferrying where previously all Hudsons had been shipped.

Throughout the rest of 1940, all five Hudson-equipped squadrons were active over the North Sea. Nos. 224, 233 and 269 operated in the north along the Danish and Norwegian coasts, while Nos. 206 and 220 covered the area south of this, from the Netherlands to Denmark. During this period German aircraft were frequently met—particularly Heinkel He 115 floatplanes—and there were regular exchanges of fire, mostly without any definite conclusions being reached.

Generally, although regular attacks were made on coastal targets, convoys, minesweepers, and other vessels, losses were remarkably light, and even when fighters appeared, more often than not the Hudsons were able to make good their escape. Indeed, during the first year of the war, the Hudson suffered a smaller ratio of losses to sorties flown than any other type in operational service with the RAF.

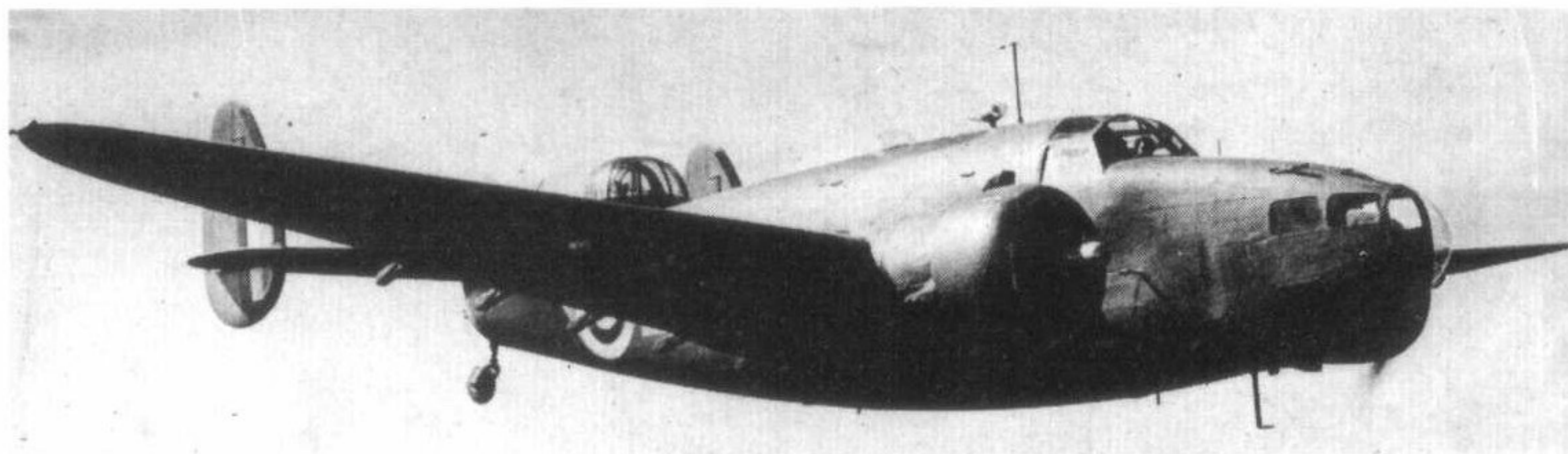
Late in the year, some bombing raids were made on inland targets, as on December 17 when six Hudsons of No. 224 Squadron, nine of No. 269 Squadron and six Beauforts of No. 42 Squadron attacked the Bergen-Oslo railway in Norway.

To the south, Hudsons of No. 206 Squadron undertook regular night nuisance attacks on *Luftwaffe* airfields in Western Europe from where bombers were operating over England during the *Blitz*; this series of attacks received the codename 'Race'.

The growing menace of the U-boats in the Atlantic, and the shortage of long-range aircraft to combat these and escort the vital shipping convoys, now led to the redeployment of some Hudson units to operate over the Western Approaches. From August 1940, detachments from several squadrons operated from Aldergrove in Northern Ireland, under the operational control of No. 502 Squadron, an Anson-equipped unit. In December, No. 233 Squadron moved fully to this base.

In mid-March 1941, No. 269 Squadron despatched a detachment to operate from bases in Iceland over the North Atlantic shipping routes, and in June the whole squadron moved to Kaldadharnes, 30 miles se of Reykjavik. Regular sightings of U-boats were made, and several attacks undertaken. On August 27 1941, Squadron Leader J. H. Thompson ('S'/269) attacked a surfaced U-boat (U-570) and damaged it with depth charges. The crew decided to surrender, and some 30-40 of them appeared on deck, displaying a large white cloth. The Hudson crew at once radioed for assistance in bringing in their prize, and were relieved by Consolidated Catalina flying-boats a little later.

Duties for the Hudson squadrons widened in 1941 with considerably more anti-submarine



patrols being undertaken from bases as far apart as Wick, in the north of Scotland, and St. Eval in Cornwall. Also, more units moved to Northern Ireland. For anti-shiping operations, the English Channel became of increasing importance, aircraft from Thorney Island in Hampshire, and St. Eval undertaking such missions from these bases.

During 1941 the total number of Hudson units rose fast as four of Coastal Command's Bristol Blenheim-equipped anti-shiping squadrons (Nos. 53, 59, 500 and 608) converted to these aircraft. Two new squadrons, No. 320 (Dutch) and No. 407 (RCAF), began operations of a similar nature. Operating from Thornaby, Bircham Newton and Thorney Island, these squadrons undertook many daring mast-height attacks, known as *Rovers*, on enemy cargo shipping and minesweepers along the coasts of Occupied Europe, inflicting substantial damage throughout the late summer and autumn. Losses on these dangerous missions proved surprisingly light at this time. Early in 1942 these operations were again extended to the Norwegian coastline, and a further unit, No. 48 Squadron, began anti-shiping work as well.

Throughout this period, the units based in Northern Ireland were involved in many monotonous and uneventful patrols, enlivened only rarely by the odd sighting of a U-boat and the subsequent depth charge attack. The squadrons at St. Eval on the other hand frequently engaged Heinkel He 115s, Junkers Ju 88s or Focke-Wulf FW 200 Condors during their patrols; many indecisive combats being fought. In February 1942 came the famous 'Channel Dash'—the breakout of the German warships *Scharnhorst*, *Gneisenau* and *Prinz Eugen* from Brest, and their daring passage of the English Channel under the noses of the British defences. Nos. 59 and 407 Squadrons attacked the German Fleet on February 12, losing two aircraft, and next day No. 500 Squadron tried its hand, losing one; but all to no avail.

Although *Rover* anti-shiping patrols had been undertaken at night for some time, the relatively light losses had led to the continuation of the practice of making most attacks by day, but now, in April and May 1942, more effective German defensive methods took a sudden much increased toll of the attacking aircraft, more than 20 Hudsons being lost by the units at Wick (Nos. 48 and 608), North Coates (Nos. 53 and 59), and Bircham Newton (Nos. 320 and 407). No. 407 Squadron was hardest hit, with

Rare Hudson mark. Only 20 Mark IIs were ordered for the RAF. Only positive identification is serial No. T9376. Code letters VX signify No. 206 Squadron. Undersides are black painted; ASV Mk I antennas can be detected on the original print.

(Photo: IWM, ref. CH2838)

seven aircraft failing to return. In the face of losses of this nature, operations were changed to the hours of darkness.

Luckier in this period was No. 500 Squadron, moving to Stornoway in April and at once attacking several U-boats. On April 28 Flight Sergeant Higginbotham attacked one, and saw the bows stick up out of the water at a 20° angle. The vessel then slid beneath the surface stern first. On July 6 Flying Officer M. A. Ensor, DFC, attacked a surfaced U-boat, straddling and strafing it; the bows were blown out of the water and it then disappeared. On August 24 Ensor again attacked a U-boat on the surface as it tried to submerge. Depth charges burst across the bows and the stern lifted clear of the water.

In June 1942 came an unusual operation on the night of the 25th. No fewer than 12 Hudsons of No. 59 Squadron, 12 of No. 206 Squadron and 11 of No. 224 Squadron flew to North Coates to take part in Operation *Millenium II*, the second RAF Bomber Command '1,000 Bomber Raid'. Bremen was the target, and the Hudsons attacked the Deschemag U-boat building yards¹. Two aircraft of No. 206 Squadron were lost.

The day of the Hudson in the United Kingdom was now fast drawing to a close however, as longer-ranging aircraft became available. Already in January, No. 220 Squadron had converted to Boeing Fortress IIs and, during the summer, three more units exchanged their Hudsons for these, or for Consolidated Liberators (Nos. 59, 206 and 224 Squadrons). Within months another three squadrons (Nos. 233, 500 and 608), having painted their Hudsons all-white, headed south for Gibraltar, where they would be joined by No. 48 Squadron at the end of the year.

Meanwhile, Nos. 320 and 407 Squadrons, both operating from Bircham Newton since the spring, continued their night anti-shipping strikes over the Friesians, Texel, Cherbourg, and other coastal areas, until early 1943, when the former squadron became a bomber unit, converting to North American Mitchells, and the latter was re-equipped with Vickers-Armstrongs Wellingtons.

During July 1942, No. 53 Squadron flew from St. Eval to the US Naval Air Station at Quonset Point, Rhode Island. Here its Hudsons were painted all-white and fitted with ASV antennas and with DR dead-reckoning compasses, the aircraft initially being maintained by ground crews of the similarly-equipped US Navy Patrol Squadron Eighty-Two (VP-82). A few anti-submarine sorties were flown late in the month.

In August, the squadron moved south to Waller Field, Trinidad, in the (then) British West Indies. Here, a number of depth charge attacks on U-boats was made soon after arrival, a No.

53 Hudson (coded 'PZ-Z') hitting one submarine hard when it was caught on the surface on August 15. Less sightings were made in September and, in November, the squadron moved back to the USA, to Norfolk, Virginia. From here, the Hudsons were flown back to England and the squadron reformed in Cornwall. It then moved to Docking in Norfolk, where it was re-equipped with Armstrong Whitworth Whitley Mk VIIIs.

During the early war years, a number of Hudsons had been supplied to the RCAF for anti-submarine patrol, and had operated until replaced by such aircraft as the Consolidated Catalina flying-boat. However, Hudsons were widely used for operational training throughout the Empire Air Training Scheme, and it was one of these from a Canadian airfield that made the last attack by a Hudson on a U-boat in the Atlantic. On July 4 1943, Sergeant I. D. Wallace, an Englishman, flying an aircraft of 31 OTU (RCAF) from Debert, Nova Scotia, with an Australian and Canadian crew, saw and attacked a U-boat while on a training patrol. Four depth charges were dropped, a welter of oil and bubbles being seen, although no U-boat was actually lost on this date. Wallace, who later served with No. 608 Squadron, was awarded a Distinguished Flying Medal for this attack.

In February 1944, No. 269 Squadron reformed as a composite unit with Hudson IIIs, Supermarine Spitfires, Miles Martinets and Supermarine Walruses and flew out to Logens in the Azores, via Gibraltar. Here the Hudsons undertook meteorological flights and, in July, carried the first operational Mark I airborne lifeboats on air-sea rescue sorties with immediate success; in October the Hudsons were replaced by Vickers-Armstrongs Warwicks on these ASR duties.

An Air Sea Rescue Flight, No. 1407, operated from Reykjavik, Iceland, on similar duties during the year, equipped with Hudson IIIs and IIIAs. In August 1944 it was enlarged into No. 251 Squadron, and, in the following month, began to carry airborne lifeboats. It also undertook a few convoy escorts.

No. 251 Squadron was the last RAF unit to operate Hudsons; it finally converted to Fortresses in April 1945. A few other ASR units had some Hudsons on hand, but their use was very limited. The clandestine No. 161 Squadron also operated Hudsons (Mk IIIs and Vs) on agent-dropping sorties over France.

Hudsons: Mediterranean Area

Hudsons first saw action in the Mediterranean area with No. 459 Squadron, an Australian unit which began operations early in 1942 against Axis coastal shipping. Although sometimes suffering heavy losses, No. 459 continued these activities until the autumn, when the arrival of other types permitted a well-earned rest.

Meanwhile, three squadrons had reached

Key to colour illustrations

1 Lockheed Model 14 (NX18973), variously named Sky Zephyr and New York World's Fair 1939, is an example of the civilian forerunner of the Hudson and occupied the newspaper headlines in 1938 when its owner, millionaire Howard Hughes, undertook an 'Around-the-world' flight, July 10-14. With a crew of four, Hughes started and finished at New York and, in 3 days, 19 hours, 8 minutes and 10 seconds, flew some 14,791 miles with only six stops. The coveted Collier Trophy for 1938 was awarded to Hughes for the flight. Note ADF (Automatic D/F) housing on roof amidships.

2 Hudson Mk I (N7205) is depicted some time after the first flight on December 10 1938, when the RAF serials had been applied. The dorsal 'turret' is merely a mock-up.

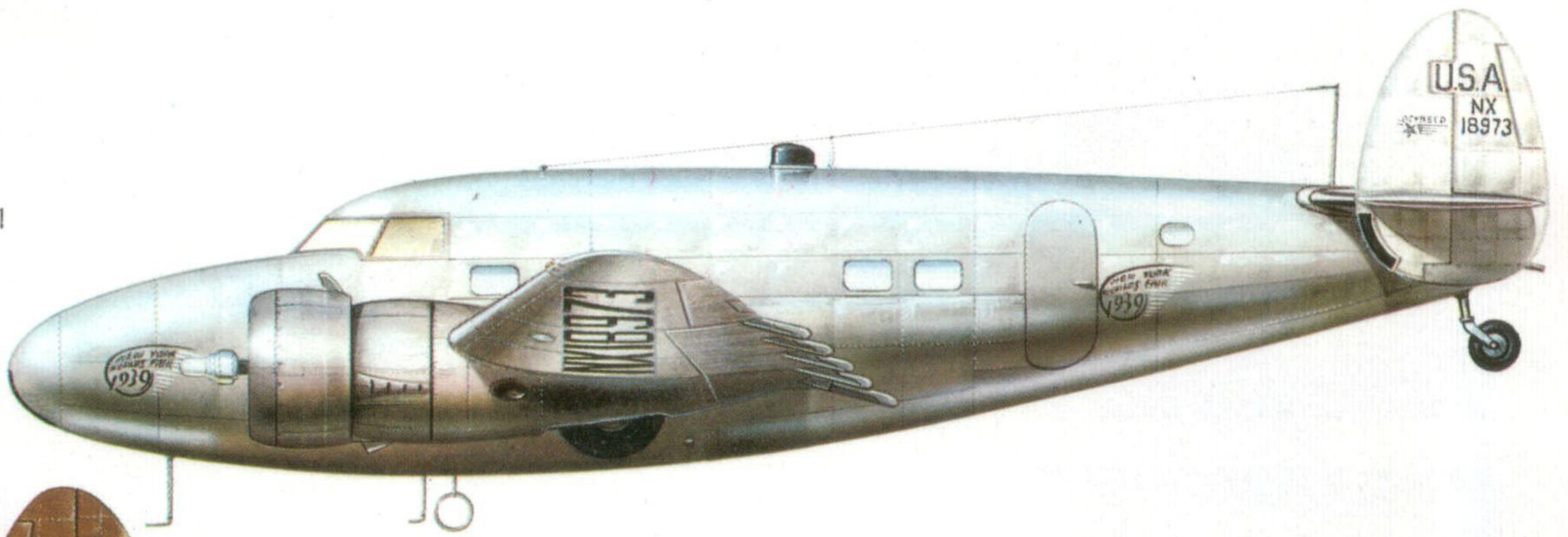
3 Hudson Mk I of No. 2 Camouflage Unit, RAF, with unique colour scheme, operating from Heston (Middlesex) on low-level photographic reconnaissance in May 1940.

4 US Navy PBO-1 of Patrol Squadron Eighty-Two (VP-82), stationed at Argentia, Newfoundland, 1941-42. Ventral gun platform is in evidence.

5 Hudson Mk IIIA (FK745) of RAF Coastal Command, 1944-45. On the nose is a pennant indicating that it is personal transport of an air vice-marshal. Also unusual is the long whip aerial on the nose section.

¹Deutsche Shiffs- und Maschinenbau A.G.; see Warship Profile: No. 8 U-boat U-107.

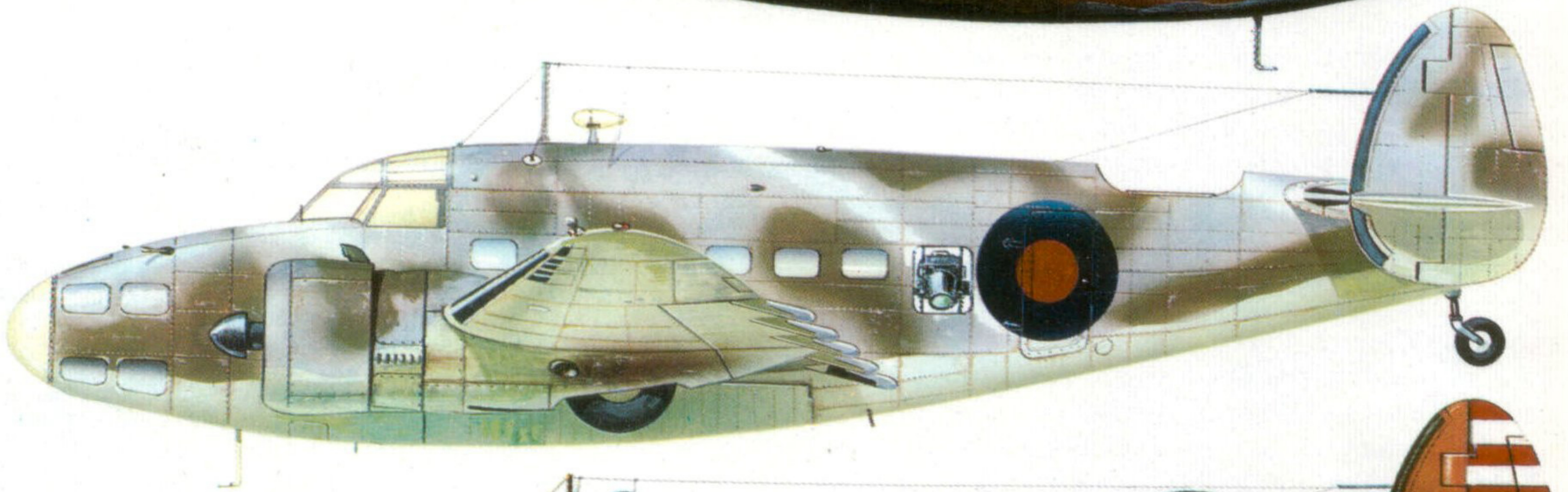
1



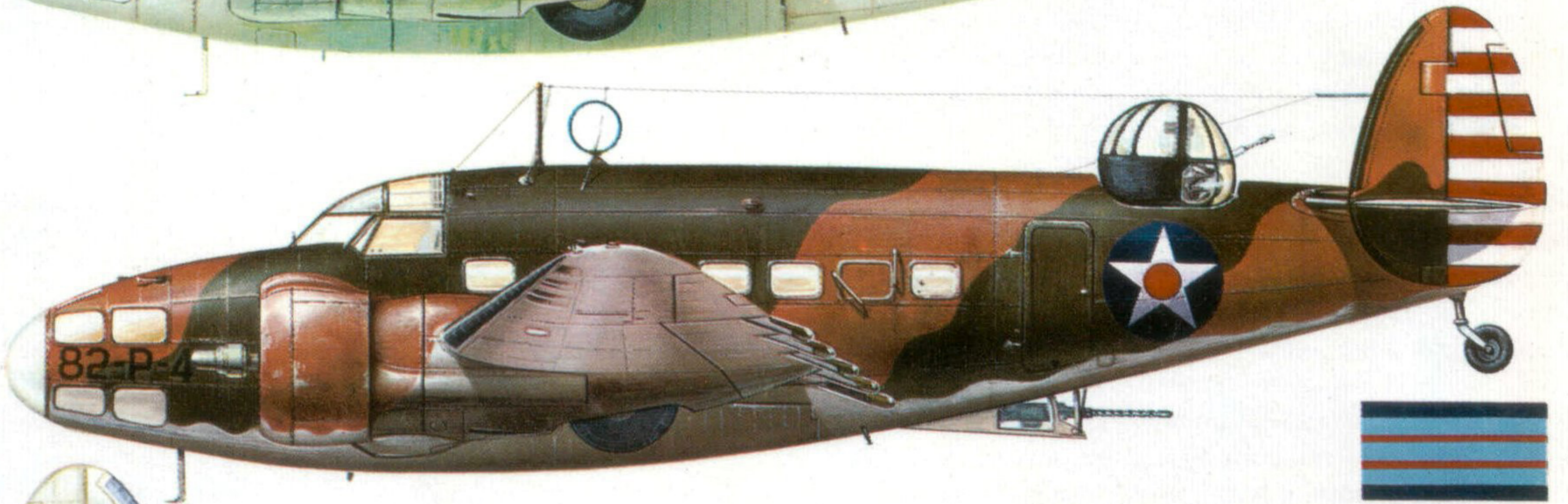
2



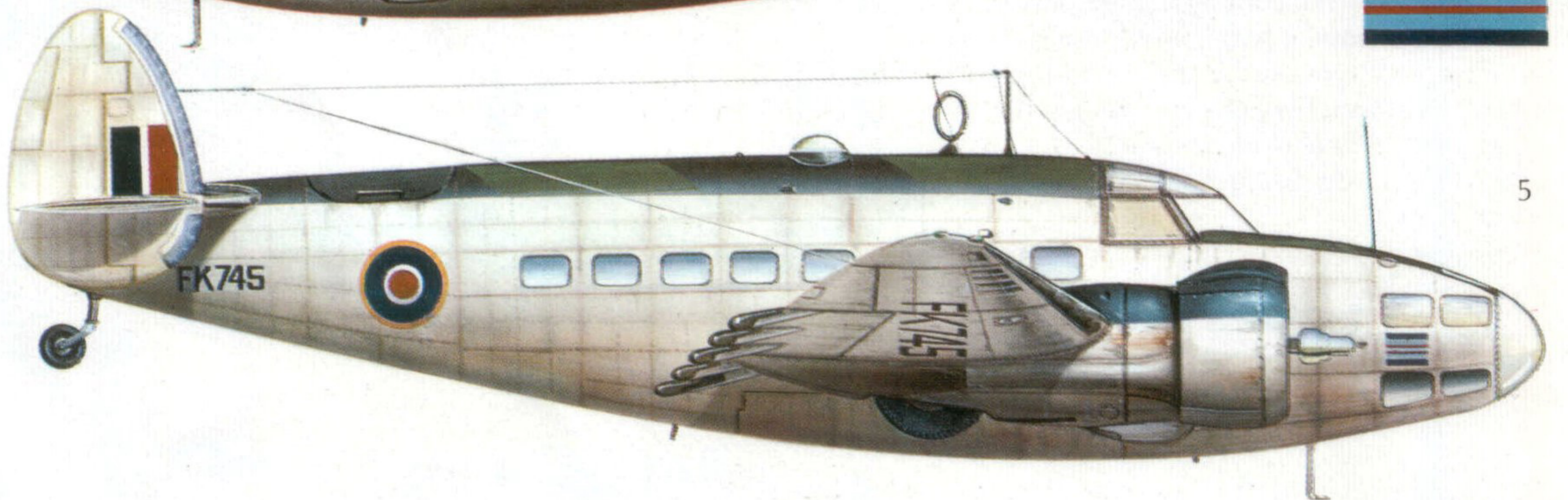
3

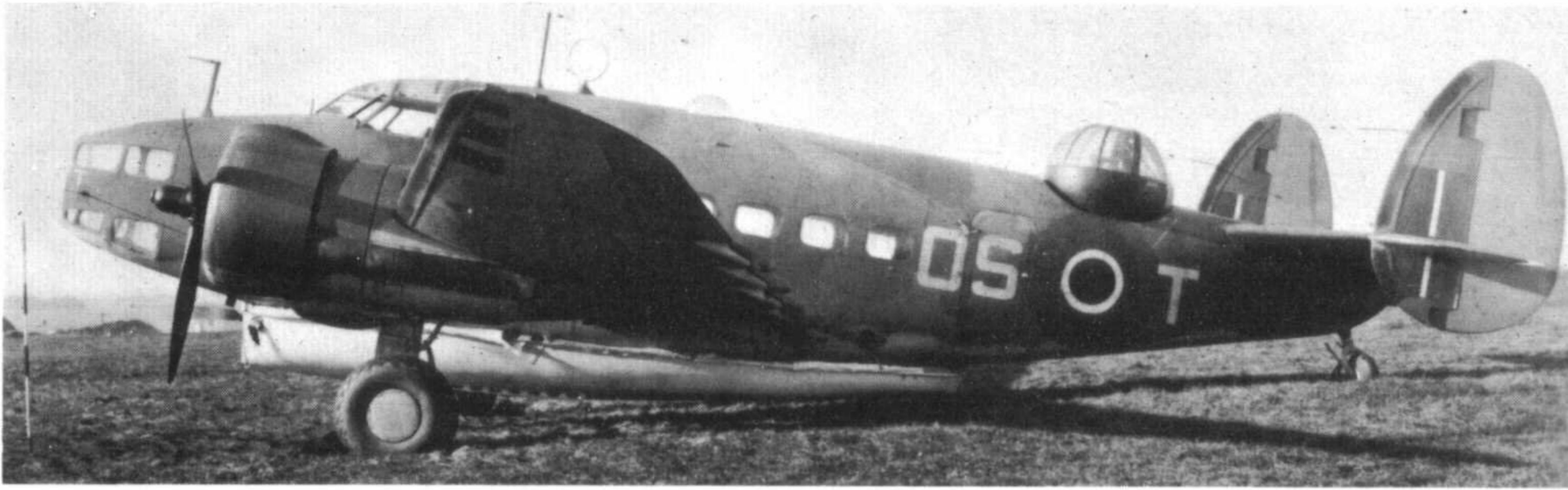


4

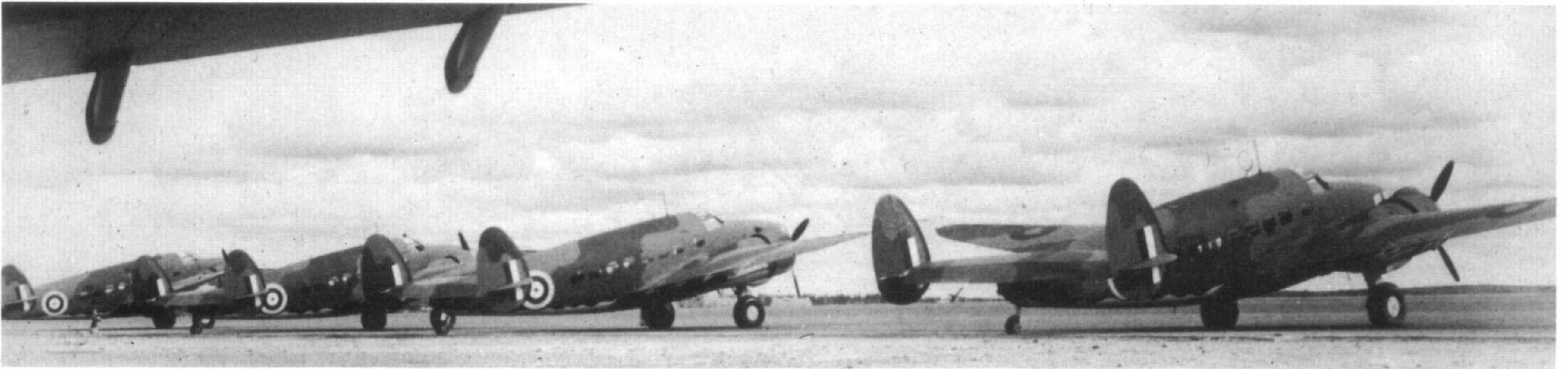


5





By the close of 1942, new roles were required for the RAF Coastal Command Hudsons being superseded by longer-range maritime patrol aircraft types. ASR (air-sea rescue) trials were conducted with this Hudson Mk III (V9158). Ground clearance was minimal for the Uffa Fox-designed Mark I Airborne Lifeboat. (Photo: Crown Copyright reserved via A. Price)



Gibraltar from Britain. At once, they began anti-submarine operations prior to the Allied landings in French North Africa in November 1942 (Operation *Torch*). Many U-boats and Italian submarines were sighted at this period. A number of successful attacks was made, particularly by No. 500 Squadron which achieved quite outstanding successes during November and December, not only against submarines, but also against Axis aircraft. Indeed, this was another of the most active periods of the Hudson's operational career, with engagements coming thick and fast. Space permits no more than a brief mention, but the activities of the Gibraltar-based Hudsons at this time are worthy of a study in their own right.

By the beginning of 1943, four squadrons of Hudsons were flying from airfields in Algeria and Gibraltar (Nos. 48, 233, 500 and 608) but already the tempo of operations was slackening. Following the fall of Sicily, No. 608 Squadron moved first here, and later to southern Italy, while No. 500 Squadron operated detachments in Sicily and Corsica. All units were at this time involved mainly on convoy escort patrols, by both day and night. It was in the Mediterranean area that Hudsons were first fitted to carry rocket projectiles beneath the wings, the first sinking of a U-boat with these missiles by an aircraft of the RAF being achieved by No. 608 Squadron.

Since U-boat commanders were showing an increasing propensity for remaining on the surface and fighting back, some Hudsons of No. 500 Squadron carried a fixed, forward-firing 0.50-in. Browning machine-gun in the nose during 1943 to provide additional range and power for strafing the decks of these vessels during attacks.

The reduction in U-boat activities in the area, followed the Allied successes on land, led to Nos. 48 and 233 Squadrons being returned to the United Kingdom early in 1944 to become transport units; while by the summer, No. 500 Squadron had become a bomber unit, and No. 608 Squadron had disbanded.

At the eastern end of the Mediterranean, No. 459 Squadron, undertook a period of anti-submarine patrolling during which one U-boat was sunk by Flight Sergeant D. T. Barnard on June 19 1943, while operating from Lydda in Palestine. Three months later, the squadron undertook night bombing operations against German airfields in the Aegean area in support of British landings on the islands of Kos and Leros, subsequently also attacking shipping in this area. Early in 1944, however, the unit's Hudsons were replaced by more modern Lockheed Vega Venturas.

Another use of the Hudson in the Middle East was that of transport. From as early as

Line-up of turretless Mark IIIs at Gander (originally called *Hattie's Camp*) in Newfoundland, late October 1940, awaiting ferrying to N. Ireland. Under wing of V9254 (last of the V9220-9254 batch) and identified in the foreground is V9227. Tail unit has novel design features of one-piece elevator and rudders slotted on horizontal stabilizers. (Photo: IWM, ref. CH2145)

Hudson Mk IIIs of No. 2 Squadron, RAAF, flying over New Guinea in 1942; in foreground is A16-180, then A16-256 called *Houdini* and A16-236 named *Foo*. Above and below the last two windows to the rear are the antenna arrays of ASV Mk II; also in evidence in photo on the facing page, top right. (Photo: Frank F. Smith)



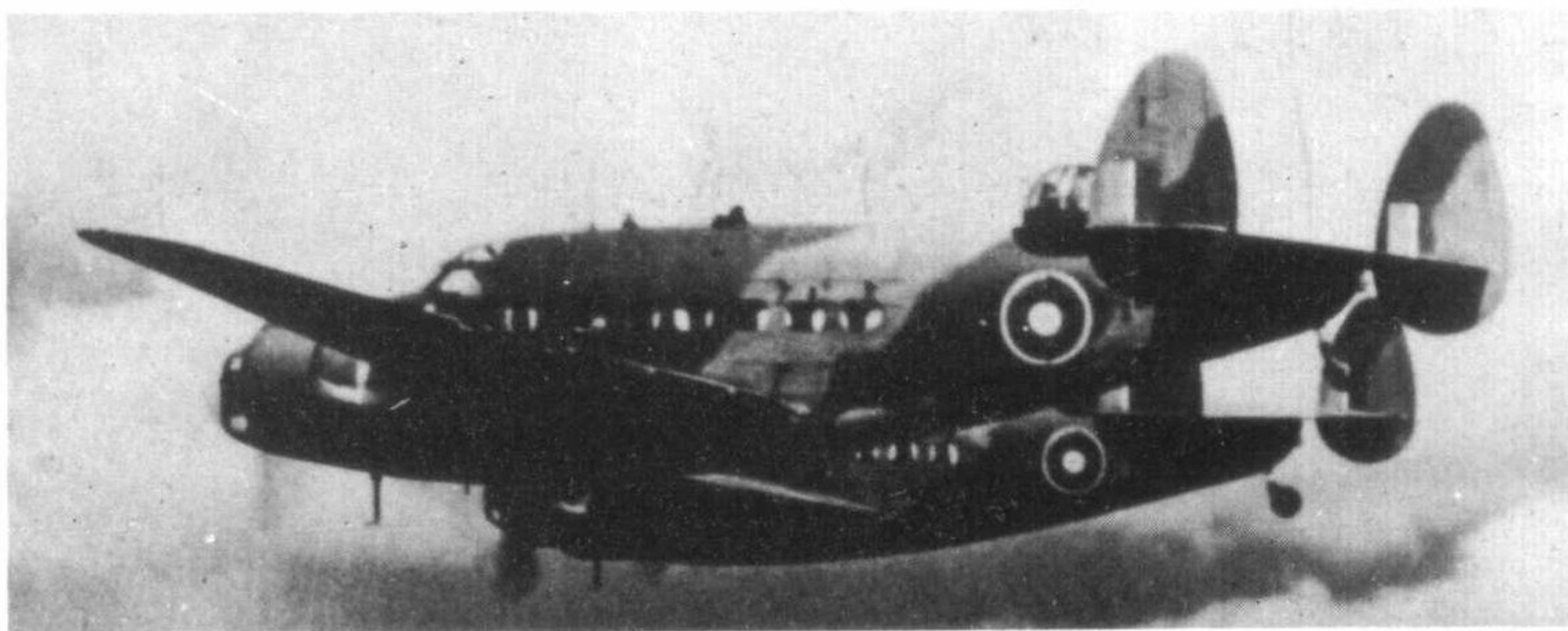
December 1940, a few Mark Is were converted for these duties, and operated in Egypt by No. 267 Squadron. In 1942, when supplies of the Hudson VI became available the aircraft appeared here in substantial numbers, operating in North Africa with Nos. 117 and 267 Squadrons, and in East Africa with No. 163 Squadron. These transport Hudsons had all been replaced by Douglas C-47 Dakotas before the end of 1943.

RAF Hudsons in the Far East

In December 1941, with the Japanese attack on British, Dutch, American and Australian territories in the Far East, the only operational Hudson units were those of the RAAF—of which more later.

Initial RAF reinforcements flown out by way of the Middle East included Hudson IIIs, some of which were issued to the RAAF units in Singapore, others re-equipping No. 62 Squadron, RAF, which had previously flown Bristol Blenheims, but had lost nearly all its aircraft. Operations were flown mainly at night, but attrition through Japanese attacks on Allied airfields soon led to the unit's disbandment because of the shortage of aircraft.

Other Hudsons were held in India where No. 139 (General Reconnaissance) Squadron was formed during December 1941. The unit began operations over the Bay of Bengal in February 1942; and continued throughout the British retreat from Burma—notably reconnaissance sorties down the Burma coast. Inevitably, these were operations on which several Hudsons were lost during May to Imperial Japanese Army Air Force fighters operating from Akyab Island. The unit was then renumbered No. 62 Squadron and moved in June to Cuttack. From here on September 9 1942, four Hudsons joined Blenheims in a bombing raid on Akyab, one Hudson being shot down by Japanese fighters. Generally the unit concentrated on patrolling and coastal reconnaissances until October when it was withdrawn to Vizagapatam to rest, and then retrain as a light bomber unit. Still retaining Hudsons, the first such mission was flown on December 14 by two aircraft, again operating



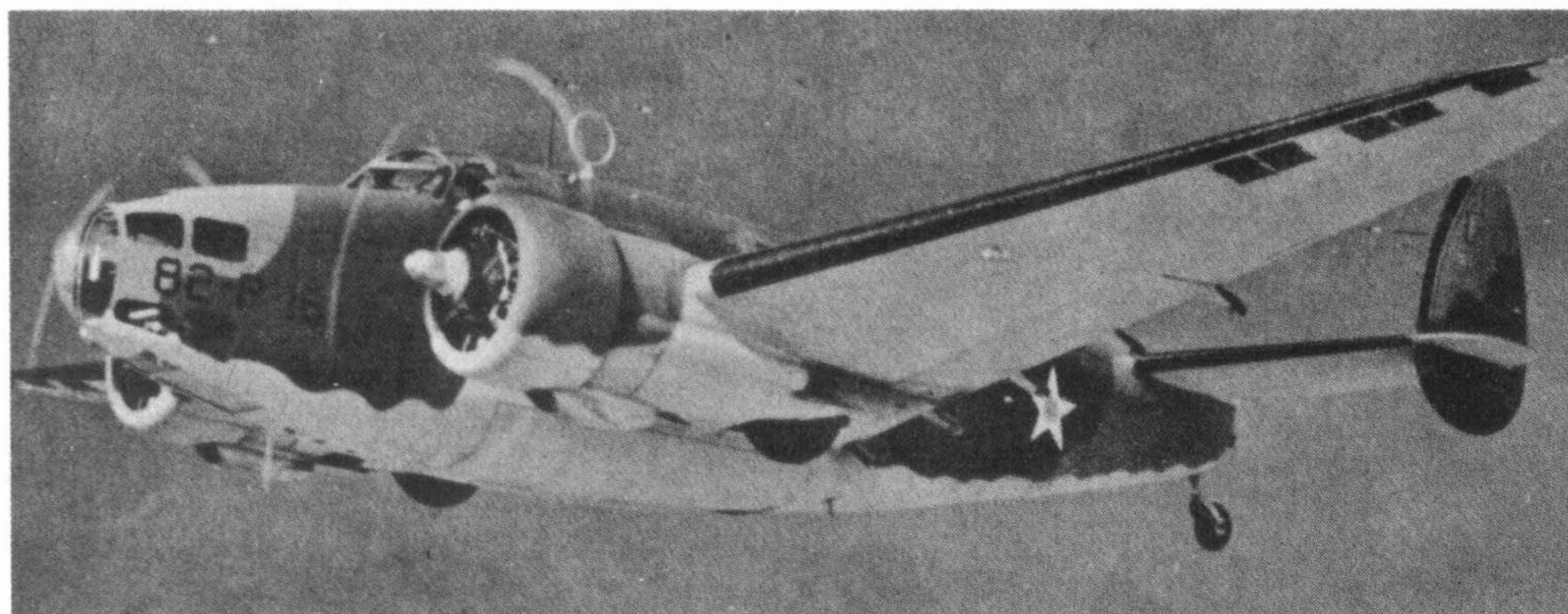
No. 3 Squadron RNZAF Hudson Mk IIIAs were operating out of Henderson Field, Guadalcanal in 1942; duties including anti-submarine patrols. (Photo: Frank F. Smith)

alongside Blenheims, but this time with fighter escort. In January 1943, the unit moved to Dhubalia and began bombing attacks on enemy shipping along the Arakan coast until late February, when it moved to Jessore. From here it flew regular night bombing attacks over the front, six or seven sorties a night being flown until late May when operations ceased. The squadron then became a transport unit, and all Hudsons had gone by late November, 1943.

Meanwhile a further squadron, No. 353, had been formed at Dum Dum in June 1943, with a nucleus of ex-62 Squadron crews. During July, this unit began general reconnaissance operations along the Burma coast also; later in the year it made convoy escort sorties over shipping crossing the Bay of Bengal.

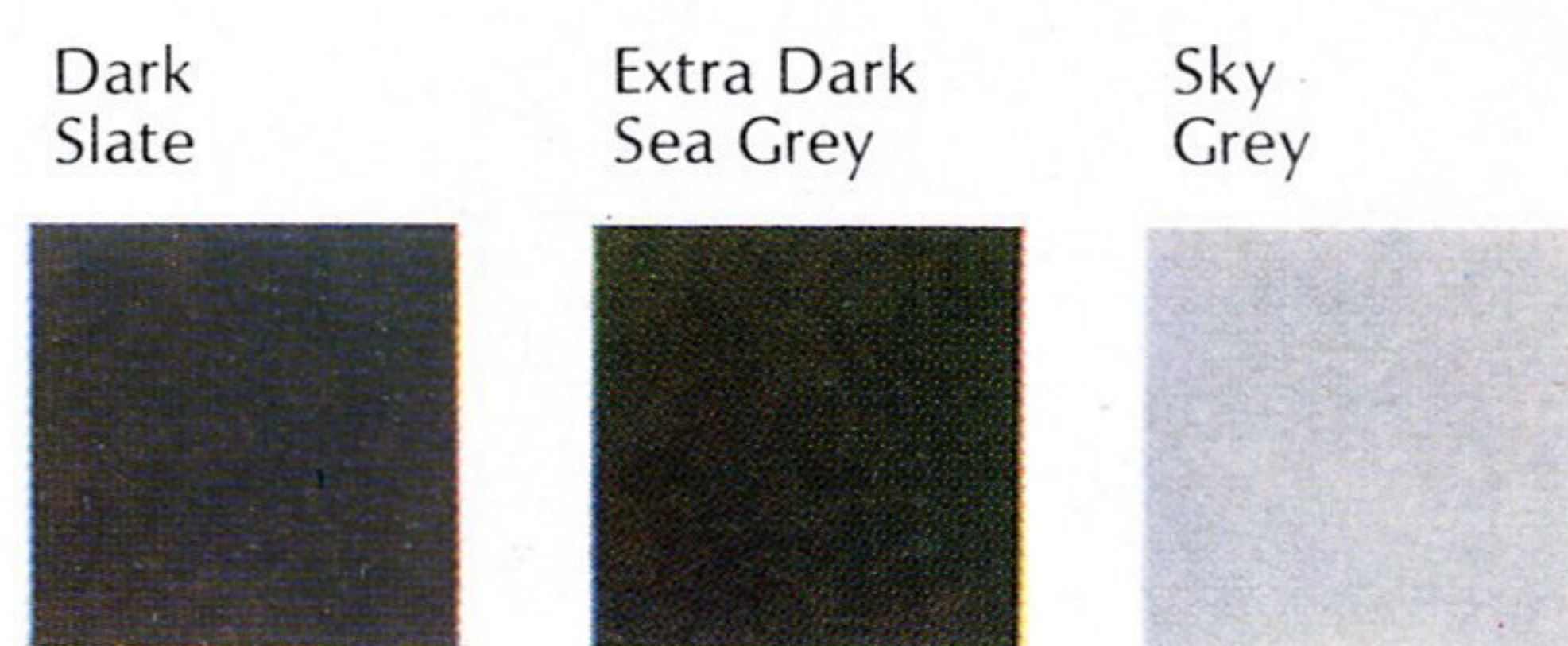
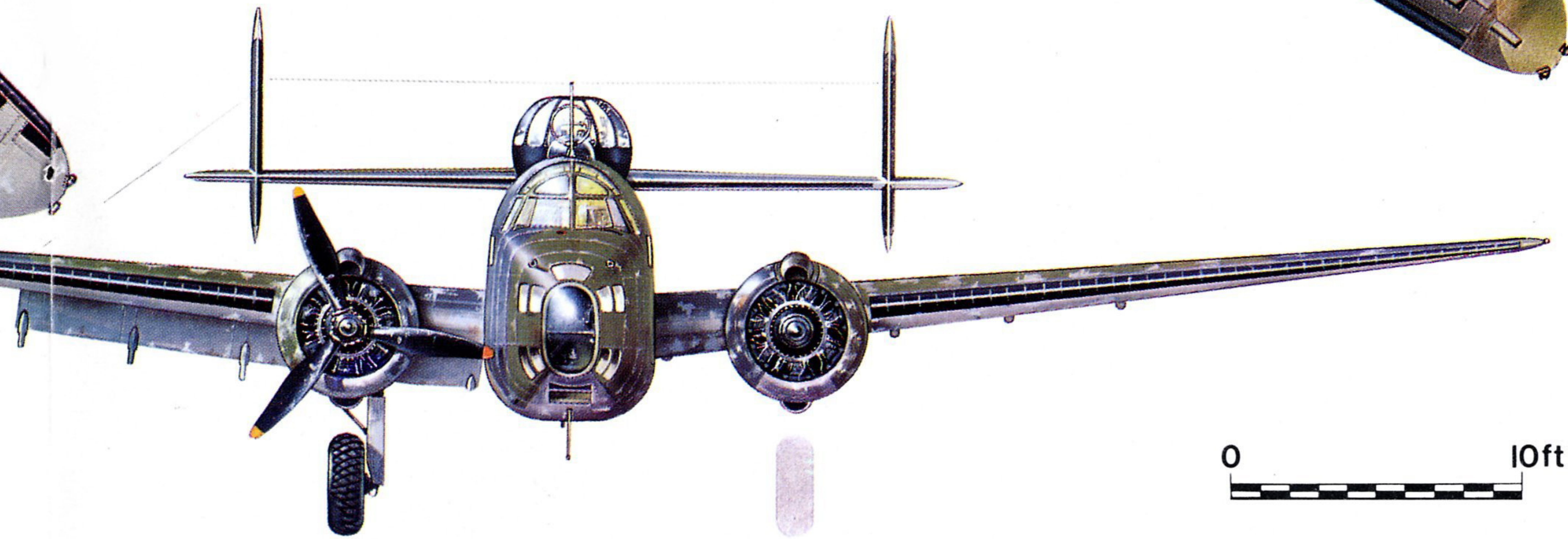
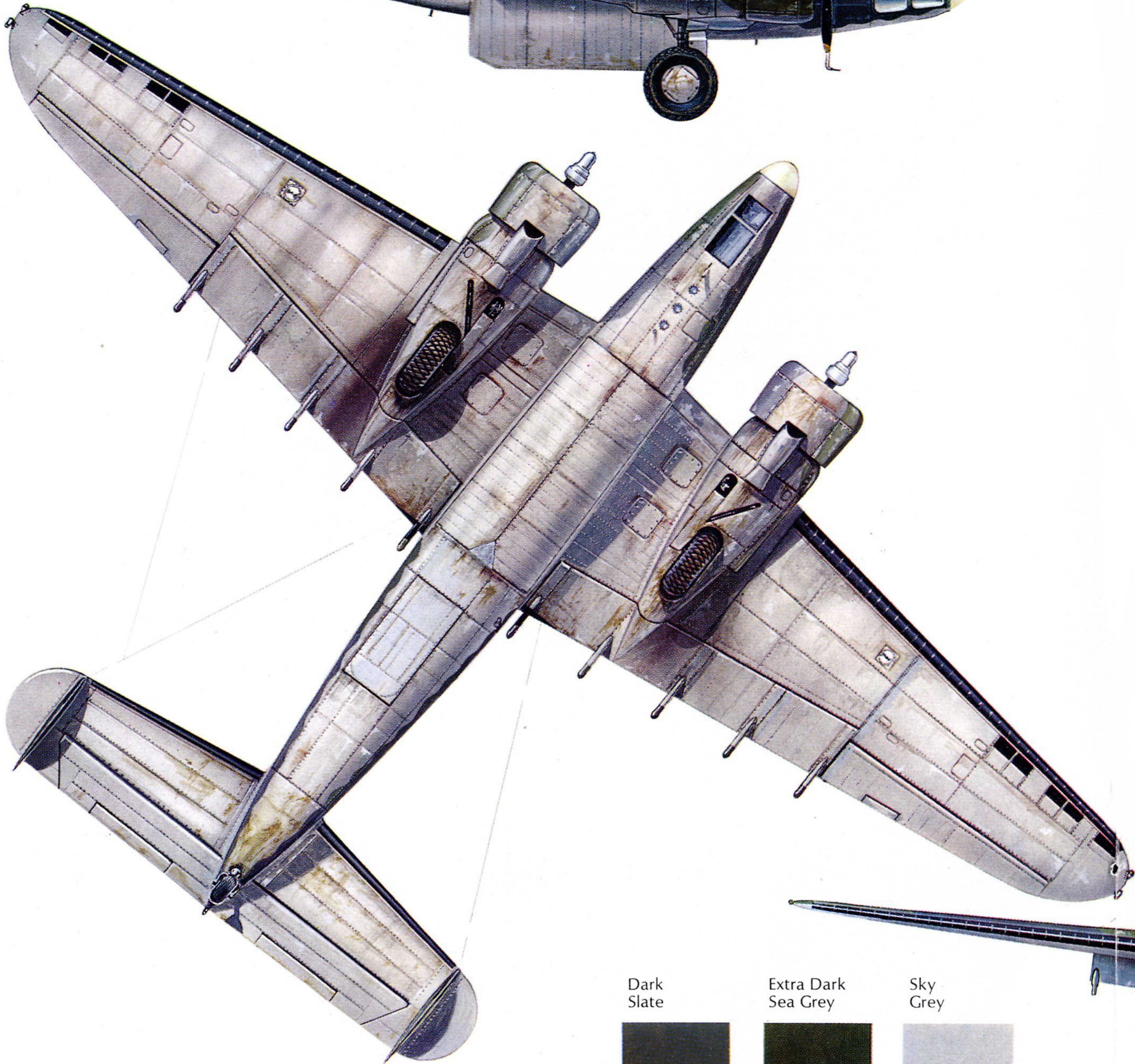
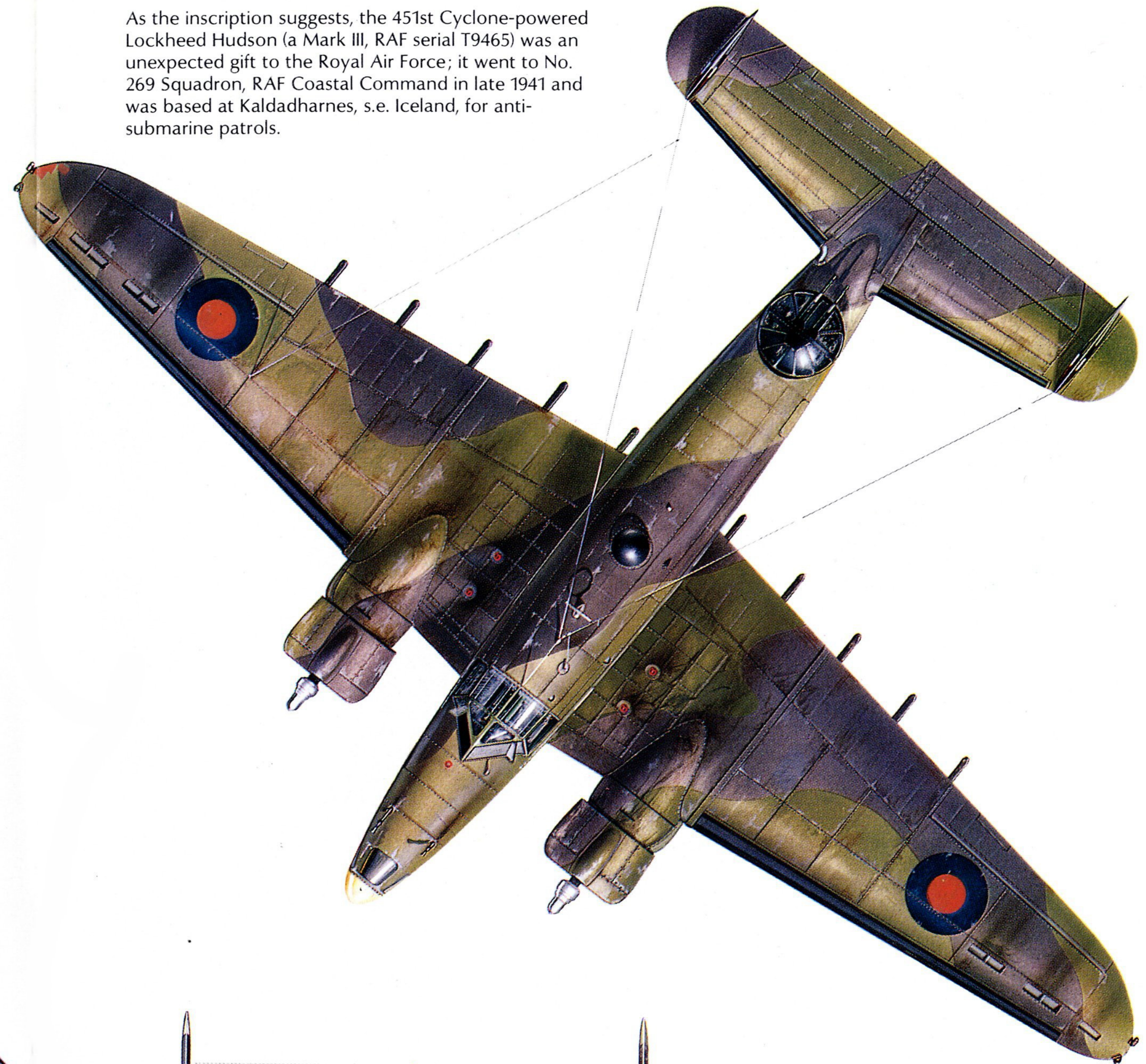
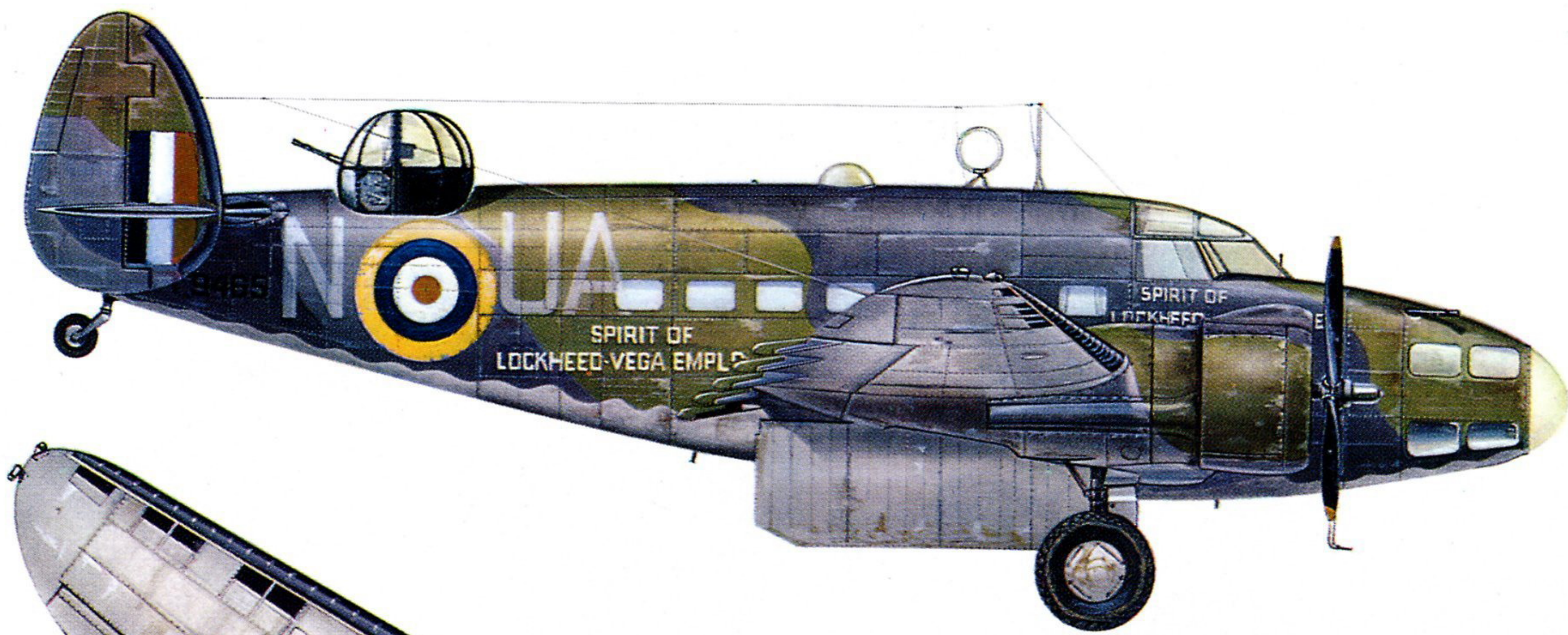
During October 1942, No. 194 Squadron was formed at Lahore, also receiving Hudsons, but for transport purposes, the gun turrets being removed and the openings faired over. In December, a detachment moved to Dum Dum to fly daily supply services to Feni and Chittagong, near the front. On December 16 one transport on route to the latter destination fell foul of two Nakajima Ki-43 *Hayabusa* ('Oscar') fighters, and was forced to crash-land on a beach. In January 1943, the squadron began dropping supplies to troops in the Fort Hertz area, some of the first organized supply-dropping missions in Burma. To keep up the required number of sorties, some Hudsons were borrowed from No. 353 Squadron at this time.

In February 1943, while maintaining detachments on supply dropping duties, the main part of No. 194 Squadron moved to Palam to fly



One of 20 Cyclone-powered US Navy PBO-1s (USAAF A-29/RAF Hudson IIIA) which were acquired to equip Patrol Squadron Eighty-Two (VP-82) operating out of Argentia, Newfoundland, 1941-42. (Photo: US Navy, via W. T. Larkins)

As the inscription suggests, the 451st Cyclone-powered Lockheed Hudson (a Mark III, RAF serial T9465) was an unexpected gift to the Royal Air Force; it went to No. 269 Squadron, RAF Coastal Command in late 1941 and was based at Kaldadharnes, s.e. Iceland, for anti-submarine patrols.



internal freight and mail routes in India. By April, all detachments had returned from the front, and in May the unit began converting to Douglas Dakotas. No. 353 Squadron meanwhile continued its coastal duties, making some attacks on coastal shipping during early 1943. These operations continued until August when it withdrew to Palam and began transport duties, flying mail on internal routes. Some Hudson VI transports were received in October. In early 1944, the first Dakotas arrived and the last Hudson was phased-out during July.

In Ceylon, August 1942, No. 217 Squadron arrived from the Middle East. At this time, stocks of Bristol Beauforts—their previous equipment—were insufficient, so the unit received instead Hudson IIIs and VIs. The use of these on shipping patrols was brief, the first Beauforts arriving in April 1943, and fully replacing the Hudsons by the end of June.

As the war in South-East Asia progressed, Special Duty operations—dropping arms and agents to Burmese and Malayan guerillas—became of increasing importance, and a flight of Hudsons and Consolidated Liberators at Dum Dum was formed late in 1943 for these purposes. In February 1944, this No. 1576 (Special Duties) Flight became No. 357 Squadron, and while having on strength Hudsons, Liberators and Catalinas, all initial operations were by Hudson IIIs and VIs. Further Liberators gradually arrived during the year, but Hudsons continued to be used until December 1944, when they were finally replaced by Dakotas.

RAAF Hudsons

Early Hudsons in RAAF service in 1940 were fitted with an interim dorsal gun position with a hand-held, manually-operated gun, while awaiting delivery of Boulton Paul turrets from the United Kingdom. The first unit to receive Hudsons, No. 1 General Reconnaissance Squadron was despatched to Singapore in July 1940, to reinforce the RAF there, followed by 8 Squadron a few months later. By December 1941, six more squadrons had been fully or partially equipped with the aircraft and, on the outbreak of war with Japan, 77 were immediately available, 24 in Malaya and Singapore, and 53 in Australia, New Britain and the East Indies.

A Hudson of 1 Squadron was the first Allied aircraft to spot the Japanese; three aircraft were undertaking a sea search on December 6 1941, and one of these flown by Flight Lieutenant J. C. Ramshaw, found the approaching invasion fleet making for northern Malaya. Landings began at 02.00 on December 8, and at once six Hudsons of 1 Squadron were sent out from Khota Baru to attack at mast height. For the loss of two Hudsons, the 9,700-ton *Awagisan Maru* was blown up, and two barges ferrying troops to the shore were sunk. The squadron then withdrew from the immediate area to Kuantan, where 8 Squadron was based.

Apart from the two squadrons in Malaya, at this stage 2 Squadron, based at Darwin in Northern Australia, was maintaining a detachment at Koepang, Timor, and 13 Squadron, also at Darwin, had a detachment at Laha. At Rabaul was 24 Squadron, with only four Hudsons on strength; while 6, 7 and 23 Squadrons were all in Australia—7 with no aircraft and 23 with only three.

From Koepang, 2 Squadron Hudsons were also in action on the first day of the war, attacking the pearl fishing mother ship, *Nango Maru*, which was forced to run aground and was abandoned.

In Malaya on December 11 three reconnaissance aircraft of 8 Squadron spotted another convoy, and both units at Kuantan were prepared to attack, but before they could take off, enemy fighters arrived to strafe, destroying three Hudsons and damaging others. Later in the day both units evacuated Kuantan, flying to Sembawang in Singapore. From here they maintained bombing and reconnaissance missions by night and day, but by late in the month were down to a joint strength of only six aircraft. On Christmas Day, eight replacements arrived from Australia, and during January the first of a trickle of RAF Hudson IIIs began arriving from the Middle East, and some of these were allocated to the RAAF squadrons. Several raids on Sembawang during January 1942, again reduced strength, and on the 29th, the nine surviving aircraft were evacuated to Palembang, Sumatra.

To the south, 24 Squadron at Rabaul had first gone into action on December 15 when three Hudsons bombed a large merchant vessel seen near Kapinganarangi Island. On January 10 1942, an enemy force was seen heading for Minahasa, and this was attacked by both Hudsons and Consolidated Catalinas. Avoiding patrolling enemy floatplane fighters, the Hudsons attacked at low level, hitting a cruiser and two other ships. Next day further strikes were made, and when Mitsubishi F1M ('Pete') floatplanes attempted to intervene, two were shot down in flames and a third claimed probably destroyed. The tables were turned on the 12th when another attack by five Hudsons found Mitsubishi A6M2 *Zero-Sen* ('Zeke') fighters in waiting; these shooting down four of the bombers. Several more Hudsons were destroyed on the ground at Rabaul, the remainder helping to evacuate the island's garrison as the Japanese invasion forces advanced.

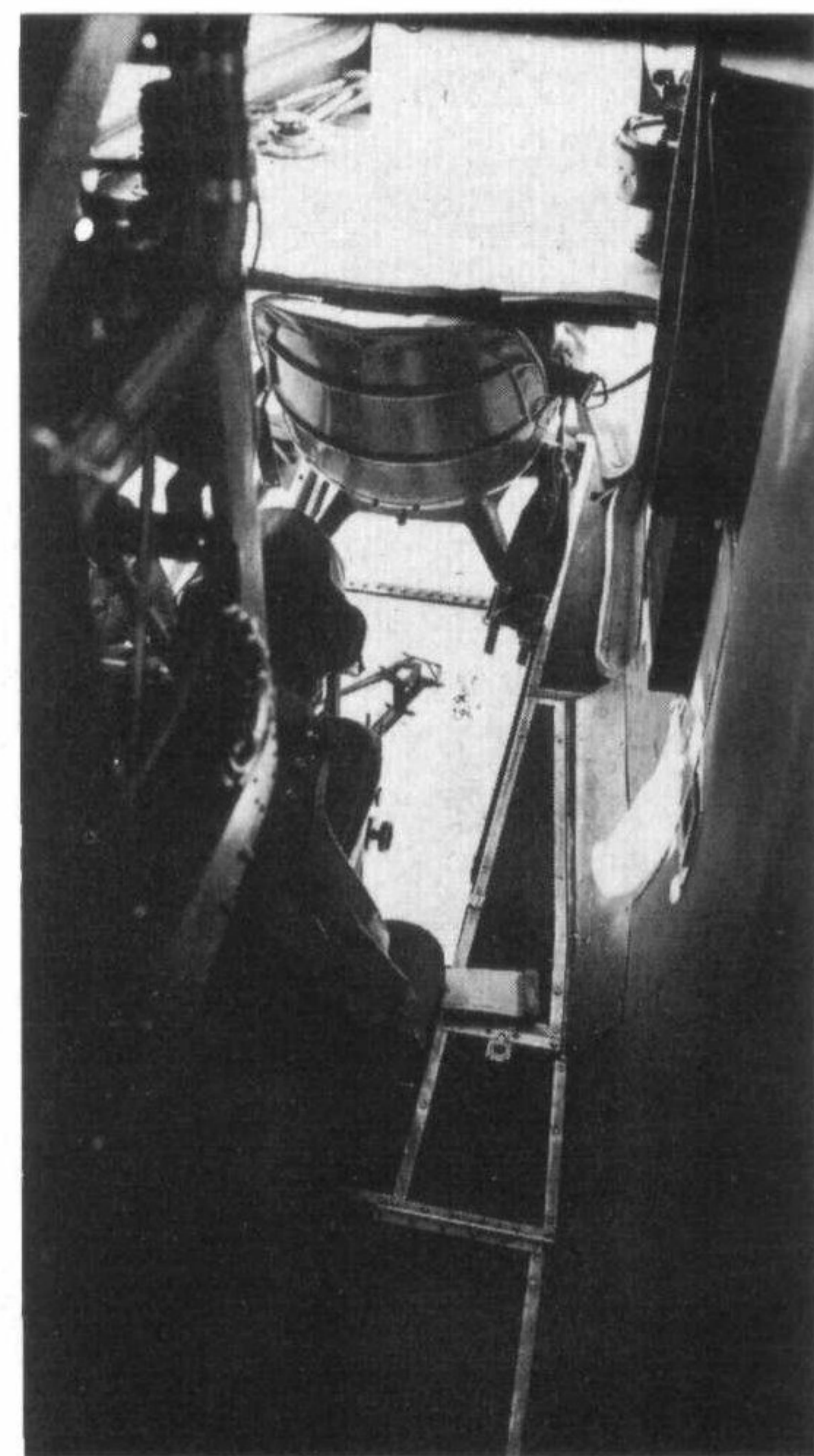
At Koepang and Laha, too, 2 and 13 Squadrons soldiered on with strikes and reconnaissance sorties but, by January 24, they had between them lost 13 aircraft, most victims of air attack whilst on the ground. On Sumatra, the aircraft of 1 and 8 Squadrons continued to operate, and further reinforcements arrived; by mid-month 1 Squadron had 16 Australian Mark IIIs on strength, while 8 Squadron had six ex-RAF



1



2



3



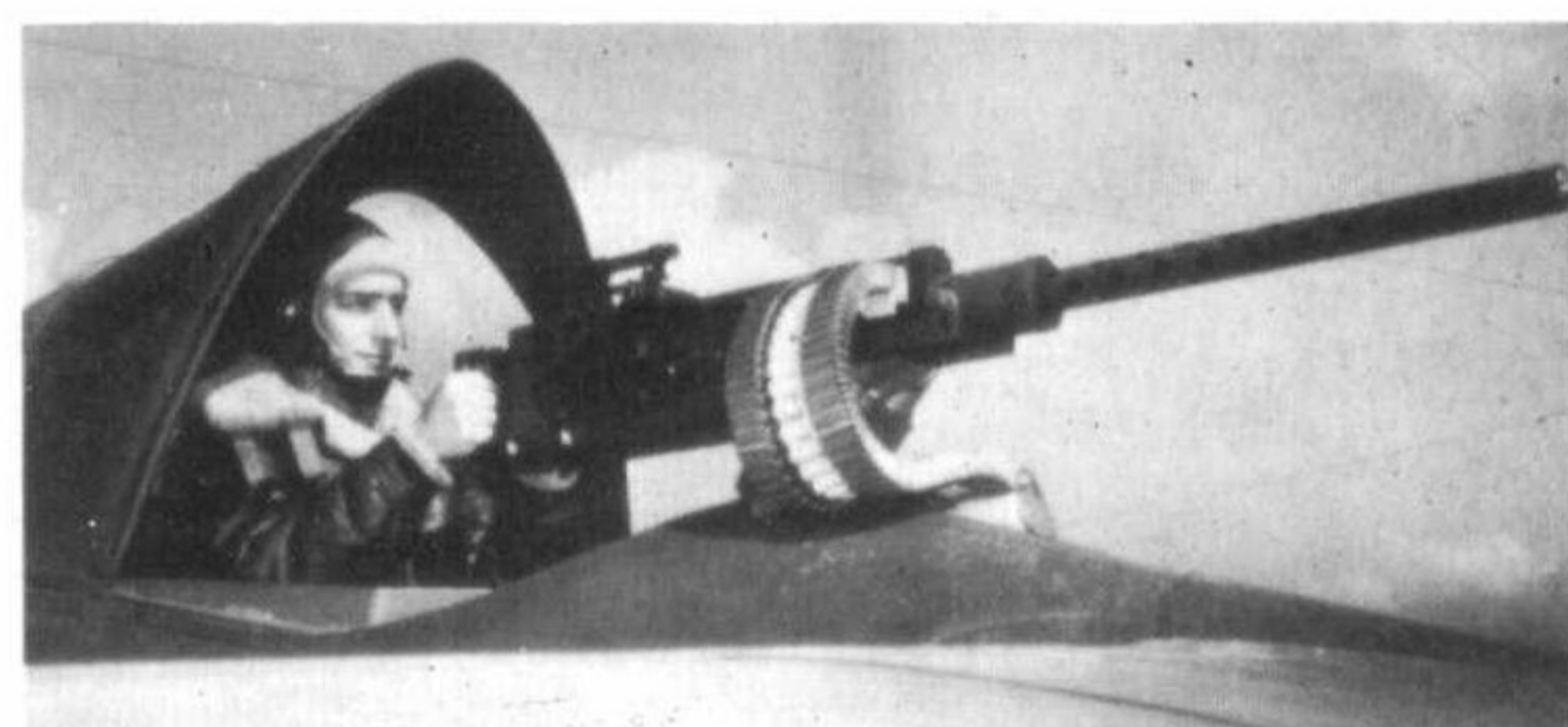
4



7

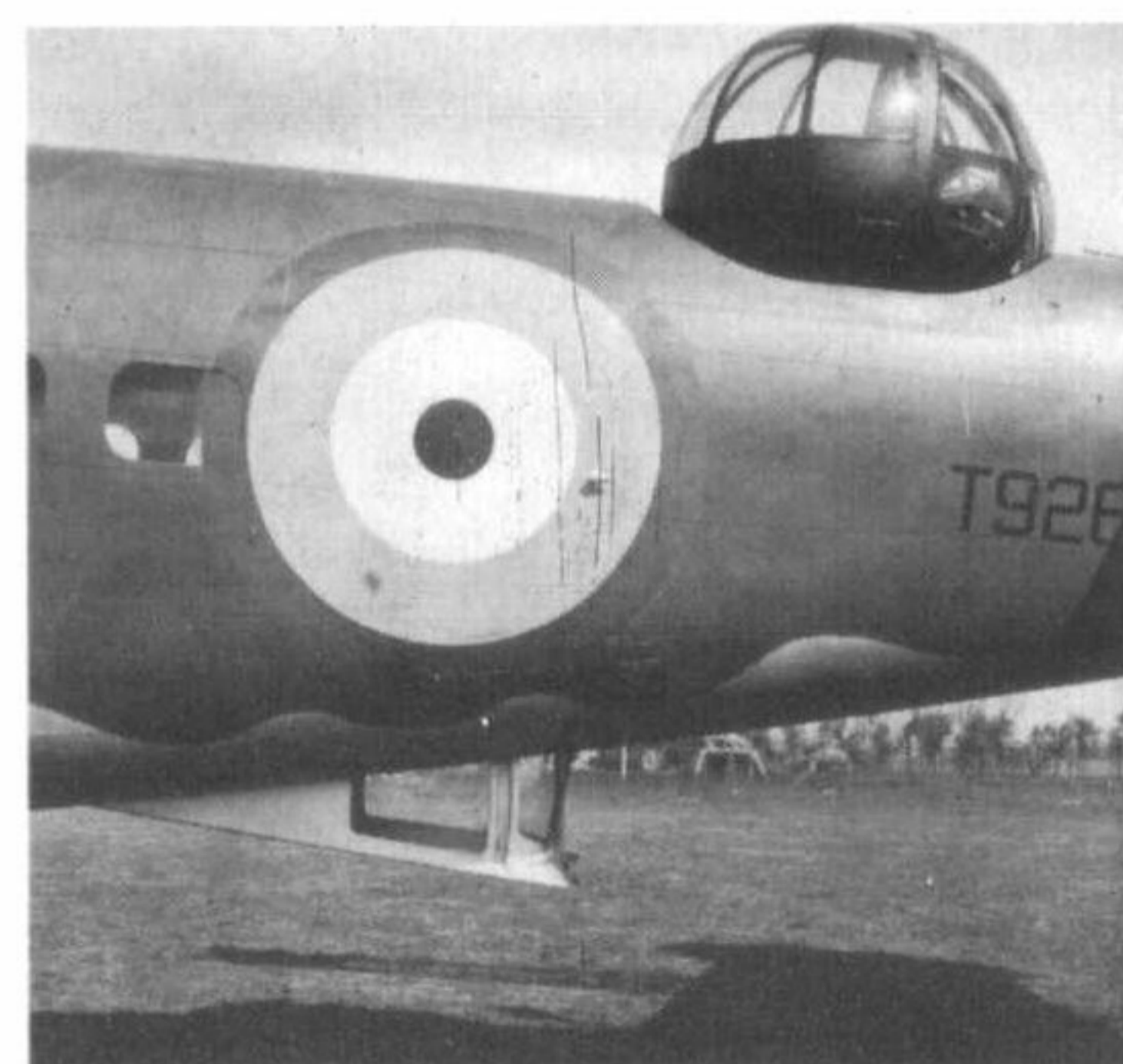


5

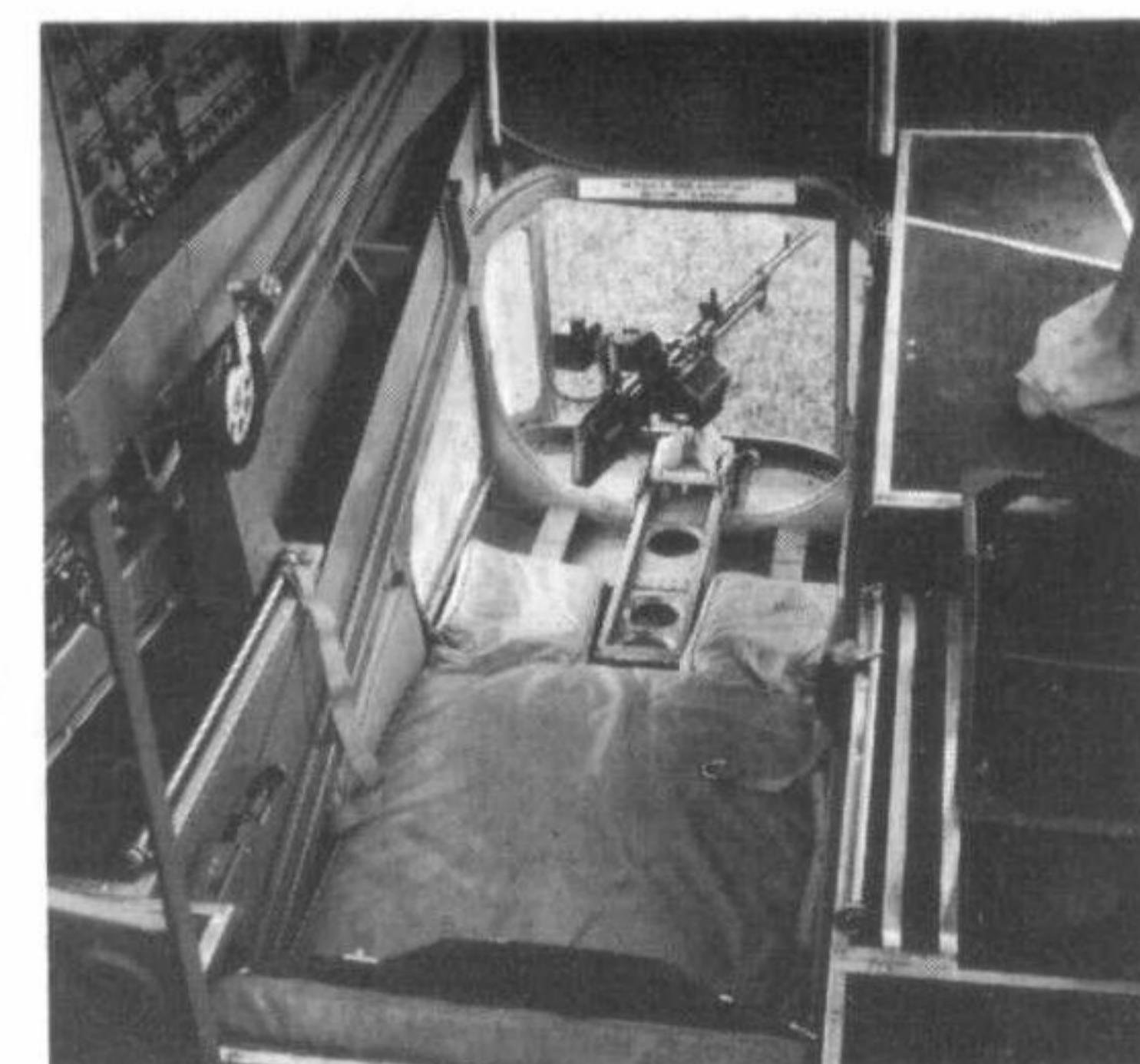


6

10



8



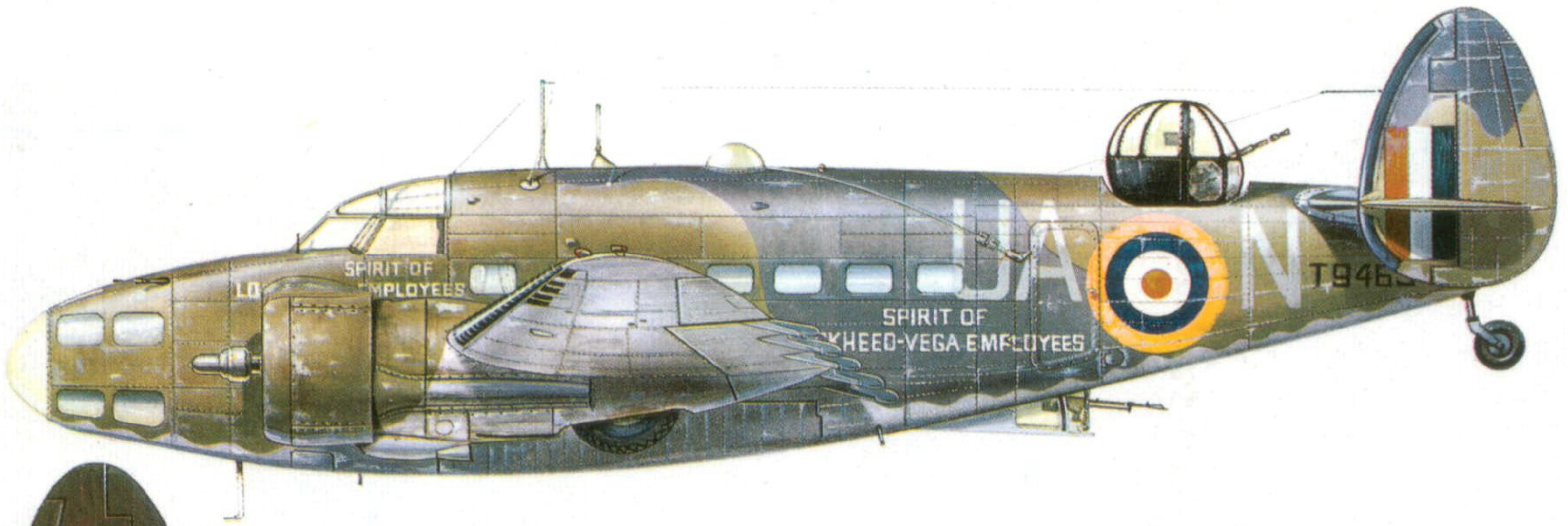
9



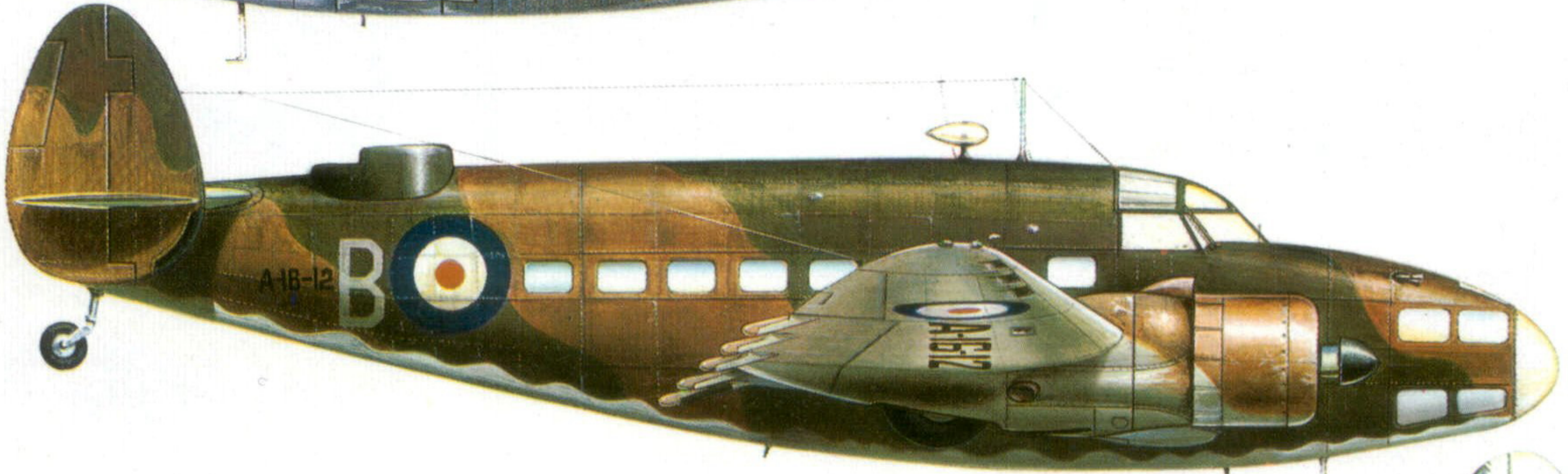
Hudson in close-up—1 The 'office', showing access to nose. Above pilot's head are the rails for curtain; outside his windscreen is the bead sight for fixed machine-guns. This is a Hudson Mk I of No. 206 Squadron. 2 Navigator in the extreme nose; his arms are resting on map table. 3 Same navigator now bomb-aiming in prone position under map table and bucket-seat. 4 Another Hudson Mk I (P5141) of No. 206 Squadron, RAF Bircham Newton. This shows 1940-period ASV array on side of nose and along wing leading-edge to the engine nacelle. 5 The British power-operated Boulton Paul turret with two 0.303-in. Brownings; as on all relevant marks of RAF Hudsons and 6 the USAAF open position on A-29s with one hand-held 0.50-in. Browning. 7 An RAAF Hudson Mk IV sustained severe damage in 1942 after engaging the Japanese. Bomb door was deep enough to require design 'trimming' to the rear. 8/9 Rarely illustrated ventral gun platform applicable from Mk III Hudsons onwards. A&AEE tests were conducted with this Mk I (T9266) seen at Boscombe Down in October 1940. Gun is a 0.303-in. Vickers GO Type K. 10 Sergeant is attaching rearming strap to 0.303-in. ammunition belt for the dorsal turret. Bulge to right of n.c.o. is dinghy stowage on door.

(Photos: Nos. 1 to 3, 5 & 10 from *Flight International*, ref. 17900-series; No. 4 IWM, ref. CH311, via Philip Moyes; Nos. 6 & 7 USAF and RAAF, via *Flight International*; and Nos. 8 & 9 Crown Copyright Reserved, A&AEE, via Alfred Price)

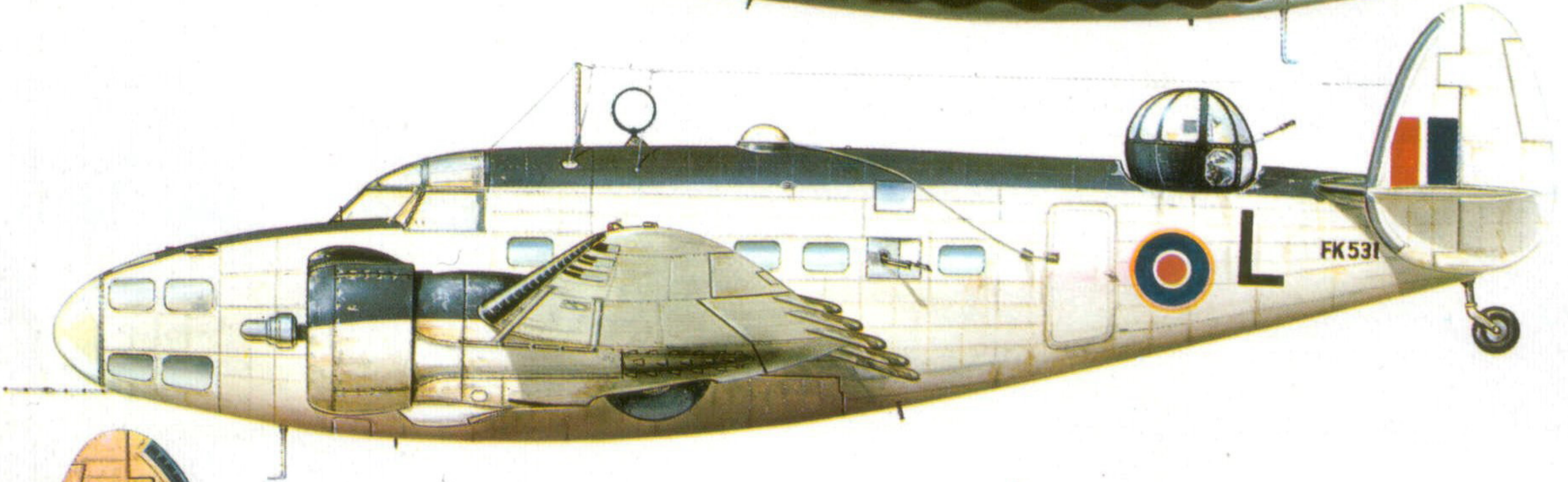
6



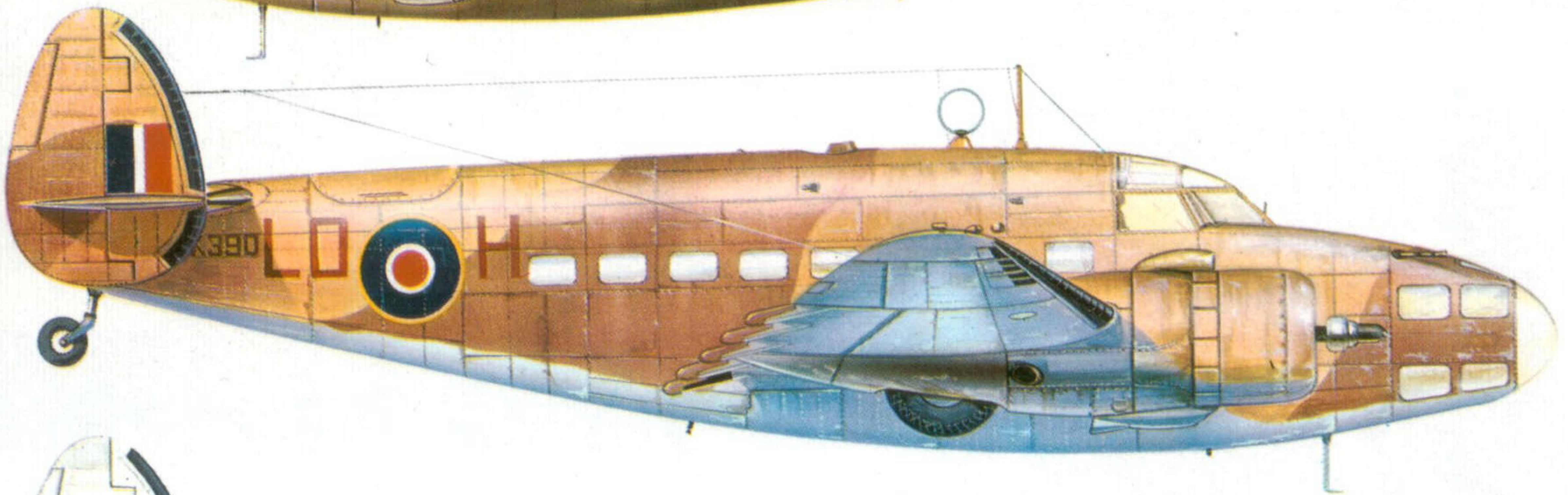
7



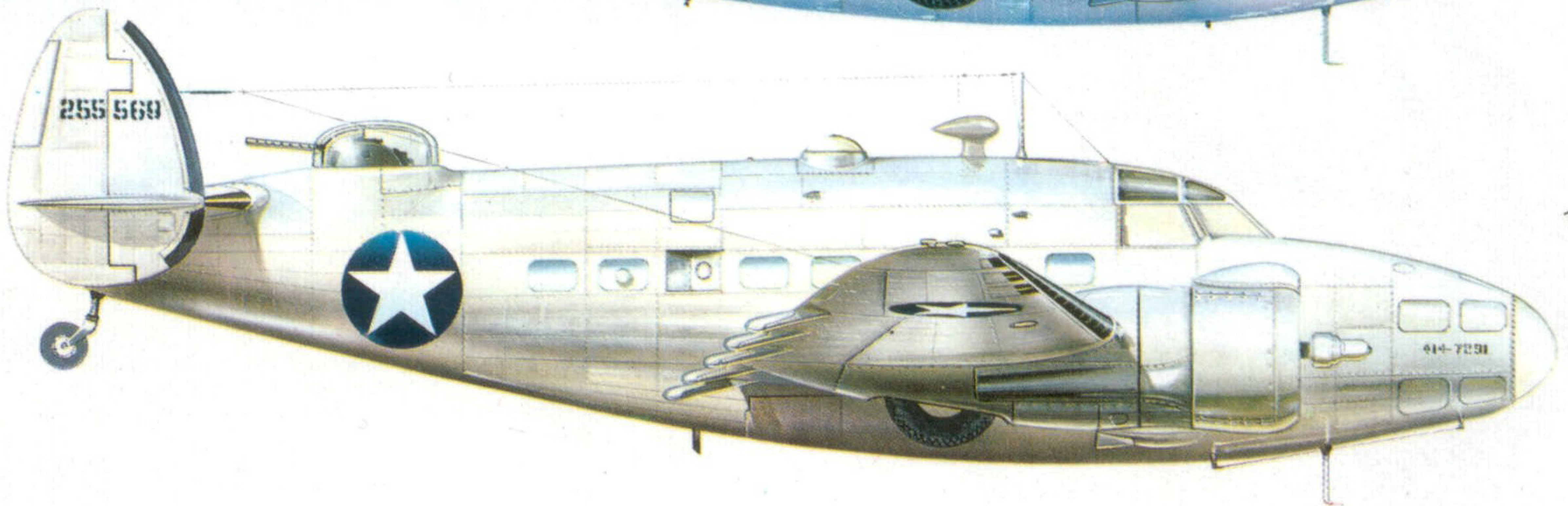
8



9



10



Mark IIIs; all being in urgent need of overhaul.

On February 14 both units began flying to Semplak, Java where, on the 20th, 8 Squadron was disbanded, the aircraft being handed to 1 Squadron, while the aircrews left for Darwin to reinforce 2 and 13 Squadrons. Two days later enemy fighters made a surprise attack on Semplak, destroying five Hudson IIs and three Mark IIIs. The few remaining aircraft carried on, but by March 1 only two were sufficiently serviceable to attack invading forces on the Java coast; and, during 5–6 March, the last three airworthy aircraft left for Australia.

Earlier in February, Japanese vessels were seen approaching the south coast of New Britain, and a composite squadron of Hudsons which had been quickly thrown together and flown to New Guinea, was alerted. On February 9, landings began at Gasmata and the first air attacks were made. A further attack by three Hudsons at mast height on the 11th set two transports on fire, but as the bombers climbed away, they were engaged by fighters; two of these were claimed shot down, but two Hudsons failed to return.

On February 19 Timor was evacuated after two more Hudsons had been destroyed on the ground here, and on this date Japanese carrier aircraft launched a devastating attack on the Darwin area, many Allied aircraft being destroyed, including six of the 17 Hudsons of 2 and 13 Squadrons. On February 21, the composite unit in New Guinea was designated 32 General Reconnaissance Bomber Squadron; this unit was in action again early in March when a further enemy convoy was spotted heading for Lae, on the north coast of the island. Hudsons attacked early on the 8th, sinking one transport.

From north-western Australia, 2 and 13 Squadrons maintained attacks on Timor and Ambon. While attacking ships in the latter area on May 13 nine 2 Squadron aircraft caused one vessel to explode, though the force of the explosion destroyed one Hudson which was overhead at the time. On May 28 both squadrons made a similar attack, but were engaged by fighters, one Hudson of each unit being lost, while others claimed one of the enemy aircraft shot down.

The RAAF had by now received further Hudsons, 52 Mark IVAs being diverted from the USAAF, where they had been designated A-28s (serials 41-23171 to 41-23222); they received Australian serials A16-101 to A16-152. They were followed by Hudson IIAs diverted from the RAF. With the Japanese advance finally held in mid-1942, the RAAF now had five squadrons of Hudsons; 2 and 13 were in the Darwin area; 6 and 7 were in New South Wales on anti-submarine duties, and 32 Squadron was in New Guinea. After a few depth charge attacks during May and June, 6 Squadron then moved north to Horn Island in August, taking

part in attacks on Japanese shipping during the attempted invasion of Milne Bay, New Guinea, later that month.

During this same period, 2 and 13 Squadrons continued attacks on Timor in support of *Sparrow Force*, a guerilla formation still operating on the island. Supplies were dropped to this force, and during operations here enemy fighters were engaged on several occasions. On August 21 two Zero-Sens ('Zekes') attacked five Hudsons of 2 Squadron, shooting down one and forcing down Flying Officer N. T. Badger's (A16-241) to within 50 feet of the sea; Badger's crew fought back, shooting down one 'Zeke' and escaping. Three more 2 Squadron aircraft were bombing shipping on September 25 when 'Zekes' attacked, singling out an aircraft flown by a new crew led by Flying Officer Jones. Returning fire, Sergeant Reilly shot down one fighter with a side gun, and Sergeant Rees a second with the turret armament.

Later in the year, the Hudsons were joined in their activities over Timor by Bristol Beaufighters, but throughout 1942 they remained the main striking force. On December 27 six 2 Squadron aircraft over the island were once more attacked by 'Zekes', one Hudson being shot down in flames; Flight Lieutenant Robertson's aircraft was also attacked and forced down low, but the belly gunner managed to send down one attacker in flames.

In New Guinea, 6 Squadron had moved to Port Moresby late in 1942, but 13 Squadron had by then been despatched to New South Wales for a well-earned rest on sea patrol. A critical situation in Papua required the flying-in of supplies to troops in the Buna area, but a desperate shortage of transport aircraft led to 6 Squadron being impressed into undertaking these duties during November, flying in to a forward airstrip at Dobodura. To ease the situation, the RAAF Special Transport Flight was formed and flown over to New Guinea in December, including in its strength 15 Hudsons from 1 OTU (Operational Training Unit). Flights into Dobodura began at once, and in a desperate effort to stop these, Japanese fighters attacked the strip on December 26 just as a number of Hudsons were taking-off. Several were damaged, though the gunner of one managed to shoot down one 'Zeke', with a second probable. One Hudson was set on fire, and had to be ditched in the sea with a number of wounded soldiers on board.

A heavy raid on Milne Bay on January 17 1943, destroyed one Hudson of 6 Squadron, now based there, and damaged all the rest of the unit's aircraft. Despite this, the squadron continued reconnaissance and strike missions from the island until September 1943, when it finally converted to Bristol Beauforts. In New South Wales, 7 Squadron had also received Beauforts by this time, but in the north-west area 2 and 13 Squadrons continued to operate over Timor

Key to colour illustrations

6 Hudson Mk III (T9465). This view is complementary to those on centre spread.

7 Hudson Mk IV or Royal Australian Air Force Mk I (A16-12) is shown with the temporary open dorsal gun position; and the markings are those of 2 Squadron, RAAF, based at Darwin in 1941.

8 Hudson Mk IIIA of No. 48 Squadron, RAF, with ASV array. Period 1944-45. The dinghy quick-release cable, from the escape hatch (astro dome) to door, is noteworthy. NB: Code letter and serial number should be Z:FH271 and not that shown which was one of No. 48's Mk IVs. 'Z for Zebra' was the 106th A-29A (USAAF 41-37072) built.

9 Hudson Mk VI (FK390) is finished in 'Desert' camouflage and bears the code letters of No. 117 Squadron, RAF. This was the first unit to operate troop-carrying Mk VIs in Egypt. Period, 1942.

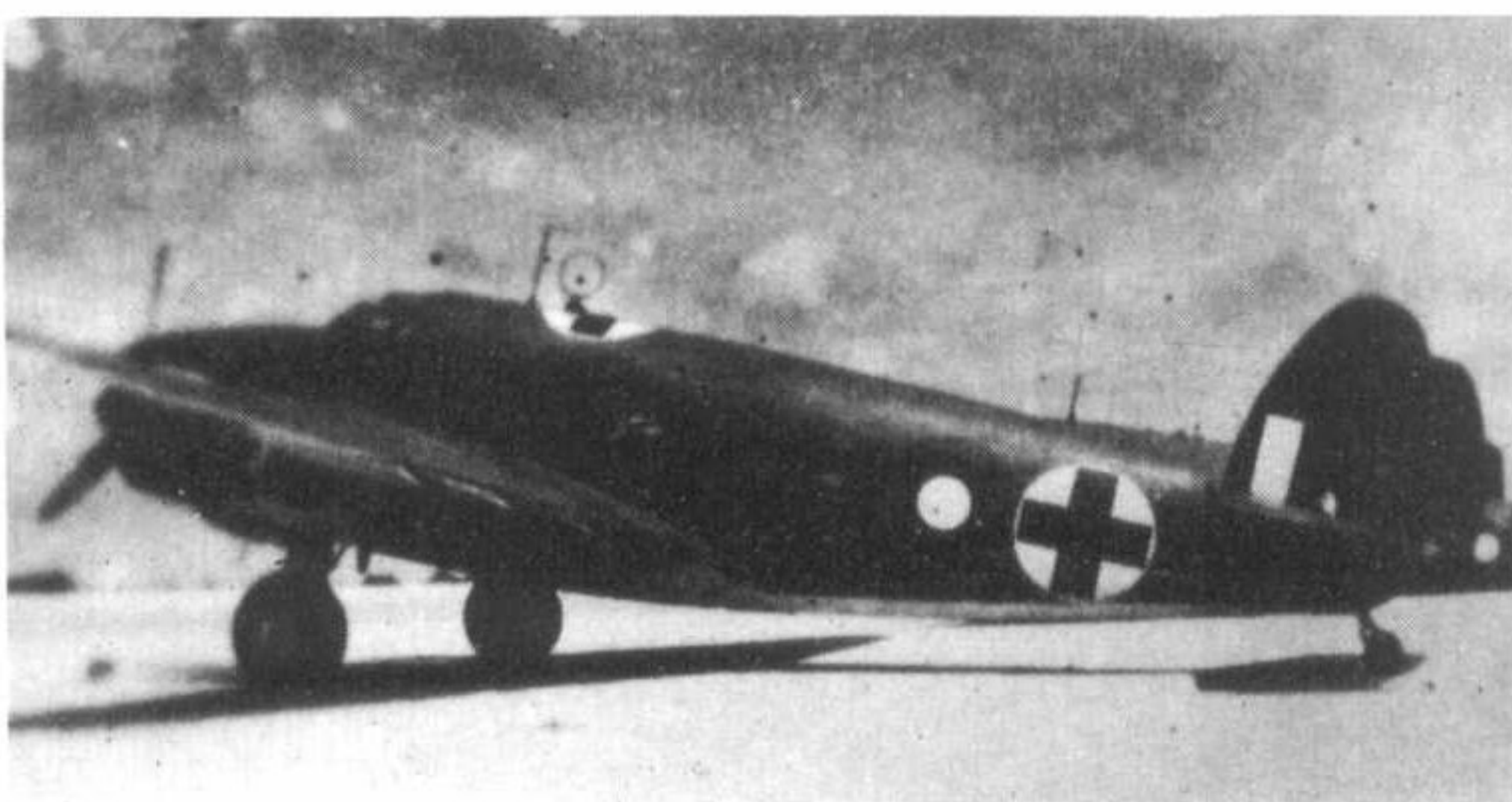
10 US Army Air Forces' AT-18 (USAAF: 42-55569) crew and gunnery trainer. The turret is an electrically-operated model from Martin and mounts two 0.50-in. Brownings. On the nose of this AT-18 is the Lockheed construction (or assembly) number 414-7291. AT-18/AT-18As were issued to the USAAF in bare metal finish. Period, 1942-43.

during 1943, though the arrival of units equipped with more modern aircraft allowed them to undertake their bombing missions at night, flying only reconnaissance sorties by day. Later in the year their duties were changed to anti-submarine patrol, but it was March 1944, before 2 Squadron received Bristol Beauforts, and several months after that before 13 Squadron was re-equipped with Lockheed Vega Venturas, and 32 Squadron in New South Wales with Beauforts. Other RAAF units to operate a few Hudsons included No. 1 Rescue and Communications Unit, some of whose aircraft later carrying airborne lifeboats, 2 Air Ambulance Unit, and the RAAF Survey Flight.

A number of Hudsons was sold to civilian operators in Australia after the war and, as late as 1972, at least three—two Mark IIIs registered VH-AGS and VH-AGX and one Mark IV, VH-AGJ—were still being used for survey work by Adastra Aerial Surveys.

Hudsons of the RNZAF

In March 1940, the British Government agreed with New Zealand leaders that should Japan enter the war on the Axis side, 18 Hudsons would immediately be released direct from the USA for use by the RNZAF. As tension mounted in the Pacific, double this number—36 aircraft—were in fact delivered before the Pearl Harbor attack. These comprised 30 Mark IIIs (V9235-V9252, AE490, and AE495-AE504) and six Mark Vs (AM589-AM594). They entered service with three General Reconnaissance squadrons, Nos. 1, 2 and 4; units also operating a number of obsolescent Vickers Vincent general-purpose biplanes. Following the outbreak of war in the



Large Red Cross markings identify the role of Hudson Mk IIIA (A16-177) while serving with the RAAF's No. 2 Air Ambulance Unit in Northern Australia, 1944. This amateur snapshot also reveals the tail of a Lockheed Lodestar (ex-USAAF C-60A) of No. 37 Sqn., RAAF (serial A67-3). (Photo: Frank F. Smith)

Pacific in December 1941, a detachment of six Hudsons of No. 2 Squadron was despatched in February, 1942, to join No. 4 Squadron, which was based at Nandi in the Fiji Islands, where a Japanese invasion was thought to be imminent; it did not materialize in the event.

Urgent requests were made for more aircraft to meet the emergency, and more Hudsons (Mk IIIs) were diverted from the United States; together with four Mark VIs.

At the request of the US Government, the Hudsons from Fiji, and those of Nos. 1 and 2 Squadrons were despatched during the summer to the island of New Caledonia in the South Solomons to undertake anti-submarine patrols.

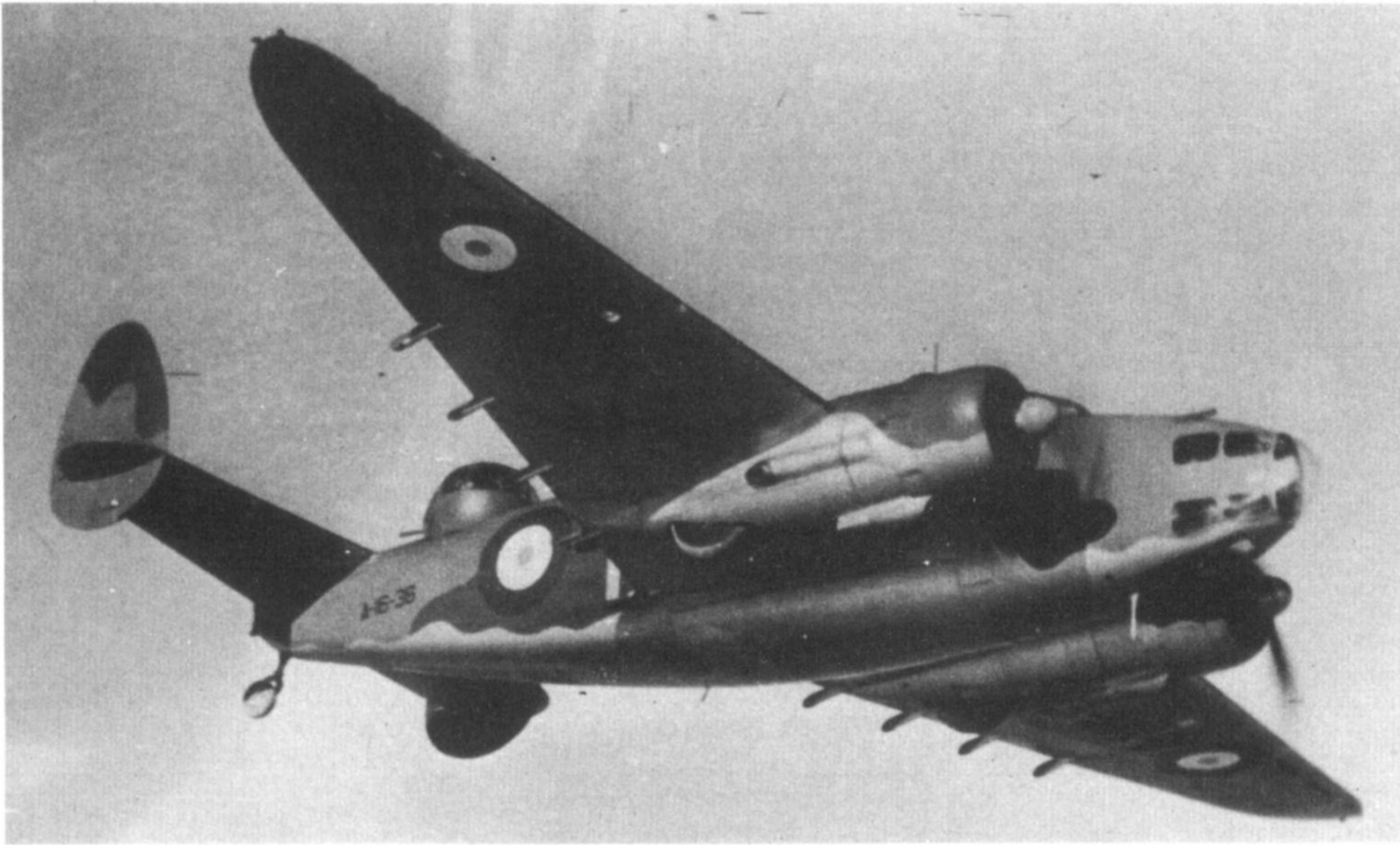
One of more than 150 Mk IIIs diverted to the USAAF as A-29s; later reclassified for restricted use as RA-29s. Rear dorsal position has hand-held 0.50-in. Browning. Although tail bears Army serial 123325, RAF serial (BW463) is retained on rear fuselage. (Photo: USAAF official)



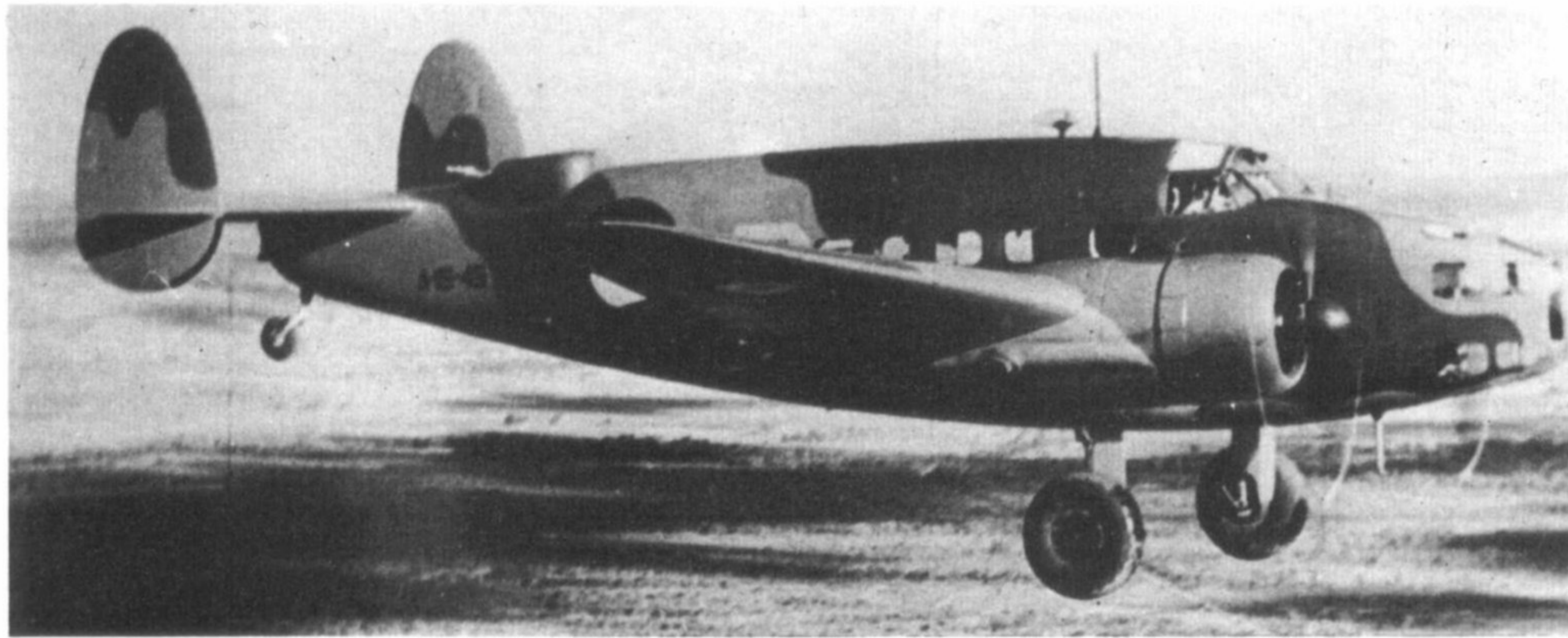
A-for-America and Lend-Lease; a Mark IIIA (FH314) at Fayid in Egypt, 1944. For local operating conditions, extra-large, Martin Baltimore-type, scoops replace the normal carburettor intakes on top of the cowlings. Exhaust flame-damper extensions are in evidence. (Photo: via Air-Britain)



Hudson Mk IIIA (FK747) of No. 48 Squadron, RAF, at Gibraltar in 1944 displaying ASV antennas and plate for fitting 4-a-side rocket launching rails. Extra window added above revised and squared-off No. 6 window frame; latter for beam Vickers Type K machine-gun. (Photo: Crown Copyright reserved, Air Min. via A. Price)



Australian-contract Hudsons were RAAF designated as Marks I and II. To avoid further confusion, the RAF redesignated both these variants as Mark IVs—identifiable by the P&W Twin Wasps' broader-chord cowling with cooling gills. Both these Australian Mk Is were flying with No 14 Squadron, RAAF, in Western Australia, 1941. The ugly interim dorsal gun mounting was applied to A16-45 (below) and the Boulton Paul turret to A16-36 (left). RAAF serials appear under wings in each case. (Photos: Frank F. Smith, Australia)

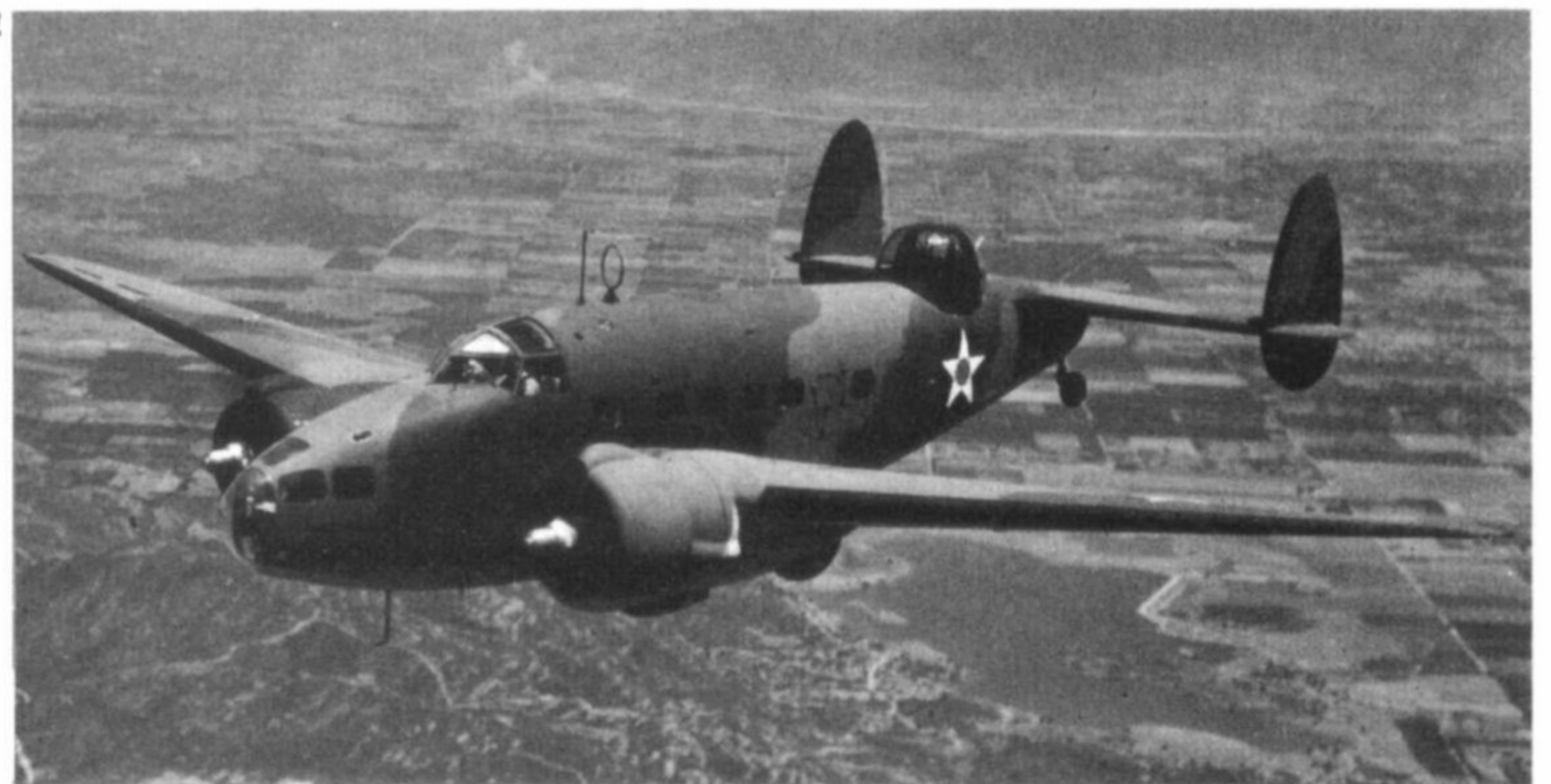


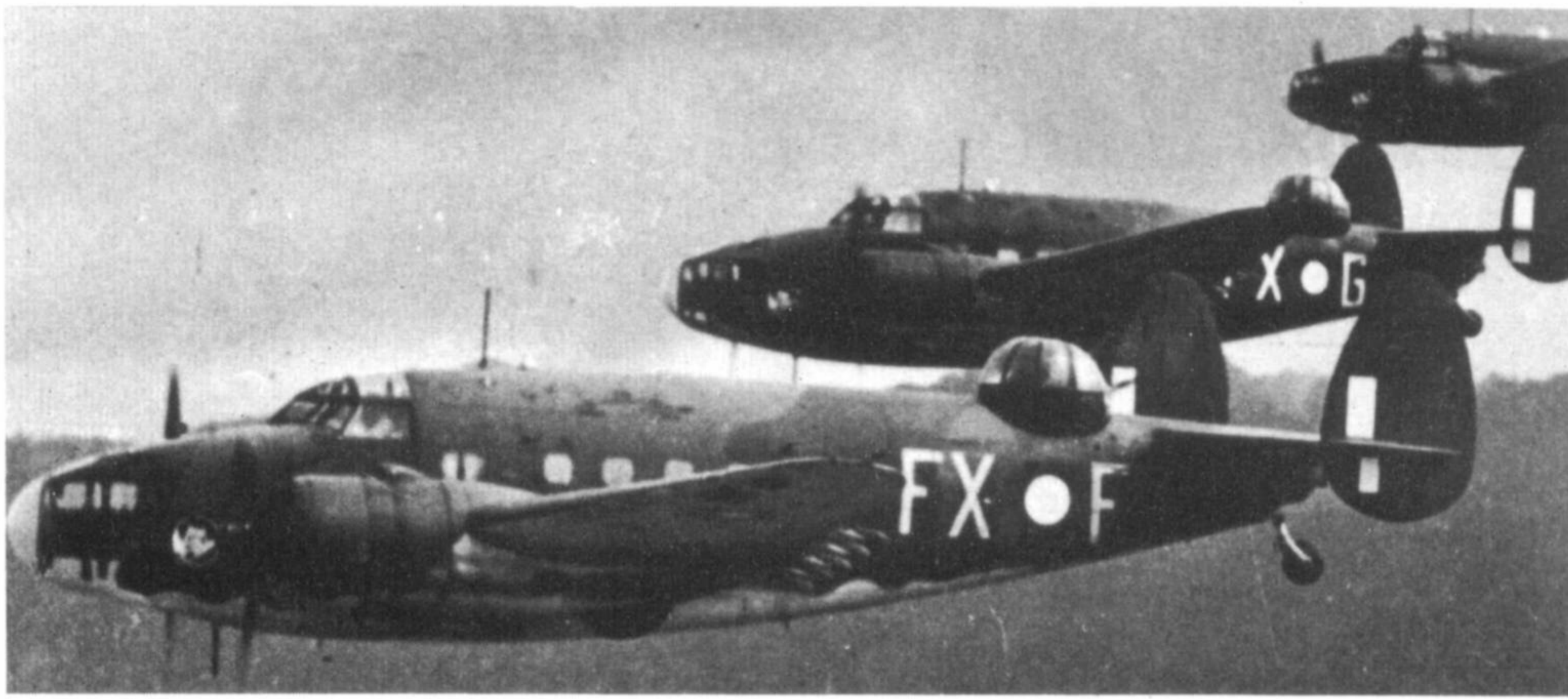
1 Lend-Lease A-29 'somewhere in China'. The use of A-29s and A-29As by the Chinese Air Force is obscure. (Photo: Lockheed Aircraft Corp. via J. J. Sloan, AAHS Editor)

2 Hudson IIIA becomes A-29 (USAAF) and PBO-1 (USN). An early American Services' A-29 with Boulton Paul turret fitted; in service use, the USAAF's anti-submarine Hudsons did not carry the power turret though the Navy's Hudsons did. No. 6 window to the rear has beam gun position addition of two field-of-fire restriction fences. (Photo: Lockheed, ref. Y6360)

A detachment from No. 4 Squadron was the first to arrive, making the first operational sortie on July 19 1942. Later in the month this detachment was formed into No. 9 Squadron while, in New Zealand, a fifth Hudson squadron, No. 3, also come into being, moving to the island of Santo in the Solomons in October, 1942.

Late in November, six of No. 3 Squadron's aircraft moved to Guadalcanal, where fighting with the remains of the Japanese force on the island was still going on; the rest of the squadron flew in later in December. Operations began on November 24, and at once Flying Officer G. E. Gudsell spotted enemy vessels south of Vella Lavella, but was driven away by three Japanese floatplanes. Three days later, the same pilot was attacked by three fighters near Vella Lavella, but managed to escape with his aircraft undamaged after a 17-minute battle. From this time onwards, between four and six reconnaissance sorties were flown daily, and, on December 2, Sergeant I. M. Page attacked and damaged a submarine. In February 1943, a number of barges was sunk, and during March Hudsons





More Lend-Lease. Hudson Mk IVAs of No. 6 Squadron, RAAF, over New Guinea in 1943. 'F-for-Freddy' (code FX-F nearest) is A16-123. No details are available concerning the unit emblem on the noses of these Hudsons. Blue and white roundels only. (Photo: Frank F. Smith)



This Hudson Mk IVA (A16-143) was photographed at No. 1 Aircraft Depot, Laverton, Victoria, in October 1943, and shows signs of various radar antennas. Subsequently, this Mk IVA flew as a radar laboratory with No. 1 Aircraft Performance Unit following further radar equipment modifications at No. 2 Aircraft Depot, Richmond, NSW. No serials under wings. (Photo: Richard Hourigan via F. F. Smith)

operated at night to guide American bombers to their target areas and dropped flares to assist them in bombing.

On April 2 1943, Flying Officer M. W. McCormick claimed the first RNZAF aerial victory of the Pacific War while on patrol (No. 3 Squadron) north of Choiseul. During this patrol he suddenly saw in front of him a floatplane flying in the same direction. Overtaking it, he fired his front guns and it fell into the sea. It was an eventful patrol for McCormick and his crew, for already they had attacked a submarine with depth charges, causing it to crash-dive. Several more submarines were seen and attacked at this time, and late in the afternoon of April 3, Flight Sergeant C. S. Marceaux caught one on the surface just off Vella Lavella; he managed to bomb it before it could submerge, blowing the stern to pieces. It disappeared, leaving the surface of the water covered in oil and wreckage.

The squadron continued to operate from Guadalcanal for several more months, losing two aircraft in action during July, one at night on 7th while illuminating targets near Bougainville, and one on July 24, which was shot down in the Vella Lavella area by eight 'Zekes'. In October, No. 1 Squadron, now re-equipped with Lockheed Vega Venturas, arrived to take over, and No. 3 Squadron returned to New Zealand to similarly convert to these aircraft.

Similarly, the other Hudson squadrons undertook many hours of uneventful patrolling, but

during 1943 all were re-equipped with Venturas. The Hudsons were then converted for transport duties and served for the rest of the war with Nos. 40 and 41 Squadrons alongside transport Lockheed Lodestars and Douglas Dakotas.

Hudsons in American service

As already mentioned, with the passing of the Lend-Lease Bill by the US Congress in March 1941, outstanding orders for 52 Hudson Mark IVs and 200 Mark IIIs were taken over for delivery under these funds—these aircraft receiving USAAF Attack category designations of A-28 and A-29 respectively. Subsequently, 217 more Mark IIIsAs were built as A-29s, of which collectively the final 383 of this Mark became A-29As. The addition of the A suffix denoted that these latter aircraft had provision for the fitting of benches for troop-carrying; it had originally been the intention to renumber them C-63 in the transport aircraft category. The 450 Hudson VIs were known as A-28As.

Although allocated British military serials¹, not all the Hudson IIIAs/A-29s were to be delivered.

¹USAAF/RAF serials: 417 A-29s as AAF 41-23223 to 41-23638 (RAF BW361 to BW777; inclusive of one A-29A as 41-23639); 300 A-29A as 41-36968 to 41-37267 (FH167 to FH466); 83 A-29A as 42-47287 to 42-47369 (FK731 to FK813); 100 A-28A as 42-6582 to 42-6681 (EW873 to EW972); and 350 A-28A as 42-46937 to 42-47286 (FK381 to FK730).

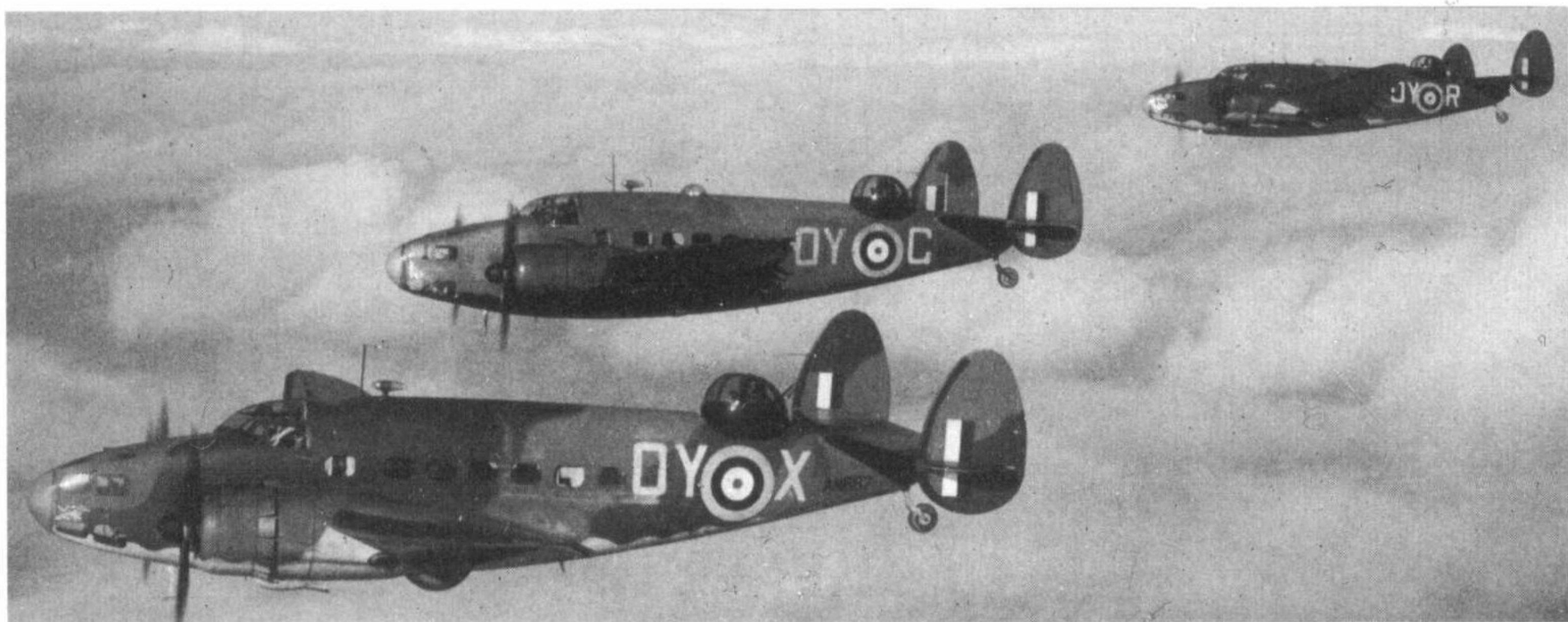
On the outbreak of war 20 were taken over by the US Navy and reclassified PBO-1. The Boulton Paul dorsal turret was fitted, but all machine-guns were the lighter calibre American 0.30-in. Brownings. Carrying four 325-lb. depth charges, they served with US Navy squadron VP-82, being based at Argentia, Newfoundland, initially. From here the squadron operated over the Atlantic convoy routes, claiming the first U-boat to be sunk by an American aircraft on March 1 1942 (*U-656*), and another on March 15.

Meanwhile, other A-29s were taken over by the USAAF for similar duties, though these were not fitted with turrets, carrying instead a single hand-operated 0.50-in. Browning on an open mount in the dorsal position; 1,600 lb. of bombs or depth-charges were also carried. Again, the first U-boat (*U-701*) sunk by an Army Air Forces aircraft fell victim to an A-29 on July 7 1942. The A-29/PBO-1 was, however, only considered as

interim equipment by the Americans and by the end of 1942 they had been superseded by long ranging Liberators and Fortresses.

For the main period of maritime service (1941-42), the following Army Air Forces units were allocated to East and West Coast commands. Two Bombardment Groups served the East Coast, the 13th BG (39th, 41st and 393rd Bombardment Squadrons) and the 30th BG (21st, 27th and 38th BS). In November 1942, the 39th BS and 41st BS became the 3rd and 5th Anti Submarine Squadrons. Also operating on the East Coast was the 26th Anti Submarine Wing (8th, 10th, 23rd and 25th Anti Submarine Squadrons). The West Coast command had only one Bombardment Group, the 41st, which comprised the 46th, 47th, 48th and 396th Bombardment Squadrons.

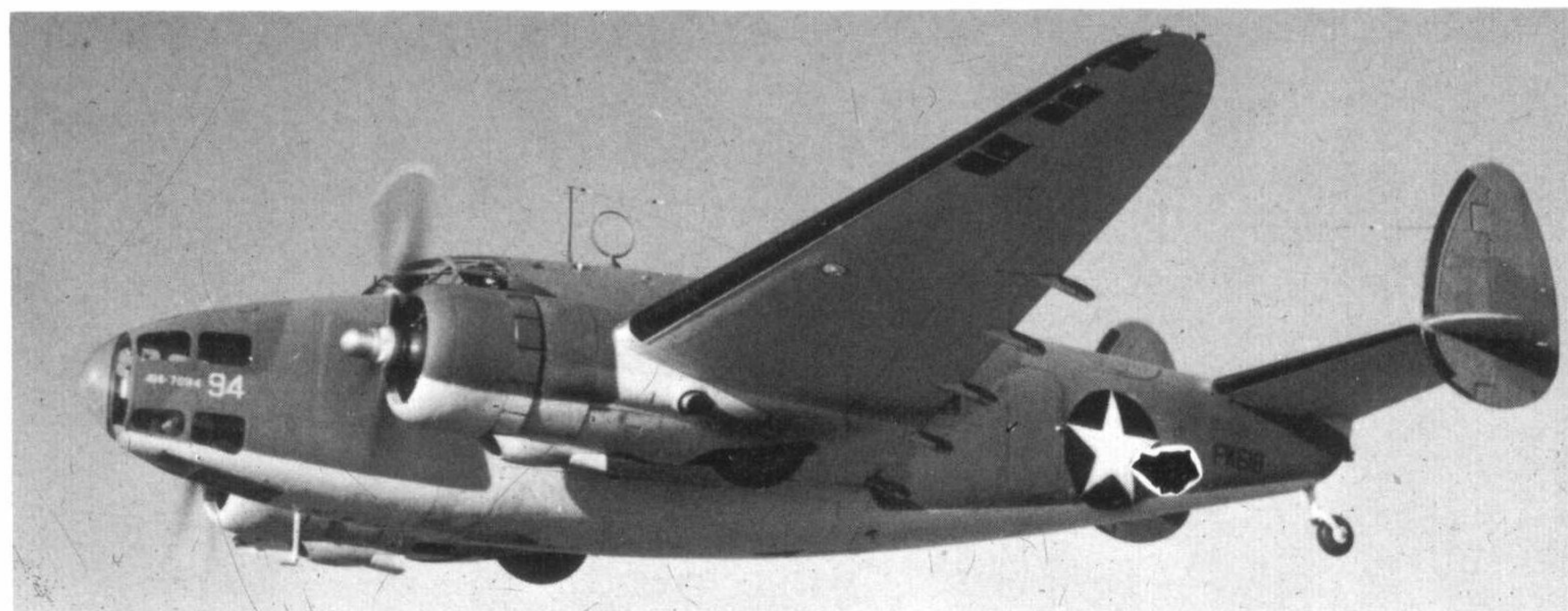
The USAAF also adapted 24 A-29s for photographic duties, the modified aircraft being re-



Hudson Mk Vs of No. 48 Squadron, RAF Coastal Command. Successively, this unit was equipped with Hudson Mk III, V & VI from mid-1941 to early 1944. Two serials discernible, nearest is AM667 (OY-X) and black undersides' AM579 (OY-G); but not OY-R's.
(Photo: IWM, ref. CH5323)

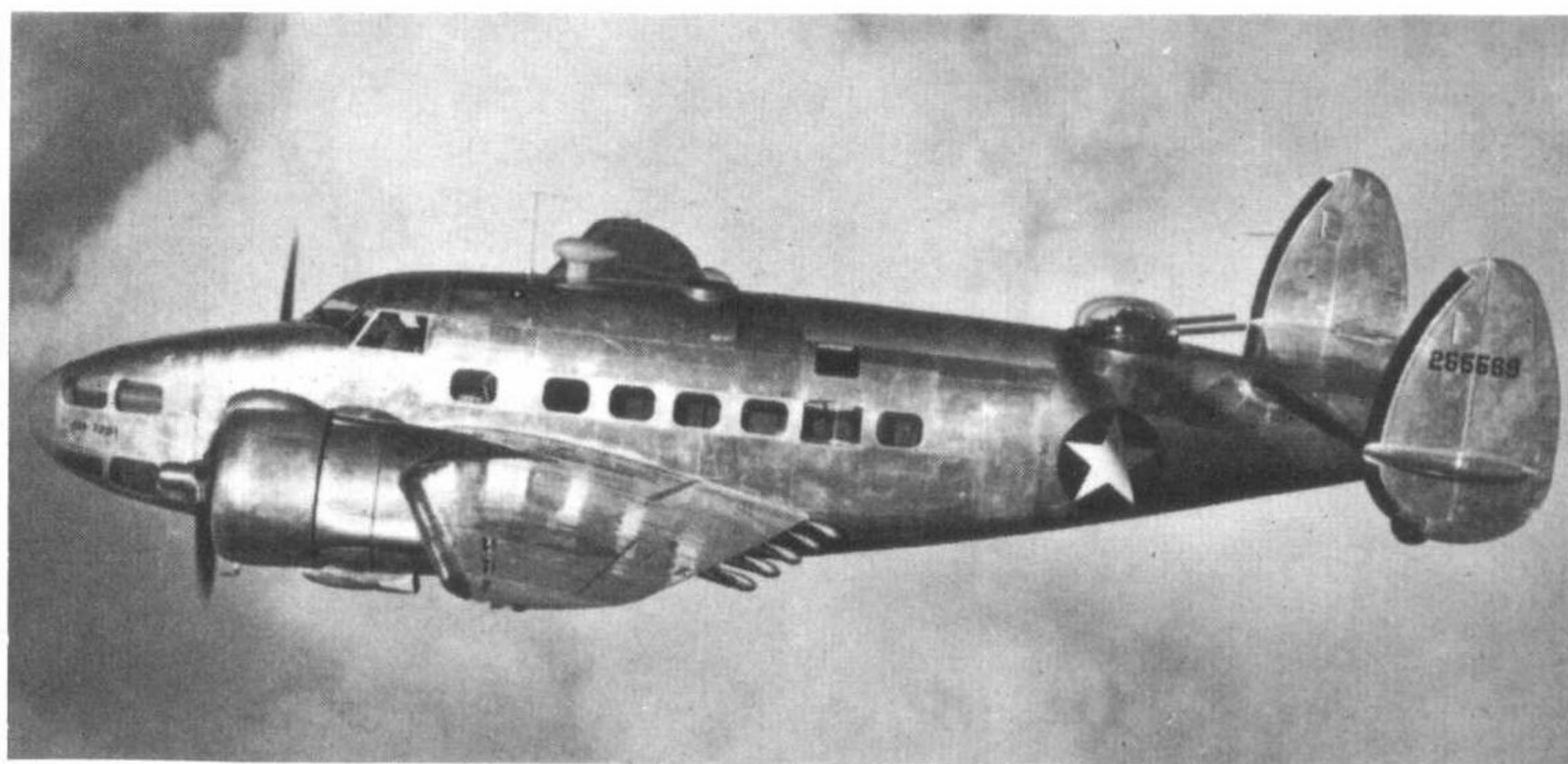


A Hudson Mk V of No. 233 Squadron, RAF (coded QX-G) in 1941.
(Photo: IWM, ref. CH5552)



A USAAF-marked Hudson Mk VI (FK618) without turret and for use as a troop transport. The Lockheed assembly No. 414-7094 (with last two digits repeated twice size) appears on the nose section. All the A-28A/Mk VIs went to the RAF, RCAF and RNZAF.
(Photo: Lockheed Aircraft Corp.)

designated A-29Bs. Additionally, A-29/A-29As were supplied to the Nationalist Chinese; no information regarding their employment is available. In addition to the Lend-Lease orders, the USAAF placed further contracts with Lockheed for 300 more Hudsons with the Advanced Trainer designation of AT-18. The first 217 were similar to the A-29A, but were fitted with Martin electrically-operated dorsal turrets, carrying a pair of 0.50-in. Brownings; these were also used for target towing. The final 83, designated AT-18A had no dorsal turret, the area being faired over; they were used as navigational trainers.



UNITS OPERATING HUDSONS

RAF Squadrons: 24, 48, 53, 59, 62, 117, 139, 161 (SD), 163, 194, 200, 206, 217, 220, 224, 233, 251, 267, 269, 320 (Dutch), 353, 357, 407 (RCAF), 459 (RAAF), 464 (RAAF), 500, 608, West African Communications Squadron.

Units: 'Heston Flight' (No. 2 Camouflage Unit/Photographic Development Unit/No. 1 Photographic Reconnaissance Unit/No. 212 Squadron), Film Production Unit (Ministry of Aircraft Production, for aircraft recognition and training film material), 36 Operational Training Unit.

Met. & Special Duties Flights: 1403, 1404, 1406, 1407, 1408, 1444, 1576 (SD).

RAAF Squadrons: 1, 2, 6, 7, 8, 13, 14, 23, 24, 25, 32, 38.

RCAF Squadrons: 11, 113, 119, 120, 145, 442, 443.

RNZAF Squadrons: 1, 2, 3, 4, 9, 40, 41.

Acknowledgements

The author wishes to record his most grateful thanks to all those who have supplied information and illustrations which have assisted in the compilation of this *Profile*; not least the Lockheed Aircraft Corporation and Messrs. Allan Blythe, Waclaw Klepacki, Alfred Price, Bruce Rigelsford, Kenn Rust, Michael Shoeman, Frank F. Smith and Raymond Toliver.

The USAAF's AT-18 served equally as aircrew trainer and target-tug. This one, USAAF serial 42-55569 still retains the Lockheed assembly No. on the nose, 414-7291.

(Photo: Lockheed, ref. Z7191)

HUDSON MARKS: COMPARATIVE DATA

	Mark I	Mark III	Mark IIIA (A29/A-29A/PBO-1) ^{1,2}	Mark IVA (A-28)	Mark VI (A-28A)
Powerplant	Wright R-1820-G102A 1,100 h.p. @ take-off, 900 h.p. @ 6,700 ft.	Wright R-1820-G205A 1,200 h.p. @ take-off, 900 h.p. @ 15,200 ft.	Wright R-1820-87 1,200 h.p. @ take-off, 1,000 h.p. @ 14,200 ft.	P&W R-1830-45 1,050 h.p. @ take-off, 1,000 h.p. @ 11,500 ft.	P&W R-1830-67 1,200 h.p. @ take-off
Span (ft. in.)	65 6	65 6	65 6	65 6	65 6
Length (ft. in.)	44 4	44 4	44 4	44 4	44 4
Height (ft. in.)	11 10	11 10	11 10	11 10	11 10
Wing Area (sq. ft.)	551	551	551	551	551
Weight Empty (lb.)	11,630	12,536	12,825	12,810	13,195
Weight Gross (lb.)	17,500	18,500	20,500	18,500	18,500
Max. Speed (m.p.h. @ ft.)	246 @ 6,500	255 @ 19,000	253 @ 15,000	260 @ 12,500	261 @
Cruising (m.p.h.)	170	223	205	206	224
Climb rate (ft./mins.)	1,200	2,215/1.0	10,000/6.3	10,000/7.8	2,160/1.0
Ceiling (ft.)	25,000	24,500	26,500	26,000	27,000
Range (miles)	1,700	2,160	2,800	1,800	2,160

¹ Basically similar PBO-1 (USN) with R-1820-40s attained 262 m.p.h. @ 15,300 ft. and a 26,200 ft. ceiling, with 1,750 miles range.

² The AT-18 (USAAF) with gross weight of 19,300 lb. reached 272 m.p.h.; AT-18A at 22,360 lb. achieved 265 m.p.h.

Full circle for the Hudson. Final variant, the AT-18A was produced as a turretless USAAF navigational trainer—the role originally projected for a militarized Model 14 by the British Purchasing Commission in 1938. Serial No. of this AT-18A is 42-55489. (Photo: Lockheed, ref. Z5805)

CONTRACT SUMMARY FOR LOCKHEED HUDSON MkS I-VI

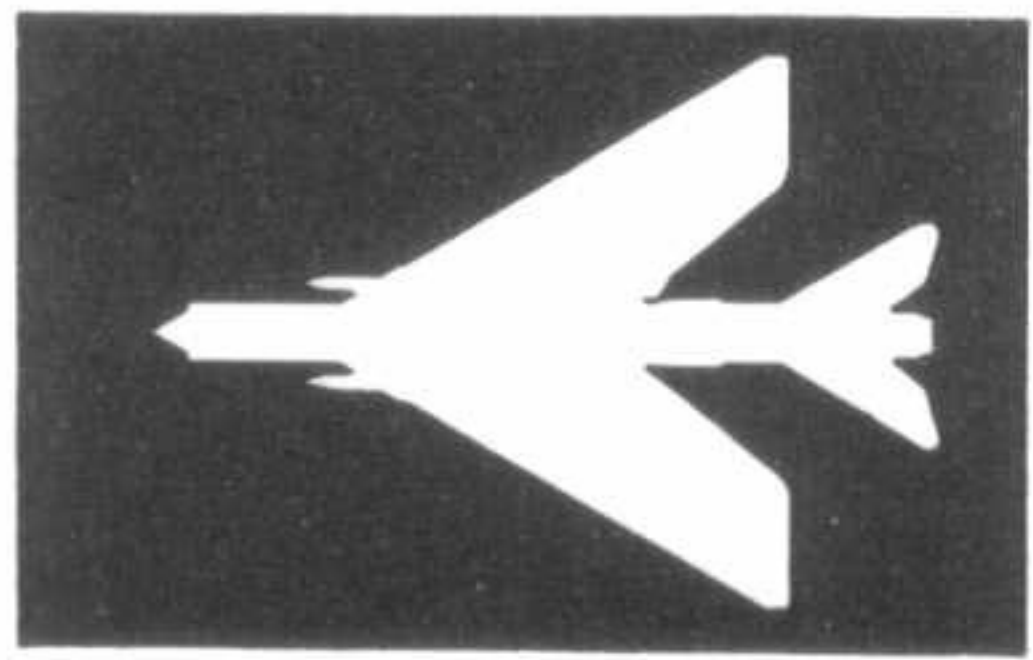
Model	Mark	Qty	Serial allocation*	Remarks	(Not inclusive serials)
214	I	172	N7205 to N7404*	*To RAF: N7205 to N7343 (139); N7351; N7353; N7357 to N7359 (3); N7361 to N7369 (9); N7372; N7374; N7376 to N7379 (4) & N7392 to N7404 (13). Deliveries from February 1939.	
		28	N7344 to N7391*	*To RCAF: N7344 to N7350 (RCAF serials 759 to 765); N7352 (766); N7354 to N7356 (767 to 769); N7360 (770); N7370 (771); N7371 (772); N7373 (776); N7375 (773); N7380 (774); N7381 (775); N7382 (777); N7383 (779); N7384 (778); N7385 (781); N7386 (782); N7387 (780) & N7388 to N7391 (783 to 786). Deliveries from September 1939.	
Total:		(200)		N7220 converted to VIP transport for No. 24 Squadron, RAF. N7260 write-off before delivery (replaced by R4059). N7364 to No. 2 Camouflage Unit, March 1940 as 'G-AGAR', (c/n. 214-1761), Written-off June 1940 after being ground strafed at le Luc, near Toulon, se France (No. 212 Squadron, RAF).	

Model	Mark	Qty	Serial allocation*	Remarks	(Not inclusive serials)
214	I	48	P5116 to P5165*	*To RAF: P5116 to P5162 (47) & P5165. P5123 (c/n. 214-1812) of No. 233 Squadron, RAF, interned January 1941, Sligo, Ire. Successively IAC-91, Aer Lingus El-ACB (1945) & John Mathieu Avn. OO-API (1947). To South African Government February 1940.	
		2	P5163 & P5164		
Total:		(50)			
214	I	1	R4059	Replaced undelivered N7260 and served in No. 220 Squadron, RAF.	
214	I	100	T9266 to T9365	To RAF. T9305 to T9307 (3) lost in shipment to UK.	
314	II	19	T9366 to T9384	To RAF. T9367 to BOAC N. Atlantic Return Ferry Service (local ops. from Montreal). T9380 <i>Waalhaven</i> , No. 320 (Dutch) Squadron RAF. To RCAF.	
		1	T9385		
Total:		(20)			
414	III ¹	80	T9386 to T9465	To RAF. T9465 <i>Spirit of Lockheed Vega Employees</i> , No. 269 Squadron RAF.	
414	III ¹	87	V8975 to V9254*	*To RAF: V8975 to V8999 (25); V9020 to V9065 (46); V9220 to V9222 (3); V9224 to V9234 (11); V9253 & V9254. V9061 to BOAC as G-AGDC <i>Loch Lomond</i> (c/n. 414-2585) July 1941, returned to RAF August 1945 as VJ421.	
	III ²	92	V9066 to V9199*	*To RAF: V9066 to V9068 (3); V9090 to V9129 (40); V9150 to V9170 (21); & V9172 to V9199 (28). V9068 named <i>Rotterdam</i> by No. 320 (Dutch) Squadron RAF; post-war U-1 of <i>TransVA</i> , RNethAF, Valkenburg.	
	III ^{2,1}	3	V9069 ² V9171 ¹ & V9223 ¹	To RCAF.	
	III ¹	18	V9235 to V9252	To RNZAF. Became NZ2001 to NZ2018 inclusive.	
Total:		(200)		NOTE: III ¹ denotes standard range; III ² is longer range version with extra wing tankage.	
414	III ²	112	AE485 to AE608*	*To RAF: AE485 to AE489 (5); AE491 to AE493 (3); AE505 to AE608(104). AE581 to BOAC as G-AGDO <i>Loch Loyal</i> (c/n. 414-3936), returned to RAF, April 1942.	
	III ²	12	AE490 & AE494 to AE504	To RNZAF. Became NZ2025 to NZ2036 inclusive. NZ2031 (AE499) is held by Auckland's Museum of Transport and Technology.	
Total:		(124)			
414	III ²	24	AM930 to AM953	To RNZAF: Within serial range up to NZ2094. AM951 write-off. Shipment via Los Angeles to Auckland.	
414	III ¹	2†	VJ416 & VJ421	†Anomalous serials. VJ416 was ex-V9061, to BOAC as G-AGDC <i>Loch Lomond</i> (see above). VJ416 was ex-? to BOAC as G-AGDK <i>Loch Lyon</i> (c/n. 414-3757) January 1942, returned to RAF August 1945.	
414	IIIA (PBO-1) (A-29)	20	BW361 to BW380	Lend-Lease allocations (suffix A-for-America) US Navy PBO-1 (03842 to 03861) for Patrol Squadron Eighty-Two (VP-82).	
		133	BW381 to BW777*	*To RCAF: BW381 to BW384 (4); BW399 to BW408 (10); BW410; BW412; BW423; BW430 to BW434 (5); BW436 to BW439 (4); BW441 to BW444 (4); BW447 to BW454 (8); BW456 to BW458 (3); & BW460. Also BW614; BW616 to BW635 (20); BW638 to BW660 (23); BW682; BW683; BW685 to BW698 (14); BW700 to BW713 (14); BW715 to BW720 (6); BW722 to BW724 (3); BW728; BW768; BW770 to BW772 (3); & BW775 to BW777 (3). BW399 as 'War surplus' CF-FGH & BW458 as CF-FGI (see also FH serials). *To RAF: BW385; BW411; BW413 to BW422 (10); BW424 to BW429 (6); BW435; BW440; BW446; BW455; BW459; BW615; BW636; BW637; BW699; BW714; BW721; BW769; BW773; & BW774. BW637 crashed in transit, USA.	
		32	BW385 to BW774*		
		23	BW386 to BW735*	*To Chinese Air Force: BW386 to BW398 (13); BW725 to BW727 (3); & BW729 to BW735 (7) (see also FH serials).	
		153	BW461 to BW613	As A-29 diverted to US Army Air Forces. Example, BW463 also bore AAF serial 41-23325 (LAC c/n. 414-6134).	
		41	BW661 to BW755*	*To RAAF: BW661 to BW681 (21) & BW736 to BW755 (20). Within serial range up to A16-247 (see also FH serials).	
		15	BW409 to BW767*	*To RNZAF: BW409; BW445; BW684; & BW756 to BW767 (12). Within serial range up to NZ2094.	
Total:		(417)			
414	IIIA (A-29A)	206	FH167 to FH465*	*To RAF: FH167; FH168; FH227 to FH319 (93); FH329 to FH339 (11); FH341 to FH386 (46); FH388; FH390; FH392; FH394; FH397 to FH400 (4); FH403; FH404; FH406; FH407; FH410; FH411; FH414; FH417 to FH431 (15); FH442 to FH449 (9); & FH451 to FH465 (15).	
		65	FH169 to FH441*	*To RAAF: FH169 to FH174 (6); FH176 to FH214 (39); FH389; FH391; FH393; FH396; FH401; FH402; FH405; FH408; FH412; FH413; FH415; FH432; & FH434 to FH441 (8). Within serial range up to A16-247.	
		22	FH175 to FH328*	*To RNZAF: FH175; FH215 to FH226 (12) & FH320 to FH328 (9). Serials up to NZ2094.	
		4	FH340, FH395, FH416 & FH466	To RCAF. FH466 converted to carry Airborne Lifeboat Mk I.	
		3	FH387, FH409 & FH450	To Chinese Air Force (see also BW serials). Several, including FH246; FH296; FH347; & FH397, crashed in transit.	
Total:		(300)			

Model	Mark	Qty	Serial allocation*	Remarks	(Not inclusive serials)
414	IIIA (A-29A)	83	FK731 to FK813	Last batch of RAF-serial Lend-Lease IIIA/A-29As. FK745 bore air vice-marshal's pennant on nose. FK744 as 'war surplus' CF-CRM at Dorval, 1946.	
414	IV (Mk I)	50	A16-1 to A16-50	To RAAF direct (no RAF serials). First Hudsons with P&W R-1830s. Confusingly accorded 'Mark I' status by RAAF.	
	IV (Mk II)	50	A16-51 to A16-100	RAAF-designated 'Mark II' as improved Mk I (RAAF). Both shipments via Los Angeles to Melbourne.	
Total:		(100)			
414	IV (Mk II)	23	AE609 to AE638*	*To RAF. Based on RAAF 'Mark II'; first P&W R-1830-powered Hudsons in RAF service.	
		7	A16-163 to A16-169	To RAAF. Former RAF serials not known.	
Total:		(30)			
414	IVA (A-28)	52	A16-101 to A16-152	To RAAF direct as Lend-Lease (no RAF serials but ex-USAAF A-28 block, 41-23171 to 41-23222 inclusive).	
414	V ¹	19	AE639 to AE657	To RAF. Standard range P&W Mk IV with better performance and Mk III's ventral gun platform.	
414	V ¹	176	AM520 to AM702*	*To RAF: AM520 to AM575 (56); AM577 to AM588 (12); & AM595 to AM702 (108). Four, AM633, AM667, AM668 & AM688 assigned to USAAF in Britain, 1943-44. Two, AM682 & AM691, written-off in sinking of <i>SS Darlington Court</i> . To RCAF (see also AM700-series serials).	
	V ¹	1	AM576	To RCAF. Became NZ2019 to NZ2024 inclusive. Shipment via Los Angeles to Auckland.	
	V ¹	6	AM589 to AM594		
Total:		(183)			
414	V ²	165	AM703 to AM909*	*To RAF: AM703 to AM719 (17); AM722; AM724; AM725; AM727; AM728; AM730 to AM732 (3); AM734; AM735; AM738 to AM744 (7); AM746; AM750; AM753; AM754; AM756 to AM758 (3); AM760; AM762; AM768; AM771; AM774 to AM885 (112); AM897; AM898; AM900; AM904; & AM906 to AM909 (4). AM707 to BOAC as G-AGCE (c/n. 414-2789) June 1941, returned to RAF, August 1941. Several, including AM849, AM897 & AM900 written-off in transit.	
	V ²	42	AM720 to AM905*	*To RCAF: AM720; AM721; AM723; AM726; AM729; AM733; AM736; AM737; AM745; AM747 to AM749 (3); AM751; AM752; AM755; AM759; AM761; AM763 to AM767 (5); AM769; AM770; AM772; AM773. Also AM886 to AM896 (11); AM899; AM901 to AM903 (3); & AM905. NOTE: V ¹ standard range; V ² longer range, extra wing tanks.	
Total:		(207)			
414	VI (A-28A)	2	EW873 & EW956	To RCAF. Lend-Lease ex-USAAF A-28As (multi-role) (see also FK serials).	
		94	EW874 to EW972*	*To RAF: EW874 to EW948 (75); EW953 to EW955 (3); & EW957 to EW972 (16). Two, EW892 & EW898, written-off in USA before delivery.	
		4	EW949 to EW952	To RNZAF: Within serial range up to NZ2094.	
Total:		(100)			
414	VI (A-28A)	316	FK381 to FK730*	*Final Lend-Lease to RAF: FK381 to FK392 (12); FK394 to FK398 (5); FK400 to FK407 (8); FK410 to FK442 (33); FK444 to FK459 (16); FK461 to FK463 (3); FK466; FK469; FK471 to FK494 (24); FK497 to FK505 (9); FK507 to FK510 (4); FK513; FK515 to FK517 (3); FK519 to FK523 (5); FK525 to FK533 (9); FK535 to FK538 (4); FK540; FK542 to FK545 (4); FK549; FK554 to FK559 (6); & FK565 to FK730 (166). Three, FK404, FK413 & FK533, crashed in transit. FK660 seen at Air Transport Auxiliary HQ White Waltham, October 1945 with nameplate 'Model 414-17 Hudson V & VI, R-1830-67. Max. Permissible IAS, 293 knots.' FK714 to Portugal's <i>Aviação Marítima</i> as one of a number supplied in wartime.	
		34	FK393 to FK564*	*To RCAF: FK393; FK399; FK408; FK409; FK443; FK460; FK464; FK465; FK467; FK468; FK470; FK495; FK496; FK506; FK511; FK512; FK514; FK518; FK524; FK534; FK539; FK541; FK546 to FK548 (3); FK550 to FK553 (4); & FK560 to FK564 (5). FK393 crashed in transit.	
Total:		(350)			
414	AT-18	217	—	USAAF AT-Advanced Trainer development of A-28A. Electrically-operated Martin twin 0.50-in. gun turret. USAAF Fiscal Year 1942.	
	AT-18A	83	—	Turret deleted. Used as navigational trainer. Note: AT-18 serials believed 42-55568 to 42-55784; AT-18A known to be 42-55485 to 42-55567.	
Total:		(300)			
Grand Total:		2,940	The Editor wishes to record his grateful appreciation of the help given to him (in the preparation of this listing) by Bruce Robertson, another <i>Profile</i> author, noted for his pioneer work with RAF serials and his standard compilation <i>British Military Aircraft Serials</i> (Ian Allan Ltd., Shepperton, England). RCAF serials have been cross-checked with J. A. Griffin's excellent master volume <i>Canadian Military Aircraft</i> , Canadian War Museum, Ottawa, Canada.—CWC		

(Lockheed Horizons, January '69, p. 49 claims only 2,936 built.)

Series Editor:
CHARLES W. CAIN



Aircraft Profiles

The new series of Aircraft Profiles was launched with No. 205 and now, either as separate parts or in beautifully-bound companion volumes (currently up to Vol. 11 including No. 234: Aircraft in Profile), the unique series continues beyond No. 250.

Aircraft Profiles are designed for an international readership. The Publishers have been encouraged by the growing support of the ever-increasing worldwide readership to provide the facilities for the creation of the most outstanding colour art-work presentations.

From the very start of this new generation of Aircraft Profiles, the Series Editor has been Charles W. Cain. With more than 30 years of professional journalism behind him, Mr Cain was the immediate post-war editor of the legendary *The Aeroplane Spotter* (1941-48). In 1948 he was the Founder of Air-Britain—The International Association of Aviation Historians. He is also the General Editor of the highly successful *Men and Machines* series of hardbacks produced by Profile's associated company, Hylton Lacy Publishers Ltd.

Aircraft Profiles are available in the United Kingdom from your local book or model shop. If you have difficulty in obtaining these please write direct to the publishers.

**Profile Publications Limited,
Coburg House, Sheet Street,
Windsor, Berkshire SL4 1EB**

Recommended UK Selling Prices:

Aircraft Series 1-204

Blue covers (Reprints) 25p each

Red covers 20p each

New Aircraft Series 205-235 inclusive 35p each

236 onwards 40p each

To North American readers

Aircraft Profiles are also available in the United States of America from many local dealers at the following recommended retail selling price:

Aircraft Series 1-204 \$1

New Aircraft Series 205-235 \$1.50

New Aircraft Series 236 onwards \$2.00

For prompt mail order service or information on *Profiles* in the USA write to:

**Ralph M. Neil
Profile Publications Limited,
PO Box 2368, Culver City,
California 90230**

Please add to order 35c for postage etc; check or money order only.

Also published by Profile Publications Limited are the world-renowned AFV, Loco, Warship, Small Arms, and Cars series.

- 205 Boeing B-17G Flying Fortress
- 206 Supermarine Spitfire Mk IX & XVI
- 207 Messerschmitt Bf 110s (night srs)
- 208 McDonnell Douglas F-4A/M Phantom
- 209 de Havilland Mosquito Mk IV srs
- 210 Mitsubishi G4M ('Betty') & Ohka Bomb
- 211 Junkers Ju 87 D ('Dora') & Ju 87 G/R srs
- 212 Fairey Swordfish Mk. I-IV
- 213 Kawanishi N1K Kyofu/Shiden ('Rex/George')
- 214 Grumman TBF/TBM Avenger
- 215 Arado Ar 234 Blitz
- 216 Petlyakov Pe-2 variants
- 217 Brewster Buffalo variants
- 218 Bristol Blenheim Mk IV (& RCAF Bolingbroke)
- 219 Heinkel He 219 Uhu
- 220 Douglas Dakota Mk I-IV (RAF/Commonwealth only)
- 221 Supermarine Seafires (Merlins) Mk I-III
- 222 Bücker Bü 131 Jungmann variants
- 223 Lockheed C-130A/Q Hercules
- 224 Supermarine Walrus I & Seagull V
- 225 Messerschmitt Me 163 Komet
- 226 Republic F-105A/G Thunderchief
- 227 Airspeed Oxford Mk I-V
- 228 Fieseler Fi 156 Storch (& MS 500 srs)
- 229 Vickers-Armstrongs Warwick Mk I-VI
- 230 Dassault Mirage III to 5 (& Milan)
- 231 Lublin R-XIII variants
- 232 Martin Maryland & Baltimore (RAF)
- 233 Kawanishi 4-Motor Flying-Boats (H6K 'Mavis' & H8K 'Emily')
- 234 Heinkel He 177 Greif
- 235 Avro Lancaster Mk II
- 236 Mitsubishi A6M5/8 'Zero-Sen' ('Zeke 52')
- 237 Bristol F.2B Fighter (RAF: 1918-30s)
- 238 Mikoyan MiG-21 ('Fishbed/Mongol') variants
- 239 LTV (Vought) A-7A/E Corsair II
- 240 Fairey Barracuda Mk I-V
- 241 Aichi D3A ('Val') & Yokosuka D4Y ('Judy') Carrier Bombers
- 242 IK Fighters (Yugoslavia: 1930-40s)
- 243 Avro (Hawker Siddeley) Shackleton Mk 1-5
- 244 Caproni Reggiane Re.2001 Falco II, Re.2002 Ariete & Re.2005 Sagittario
- 245 Boeing B-52A/H Stratofortress
- 246 Supermarine Spitfire (Griffons) Mk XIV & XVIII
- 247 Martin B-57 Night Intruders & General Dynamics RB-57F
- 248 de Havilland D.H.9A (RAF: 1918-30)
- 249 Douglas R4D variants (USN's DC-3/C-47s)
- 250 BAC Aerospatale Concorde
- 251 Vought Sikorsky OS2U Kingfisher
- 252 Grumman A-6A/E Intruder & EA-6B Prowler
- 253 Lockheed Hudson Mk I-VI
- 254 Fairey Fulmar Mk I & II
- 255 Nakajima Ki-44 Shoki ('Tojo')
- 256 Vickers Wellesley Mk I & II
- 257 Udet U-12 Flamingo
- 258 PZL P-37 Los variants

While every effort will be made to maintain this programme, the Publishers reserve the right to change the sequence.

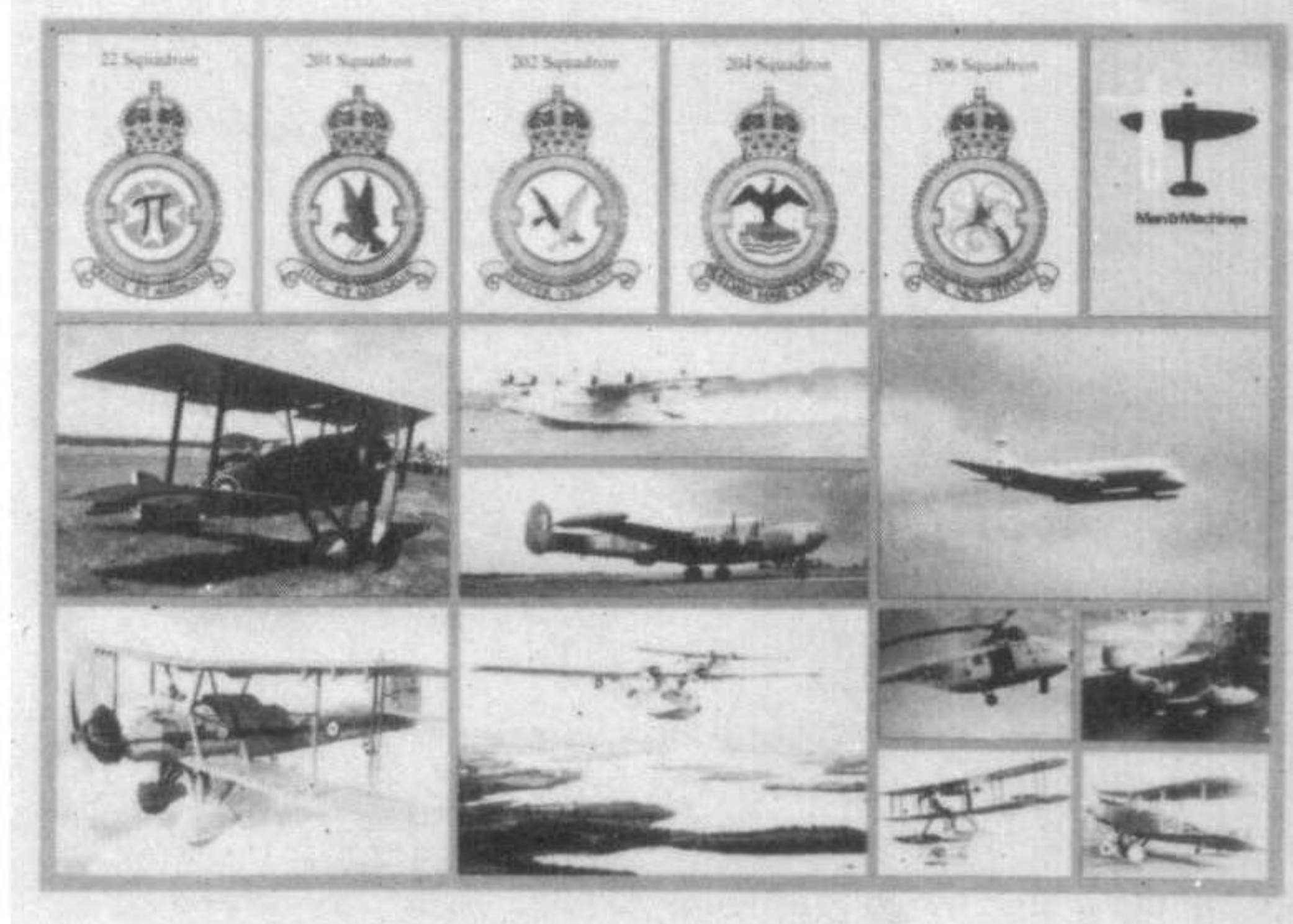
*And now . . . Just Published . . .
The Latest in the
Brilliant New
International Series
Devoted to*

Famous Combat Units of the World's Air Forces

Famous Maritime Squadrons of the RAF

Volume 1

James J. Halley



An island race, a maritime nation . . . Britain's historic preoccupation with sea trade and its protection led first to a powerful Royal Navy and then, in World War One, to the early development of coastal squadrons. In this new book, James J. Halley traces the fascinating histories of five Royal Air Force squadrons which have had strong 'coastal' associations. These are Nos. 22, 201, 202, 204 and 206 Squadrons, RAF.

Author Halley has had first-hand access to the squadrons under review and, from their records (and his own archive material), he has written some 30,000 words on the units. With great care he has selected photographs from the squadron archives and elsewhere. To appeal to the eye, each unit has its own sections of superbly executed, full-colour artwork plates depicting side views of different aircraft in individual squadron markings . . . from D.H.4 and F.E.2B of World War One to the between-the-wars Supermarine Southampton and Saro London flying-boats . . . and from Bristol Beaufort, Lockheed Hudson and Short Sunderland of World War Two to the Handley Page Hastings, Avro Shackleton and Hawker Siddeley Nimrod of the 1960s and 1970s.

Besides the 30 colourful side views, there are other colour plates, too. These illustrate the Squadron Standards (photographed by special permission) and also the five Squadron Badges. Maps pinpoint unit bases. Appendices list the unit bases by date of occupation and dates feature in the associated lists of commanding officers and squadron aircraft equipment. An Index of personnel, units, ships and aircraft is also included.

Already published

Famous Fighter Squadrons of the RAF: Vol. 1
by James J. Halley (1st Edition 1971;
ISBN 0 85064 100 4; price (UK only) £2.50)

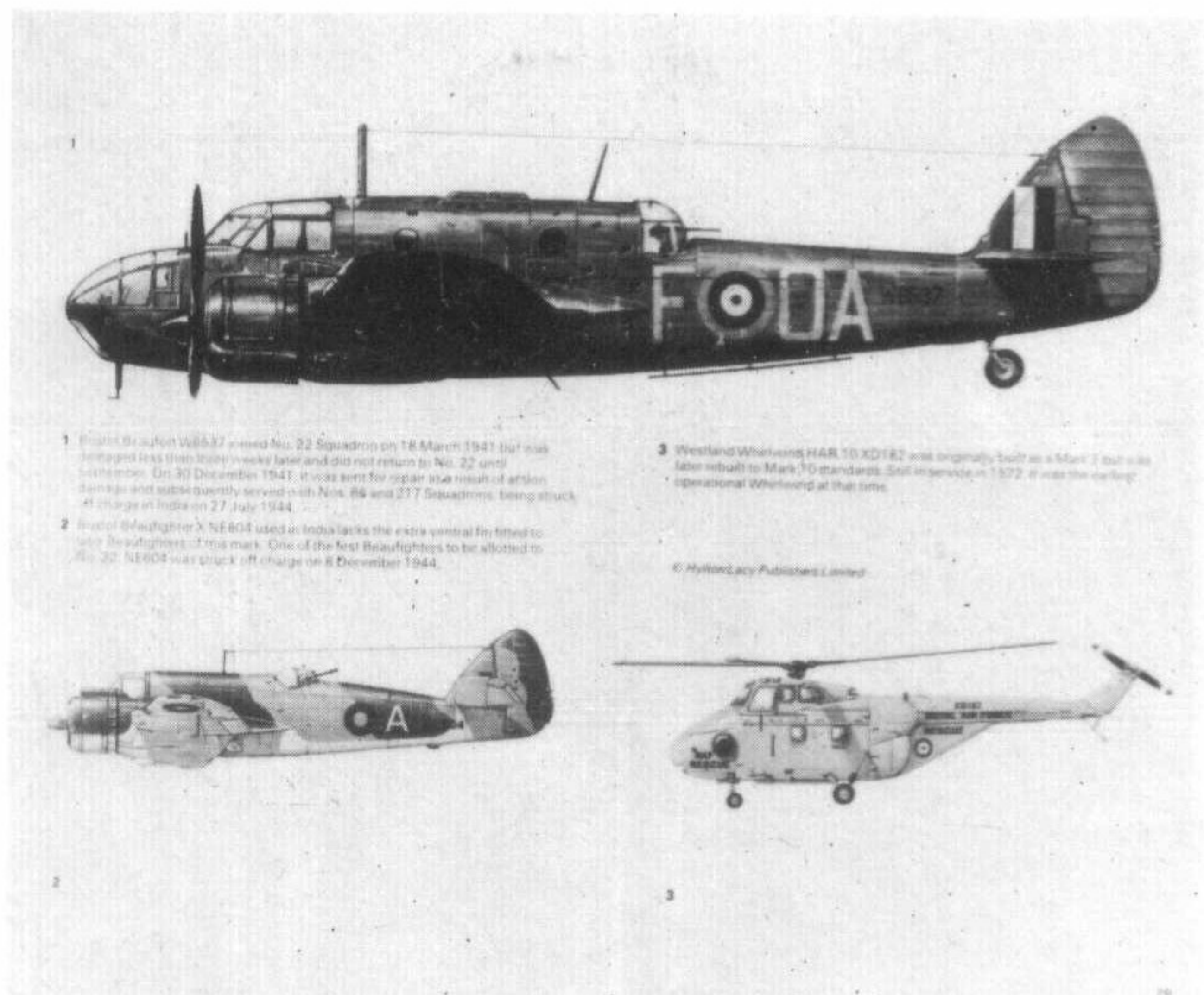
Carrier Air Groups: HMS *Eagle*
by David Brown (1st Edition 1972;
ISBN 0 85064 103 9; price (UK only) £2.75)

And Now . . .

Famous Maritime Squadrons of the RAF: Vol. 1

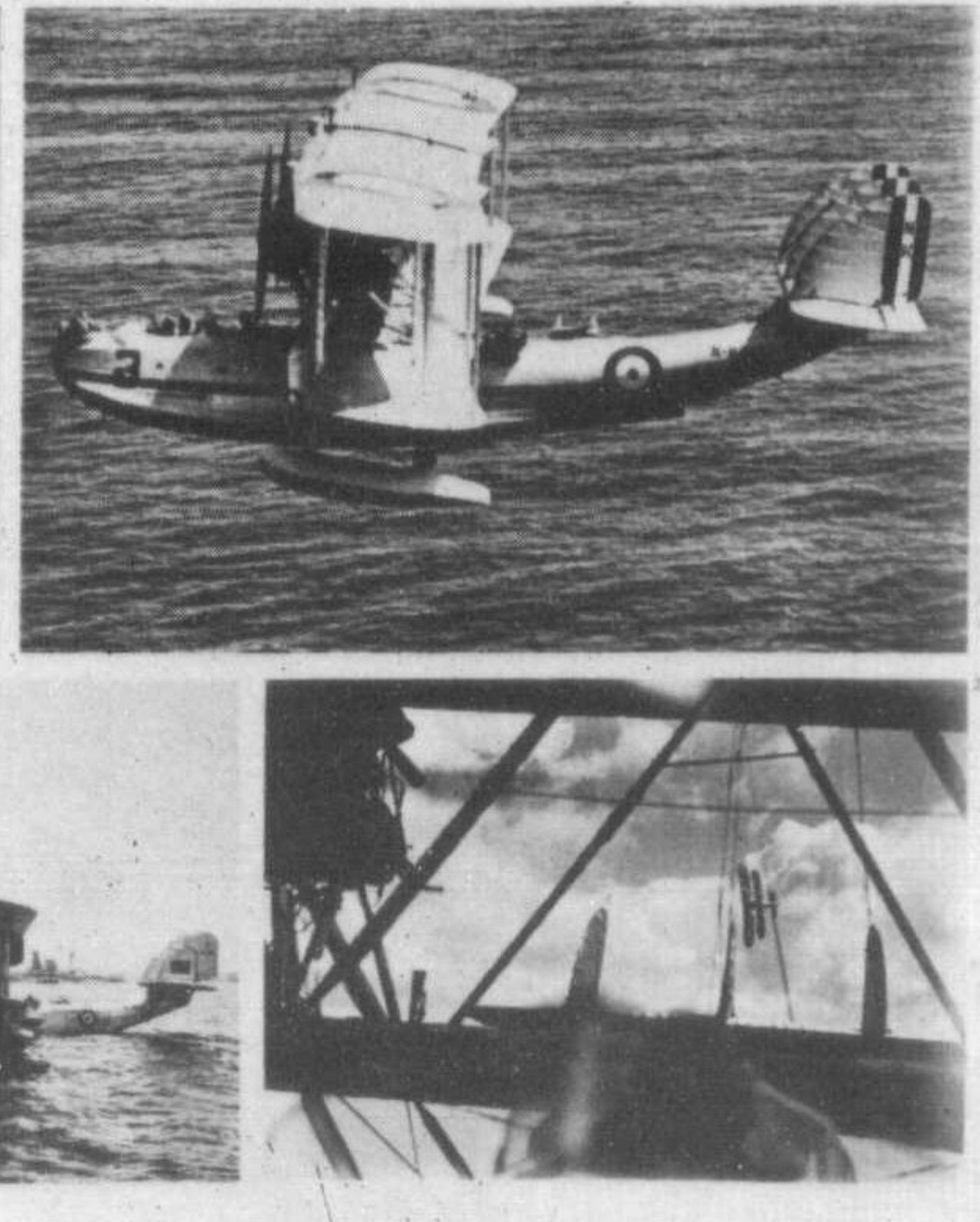
by James J. Halley

88 pages. 'Landscape' format (8 x 10 in. wide). Illustrated; 14 pages in full colour; many photographs. Maps, appendices and index. Case-bound, full-colour, laminated hard covers. ISBN 0 85064 101 2. Price (UK only) £3.25.



204 Squadron

1. The first Blenheim IV (W5537) joined No. 22 Squadron on 18 March 1941 but was destroyed less than three weeks later and did not return to No. 22 until September. On 30 December 1941, it was sent for repair the result of which damage and subsequently served with Nos. 86 and 277 Squadrons, being struck off charge in India on 27 July 1944.
2. Bristol Blenheim IV, NE 604 used as India lacks the extra central fin fitted to later Blenheims; it has mark. One of the first Blenheims to be allotted to No. 201 NE 604 was struck off charge on 8 December 1944.
3. Westland Whirlwind HAR 10 (XD162) was originally built as a Mark I but was later rebuilt to Mark II standards. Still in service in 1972, it was the only operational Whirlwind at that time.
4. The first Blenheim IV (W5537) joined No. 22 Squadron on 18 March 1941 but was destroyed less than three weeks later and did not return to No. 22 until September. On 30 December 1941, it was sent for repair the result of which damage and subsequently served with Nos. 86 and 277 Squadrons, being struck off charge in India on 27 July 1944.



Men and Machines Library—Concurrently, Hylton Lacy is publishing further volumes in the original 'M&M' series where the emphasis is more on the machines than the men. The latest (M&M No. 12) is *American Bombers of World War Two: Volume One* by Roger A. Freeman. Price (UK only) £2.95. The Publishers will provide full details of this and other volumes in the Men and Machines Library of famous combat aircraft and units.

North American Readers may obtain full details from our new office in the USA. Contact Ralph M. Neil, Profile Publications Limited, PO Box 2368, Culver City, California 90230.



Hylton Lacy Publishers Ltd
Profile Publications Limited
Coburg House, Sheet Street, Windsor, Berkshire, England