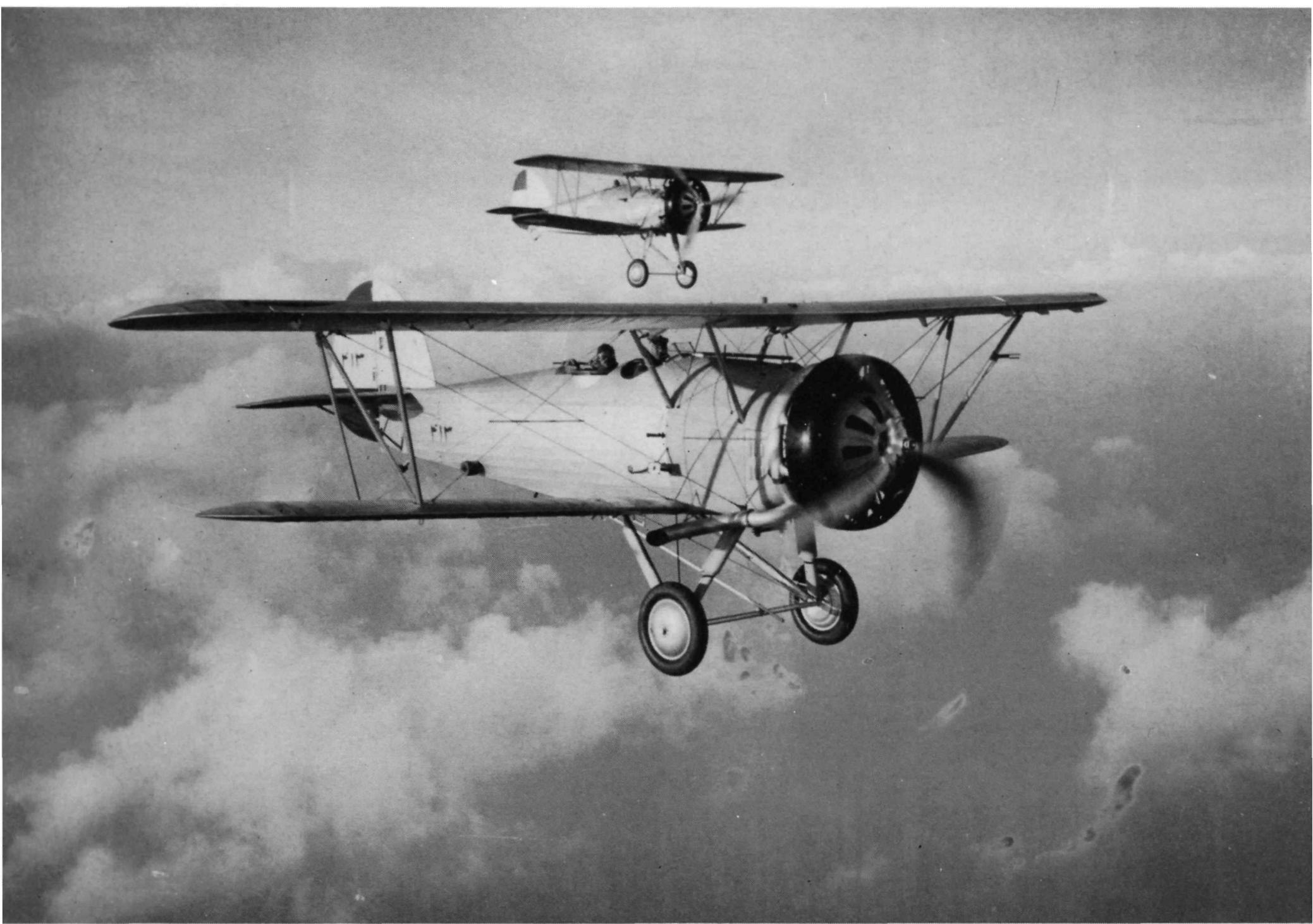


# AEROMILITARIA

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The AIR-BRITAIN Military Aviation Historical Quarterly

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*The Camel File* has appeared and is now available from the Sales Dept at £13.00 post free. This is a comprehensive record of the most famous British fighter of World War One. It has to be the most famous as Biggles flew one. Unfortunately, a painstaking search through all the tables fails to reveal which one!

For an aircraft that barely changed shape throughout its service, unlike more modern types, there is a rich variety of photographs showing colour schemes and modifications. The Camel was probably the first single-seat fighter to get a two-seat operational trainer version as became commonplace with later Siskins and Bulldogs but which then lapsed in the RAF until Meteors and Vampires.

There are a number of projects in the pipeline but it would be tempting fate to define these precisely at the present time. They all take a lot of time to compile and edit before they even get to the lengthy business of assembling them, with photographs borrowed from acquiescent members, into camera-ready pages from which the printer makes his plates. A small army of workers would not come amiss. Unfortunately, it is usually done with one pair of hands.

### Puzzle Pic

The airfield in AM. 4/93 was North Coates, a draughty field on the coast of Lincolnshire. The site was recently sold and it is to be hoped that the new owners will put up a plaque commemorating not only the strike squadrons that operated from there but the personnel of the armament training station and air observers school that were the owners of North Coates Fitties before the war.

This month's airfield has no clues or it would be too easy!

### Cover Pics

On the front cover is a formation of an Audax and a Fury, both looking decidedly foreign by the fitment of Pratt & Whitney Hornet radials. Thirty Audaxes and sixteen Furies were ordered with Hornets but the later order for thirty-four Audaxes and six Furies required Bristol Pegasus and Mercury engines respectively as the Hornet had proved troublesome.

The back cover is a well-known shot of Heyford I K3500 of No.99 Squadron which shows the eccentric design of this type to advantage.

### In this Issue

The Heyford obviously takes up the most space but we have included our annual table of write-offs, this time for 1963. As always, any additions would be welcome.

The details of contracts awarded by the Air Ministry from 1920 onwards will be an on-going series. It records details of contracts as they were originally placed which is not the same as what might later have appeared. We have inserted specification numbers for the relevant serial or batch as far as we know them but, again, additions would be useful if evidence is found to tie these down.



## HANDLEY PAGE

## HEYFORD



*Heyford K4023, K of No.10 Squadron, with dustbin down.*

When Specification B.19/27 was being written by the Air Ministry, the standard night bomber of the Royal Air Force was the Vickers Virginia, a large twin-engined biplane which in lay-out differed little from the night bombers of World War One.

The new requirements were advanced for their time. An all-metal structure was specified as well as the ability to remain airborne with one engine stopped, not then a universal ability among twin-engined aircraft. There was still a schism between those who wanted twin-engined security and others who believed that twin engines just doubled the chances of engine failure and a descent to ground level.

The new aircraft was to have a range of 920 miles at a cruising speed of 115 mph. A bomb load of 1,546 lbs, of various sizes from 112 lbs to 1,000 lbs, was required and the defensive armament was to be three machine guns in nose, dorsal and ventral positions.

There were many other requirements that had to be incorporated. The engines were to be capable of easy maintenance and swing mountings were to be fitted, but this would in effect only apply to radial engines. The Bristol Orion was originally considered for this purpose.

As this specification heralded a large (by 1927 standards) production contract, there was keen interest from several manufacturers. Bristols designed the Type 108 with two Jupiters, Avro the Type 613 with two Jaguar IVs while Hawkers also proposed a twin-Jupiter biplane. Vickers designed and built an updated Virginia as Types 150 and 195.

Fairey's design differed from the others in that it was a monoplane powered by two Jupiters, later replaced by Kestrels. The prototype first flew on 13 November 1931.

Handley Page caused a stir when its H.P.38 was unveiled. It was a twin-engined biplane but the fuselage was attached to the top wing with a considerable gap between the bottom of the fuselage and the lower wing. The wheels were recessed into the leading edges of the lower wings but before the aircraft flew these were mounted in fairings below the wing. Its unconventional design was to provide better aerodynamical efficiency for both wings and although the lay-out produced a very steep fuselage angle on the ground, it also helped shorten the take-off run.

For ventral defence, a retractable dustbin turret was designed and tested in Hinaidi J9033. The other two gun positions were, after various experiments, fitted with Hawker mountings.

A prototype, J9130, was ordered under Contract 790320/27 but in view of several changes in design, was re-ordered in 1928 to Contract 819857/28. Kestrel engines were specified, initially the F.XI and later F.XIVS. Taxying trials began in May 1930; a first flight followed on 12 June 1930. Handling was good but the usual crop of snags were found on test flights and remedied. Larger radiators dealt with overheating on the climb, the nose covering was strengthened to avoid resonance and modified rudders fitted.

In October 1931, J9130 finally reached Martlesham Heath for handling and equipment trials. These were in general satisfactory and A&AEE felt that of all the contenders, the H.P.38 was the most satisfactory. No.10 Squadron also flew the aircraft for a week in March 1932 on Service trials. One of the main complaints was dazzle from the exhausts, a curious defect in an aircraft designed for night bombing, and long exhaust pipes were fitted.

There was a hiatus when the Air Ministry was forced to delay placing a production contract due to the League of Nations debating the abolition of bombing aircraft, but this idea failed and Specification B.23/32 was issued for the H.P.50. Contract 25498/33 was awarded in March 1933 for 15 aircraft, K3489 - K3503, to be named Heyford I and be fitted with 575 hp Kestrel IIIs engines.

By that time, J9130 had been written off in an accident at North Coates on 8 July 1932. It was replaced as a prototype by K3489, assembled by hand for this purpose prior to the building of the first production batch. Among the new features was a bomb loading winch system for the upper centre section that saved armourers from lying flat on the ground under the wing when bombing-up. It could be refuelled from low-level points and had modified nacelles. Making its first flight on 21 June 1933, it went to A&AEE for further trials. Noise level in the cockpit was high and was later dealt with by fitting four-blade propellers and rams-head



*Prototype Heyford J9130 carries the New Types number 12 at the Royal Air Force Pageant in June 1932*

exhausts in the Heyford IA.

In November 1933, deliveries to No.99 Squadron began to replace Hinaidis. Contract 272083/33 called for 23 more Heyfords, K4021 - K4043, which were modified to Mk.IA standard. K3503 had been earmarked for trial fitment of the Pegasus but this was not carried out.

K4029 was fitted with Kestrel VI to become the Heyford II and Contract 352860/34 was awarded for sixteen, K4863 - K4878. It was also used to test an enclosed pilots' cockpit which became standard in the Mk.III.

The definitive Mk.III was ordered under Contract 389375/35 for twenty aircraft, K5180 - K5199, to Specification B.27/35, later amended to include a further 50, K6857 - K6906.

The exposed nose gunner's cockpit was the subject of projects to fit a nose turret, either a Trojan or a Stieger and both K3503 and K3489 were used for trials. The Trojan turret failed to materialise in time and a Frazer-Nash turret was substituted. However, the Trojan was later fitted into K3503 but proved unsuccessful:

In service, Heyfords reached virtually all night bomber squadrons until re-armament was well under way and interim Harrows began to appear. The exception was No.37 Squadron which received the Heyford's rival, the Fairey Hendon. Only one batch of these was built and later production orders were cancelled.

Crews liked the Heyford once their few oddities had been mastered. Undue emotion, like the waving of arms, was discouraged as the propellers were in line with the pilots and the tips came very close. Rapid re-arming was a feature of the Heyford but one aircraft suffered from rogue characteristics. It refused to climb with any enthusiasm and despite various attempts to locate the loss of power, it defied the fitters. It was some time later that it was discovered that during

exercises it had been bombed up - and nobody had realised that the bomb racks had not been unloaded.

Operationally, the Heyford suffered from the same problems as all night bombers. Navigation was chancy in bad weather and the effect of having to find a blacked-out target was always a matter of conjecture since arranging one in peace-time was not practicable, giving the state of public opinion at the time.

Icing was also a problem as was demonstrated when seven Heyfords of No.102 Squadron were returning from armament training at Aldergrove to Finningley. The formation ran into freezing fog conditions and only one reached base, the other six having made forced landings. Two survived intact but the other four were wrecked, with the loss of three of the crew of K6900.

K6902 from Farnborough made history without the crew being aware of the fact. It was used to fly a course around the Rugby area while, on the ground, Dr. Watson-Watt carried out the first radar detection of an aircraft in flight. RDF had begun as a vital defence weapon and a primitive airborne receiver was later fitted into the aircraft as an ancestor to AI, H2S, and ASV radars.

Heyfords were also used for other experimental work. K5184 was fitted for experiments in flight refuelling and later to test de-icing equipment. It was also used in trials of the accelerator system designed to provide an initial boost for heavily-loaded bombers for grass airfields. K5184 survived to undertake glider-towing experiments with B.A. Swallows and, later, Hotspurs.

After replacement by modern types in the bomber squadrons, some surviving Heyfords were allotted to Bombing & Gunnery Schools until, in 1940, they ran out of steam at last. Unfortunately, we have failed to find a photograph of a B & GS Heyford.



*K6869 of No. 9 Squadron running-up in front of a new hangar at Scampton*

**Handley Page H.P 38 Heyford prototype to Spec B.19/27 under Contract 790320/27**

J9130 Retained by DTD at HP; AAEE 3.10.31; HP; AAEE 26.11.31; HP 5.32; AAEE; HP 18.3.32; 10 Sqn 1.4.32 for Service trials; 9 Sqn 4.32 for Service trials; 99 Sqn 24.5.32 for Service trials; undercarriage leg collapsed on landing, Upper Heyford, 10.6.32; HP for repair; 10 Sqn 30.6.32 for Service trials; 99 Sqn 6.7.32 for Service trials. Overshot landing and hit sea wall, North Coates, 8.7.32; DBF

**14 Handley Page Heyford Is and one Heyford II delivered between November 1933 and March 1934 to Contract 213581/32**

K3489 FF 21.6.33; deld to AAEE 2.11.33 for handling tests and gun trials; modified to Mk.III standard 7.37; 149 Sqn 8.37; RAE 16.9.38; stalled on approach and damaged in heavy landing, Farnborough, 16.9.38; SOC 23.1.39

K3490 Deld to Central Area 5.11.33; 99 Sqn 7.11.3; tf to WA 20.11.34; HP 20.6.35; 99 Sqn 9.1.36; 7 Sqn 25.9.36; caught fire in hangar, Finningley, 7.4.37; ROS; SOC 10.5.38

K3491 Deld to Central Area 8.12.33; 99 Sqn 12.12.33 coded T; HP 20.6.35; 99 Sqn 9.1.36; 7 Sqn 25.9.36; 97 Sqn 4.38; 19 MU; SOC 29.8.39

K3492 Deld to Central Area 4.1.34; 99 Sqn by 15.12.33; HP 20.10.34; Cardington 25.2.35; 97 Sqn 13.12.35; 166 Sqn; 19 MU; SOC 29.8.39

K3493 Deld to Central Area 4.1.34; 99 Sqn 5.1.34 coded U; 38 Sqn 20.10.34 coded A; 97 Sqn 22.2.37; SOC 8.10.37

K3494 Deld to Central Area 4.1.34; 99 Sqn 5.1.34 coded O; 149 Sqn 8.37; 148 Sqn. Forcelanded in bad weather, Bessingby, near Bridlington, Yorks., 18.1.39; DBR; SOC 19.4.39

K3495 Deld to Central Area 10.3.34; 99 Sqn 2.34 coded V, later D; 149 Sqn 7.37; SOC 29.8.39

K3496 Deld to Central Area 30.1.34; 99 Sqn 7.2.34; SOC 6.9.37

K3497 Deld to Central Area 10.2.34; 99 Sqn 16.2.34 coded N. Tipped up on landing from searchlight exercise, Upper Heyford, 6.7.34; SOC 26.7.34 as BER

K3498 Deld to Central Area 17.2.34; 99 Sqn 26.2.34 coded T, later Q. Undercarriage collapsed in forced landing at night on sandbank, Donna Nook; SOC 9.34

K3499 Deld to Central Area 17.2.34; 99 Sqn 1.3.34 coded X; 38 Sqn 16.9.35; 97 Sqn 22.2.37; to 1009M 26.11.37

K3500 Deld to Central Area 7.3.34; 99 Sqn 9.3.34 coded R. Engine cut; hit pole in forced landing while lost on night navex near Colchester, Essex, 21.5.37; SOC 8.10.37

K3501 Deld to Central Area 19.3.34; 99 Sqn 22.3.34; 38 Sqn 16.9.35 coded B. Undershot and hit sandbank on approach; crashlanded, Donna Nook, 22.8.36; SOC 11.11.36

K3502 Deld to Central Area 19.3.34; 99 Sqn 23.3.34 coded M; hit trees and fence in forced landing in bad visibility, 15.2.37; 149 Sqn 3.8.37 coded F; SOC 25.8.38

K3503 Allotted to DTD at HP 29.3.34; to prototype Mk.II with enclosed cockpit; Pegasus engine trials; later to Mk.III; AAEE 21.6.37 for Trojan nose turret trials; reverted to standard; 166 Sqn 6.38; SOC 21.3.39

**23 Handley Page Heyford IIAs delivered between June and December 1934 to Contract 272083/33**

K4021 Deld to RAE 19.6.34; 10 Sqn 22.6.35; DTD 12.9.35; 10 Sqn 28.10.35; DTD 23.11.35; HP 20.2.36; cv to Mk.III; 149 Sqn. Ran out of fuel in bad visibility and crashlanded, 30.4.38; SOC 6.5.38

K4022 Deld to WA 2.8.34; 10 Sqn 3.8.34 coded L; 97 Sqn 16.9.35; 19 MU; SOC 29.8.39

K4023 Deld to WA 2.8.34; 10 Sqn 13.8.34 coded K; 97 Sqn 16.9.35; 19 MU; SOC 29.8.39

K4024 Deld to WA 25.8.34; 10 Sqn 30.8.34 coded C. Flew into hill in low cloud on night exercise, Beacon Hill, near Midhurst, Sussex, 19.2.36; DBF; 3 killed; SOC 5.8.36

K4025 Deld to WA 1.9.34; 10 Sqn 4.9.34 coded B; 149 Sqn 5.37; SOC 6.9.37

K4026 Deld to WA 1.9.34; 10 Sqn 12.9.34; 97 Sqn 16.9.35; engine cut; hit fence in forced landing, Boscombe Down, 7.10.36; ROS; SOC 21.3.39

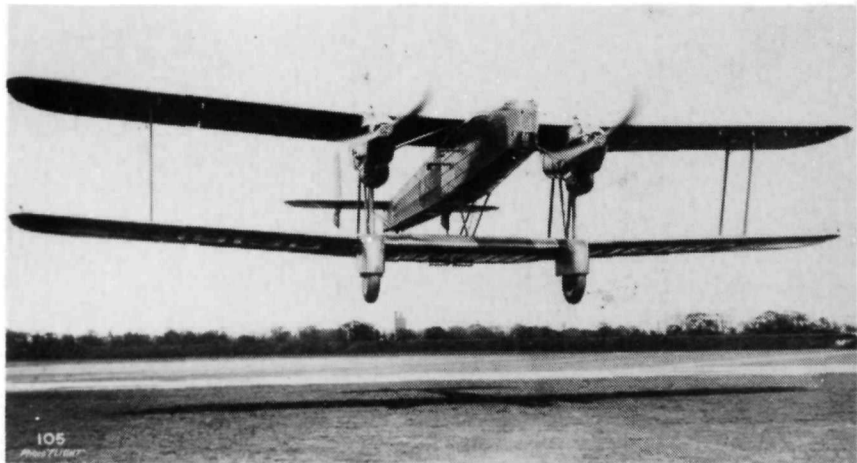
K4027 Deld to WA 13.9.34; 10 Sqn 18.9.34 coded A; 97 Sqn 16.9.35; 58 Sqn 4.39; taxied into hangar door, Linton-on-Ouse, 28.4.39; 19 MU; SOC 29.8.39

K4028 Deld to WA 18.9.34; 10 Sqn 25.9.34 coded L; 97 Sqn 16.9.35; hit Magister L5925 while taxiing, Leconfield, 1.9.38; ROS; 19 MU; SOC 29.8.39

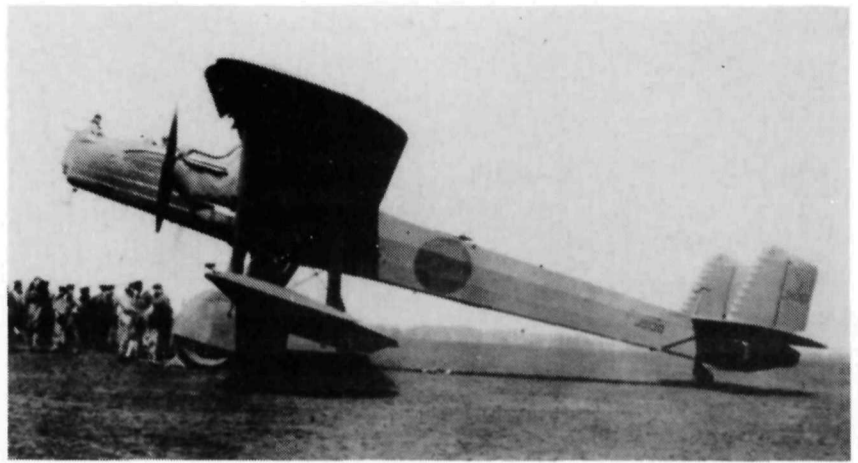
K4029 Deld to DTD at HP 21.9.34; WA 4.10.34; Central Area 7.11.34; WA 20.11.34; HP for cv to Mk.II/III prototypes; FF 18.2.35; 166 Sqn 27.5.38 coded X; 19 MU 14.7.39; SOC 29.8.39

K4030 Deld to RAE 8.10.34; 10 Sqn 22.2.35; WA 22.5.35; 97 Sqn 16.9.35; 58 Sqn 4.39; HQP Boscombe Down 4.39; 19 MU; SOC 4.12.39

K4031 Deld to WA 9.10.34; 10 Sqn 12.10.34; DTD 25.2.35; 10 Sqn 22.5.35; HP 3.9.36; 10 Sqn 27.1.37; 99 Sqn



*Prototype J9130 flies past at Radlett in 1932*



*J9130 creates interest on a visit to Upavon*

- K4032 coded U; 149 Sqn coded B; 19 MU; SOC 29.8.39  
Deld to WA 9.10.34; 10 Sqn 18.10.34 coded D; DTD 25.5.35; 10 Sqn 24.7.35 coded D; 149 Sqn 5.37 coded D; taxied into wall, Evanton, 1.3.38; ROS. Undershot flarepath and hit fence, Mildenhall, 8.9.38; DBR
- K4033 Deld to WA 18.10.34; 10 Sqn 29.10.34 coded F; 149 Sqn 5.37; 19 MU; SOC 6.39
- K4034 Deld to WA 18.10.34; 10 Sqn 1.11.34 coded G; 97 Sqn 16.9.35. Ran out of fuel on night exercise and ditched 1m off Le Havre, 19.2.36; 3 killed; SOC 5.8.36
- K4035 Deld to WA 5.11.34; 10 Sqn 15.11.34. Engine cut on approach; hit ridge on landing and flare bracket broke; aircraft caught fire, Boscombe Down, 6.5.36; SOC 9.7.36 as BER
- K4036 Deld to WA 5.11.34; 99 Sqn 13.11.34 coded N; taxied through hedge at night, Boscombe Down, 14.7.37; ROS; 149 Sqn 8.37; SOC 8.10.37
- K4037 Deld to 2 ASU 15.11.34; 10 Sqn 13.12.35 coded G; 99 Sqn coded B; 149 Sqn 5.37. Engine cut; forcelanded in field and hit hedge; tipped up, Shotton Farm, near Sedgfield, Co. Durham, 15.2.38; SOC 18.2.38 as BER
- K4038 Deld to Cardington 23.11.34; 97 Sqn 3.12.35; 19 MU; SOC 29.8.39
- K4039 Deld to WA 24.11.34; 99 Sqn 3.12.34; 38 Sqn 16.9.35; overshot flare path and hit fence, Mildenhall, 19.3.36; 99 Sqn 4.2.37; 149 Sqn. Flew into ground in rain at night, Stopham, near Pulborough, Sussex, 13.12.37; DBF; 4 killed; SOC 15.3.38
- K4040 Deld to WA 24.11.34; 99 Sqn 5.12.34; 97 Sqn; 19 MU; SOC 29.8.39
- K4041 Deld to 2 ASU 17.12.34; 99 Sqn 31.4.35; 38 Sqn 16.9.35 coded C; 10 Sqn 21.1.37; 97 Sqn; 58 Sqn 4.39; 19 MU; SOC 4.12.39
- K4042 Deld to 2 ASU 21.12.34; 97 Sqn 13.12.35; 19 MU; SOC 29.8.39
- K4043 Deld 27.12.34 to DTD for wing flare experiments; 99 Sqn 9.2.35; 38 Sqn 16.9.35; 99 Sqn 11.35; flew into hillside, 12.2.36; HP 5.2.37; 149 Sqn 6.37 coded C; 19 MU; SOC 29.8.39

**16 Handley Page Heyford IIs delivered between March and June 1935 to Contract 352860/34**

- K4863 Deld to 7 Sqn 29.3.35; RAE 21.4.36; retd to 7 Sqn; SOC 24.4.39
- K4864 Deld to WA 27.3.35; 7 Sqn 5.4.35; 102 Sqn 1.10.35. Iced up and forcelanded in fog; hit pole and tipped up, White House Farm, Blyborough, Lincs., 12.12.36; DBR; SOC 8.10.37
- K4865 Deld to WA 9.4.35; 7 Sqn 12.4.35; 149 Sqn 7.38. Brakes failed; hit hangar, Mildenhall, 6.12.38; SOC 16.1.39
- K4866 Deld to WA 9.4.35; 7 Sqn 17.4.35 coded A; 102 Sqn 1.10.35; taxied into ditch at night. Worthy Down, 2.3.36; ROS; retd to 7 Sqn; 78 Sqn 4.37; 9 Sqn 6.38; 149 Sqn 6.38. Brakes failed; hit hangar door, Mildenhall, 9.8.38; SOC 2.12.38
- K4867 Deld to WA 5.4.35; 7 Sqn 24.4.35 coded B; 149 Sqn 4.38 coded D; 19 MU; SOC 29.8.39
- K4868 Deld to 7 Sqn 30.4.35; 102 Sqn 1.10.35; 78 Sqn 4.37; 7 Sqn; 97 Sqn 4.38; 19 MU; SOC 29.8.39
- K4869 Deld 9.5.35 to 7 Sqn coded E; undershot approach, 28.4.36; 97 Sqn 4.38; 19 MU; SOC 29.8.39

- K4870 Deld to WA 1.5.35; allotted 102 Sqn 15.5.35; also as 102 Sqn 1.10.35 coded K; 78 Sqn 4.37; 149 Sqn 1.38. bounced on landing and tipped up, Mildenhall, 17.8.38; SOC 6.9.38
- K4871 Deld to WA 15.5.35; 7 Sqn 21.5.35. Undershot approach to flare path and hit trees, Bawtry Road, near Finningley, 30.3.38; DBF; SOC 11.6.38
- K4872 Deld to WA 22.5.35; 7 Sqn 24.5.35 coded M; 102 Sqn 1.10.35; 78 Sqn 4.37; 7 Sqn by 4.38; SOC 10.5.38
- K4873 Deld to WA 28.5.35; 7 Sqn 30.5.35; pilot blinded by wingtip flare; hit hedge on night approach, Finningley, 21.9.36; believed not repaired and SOC 18.8.37
- K4874 Deld to WA 31.5.35; 7 Sqn 6.6.35; 102 Sqn 1.10.35. Iced up and abandoned; crashed at Dingle Farm, Moorside, near Oldham, Lancs., 12.12.36; wreck to 5 FTS 16.12.36; SOC 3.37
- K4875 Deld to WA 31.5.35; 7 Sqn 13.6.35; 149 Sqn 4.38; 19 MU; SOC 29.8.39
- K4876 Deld to 2 ASU 19.6.35; 97 Sqn 13.12.35; 7 Sqn. Undershot flare path and hit trees, Finningley, 6.4.37; DBR; SOC 8.10.37
- K4877 Deld to 2 ASU 1.7.35; 97 Sqn 13.12.35; 7 Sqn 31.8.36; 99 Sqn 4.38; 149 Sqn 8.38 coded H; 19 MU; SOC 29.8.39
- K4878 Deld to 2 ASU 1.7.35; 97 Sqn 13.12.35; 7 Sqn 15.10.36 coded K; 78 Sqn 4.37; 7 Sqn coded M; 149 Sqn 8.38; 19 MU; SOC 29.8.39

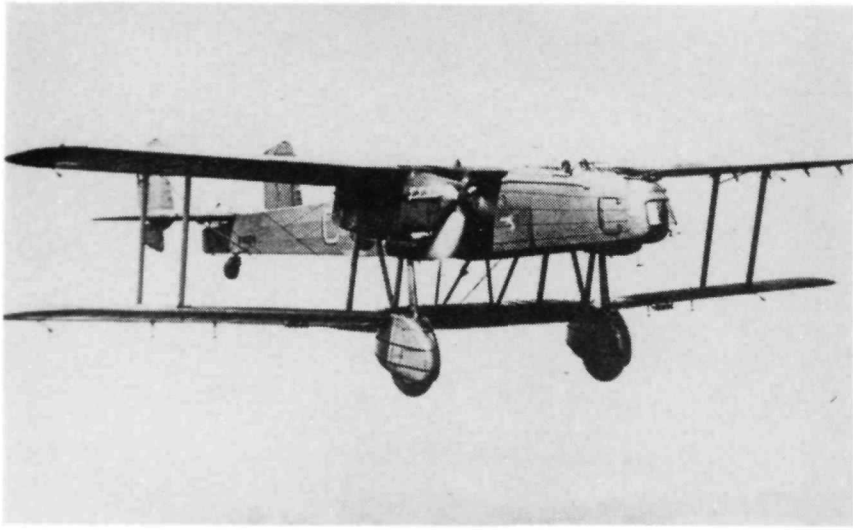
**20 Handley Page Heyford IIIs delivered between September and December 1935 to Contract 389373/35**

- K5180 Deld to 2 ASU 4.9.35; 102 Sqn 15.12.36; 149 Sqn; 19 MU; SOC 29.8.39
- K5181 Deld to 2 ASU 9.9.35; 102 Sqn 15.12.35 coded R; SOC 23.6.39
- K5182 Deld to 2 ASU 18.9.35; 102 Sqn 15.12.35 coded V; 9 Sqn 12.38; 3 AOS 3.39; became 3 BGS 1.11.39; 23 MU 17.4.40; SOC 20.8.40
- K5183 Deld to 2 ASU 26.9.35; 102 Sqn 15.12.35 coded W. Flew into ground on approach at night, Honington, 16.12.37; 2 killed; SOC 5.3.38
- K5184 Deld to 2 ASU 23.9.35; 10 Sqn 3.3.36; 97 Sqn 19.3.36; 166 Sqn 2.11.36 coded M; AAEE for de-icing trials; Flt Refuelling Ltd 7.6.39 for TI; 19 MU; RAE 10.7.40 for glider-towing trials with BA Swallows, catapult launching trials, Hotspur towing trials; SOC 19.4.41
- K5185 Deld to 2 ASU 28.9.35; 10 Sqn 12.3.36; 9 Sqn 19.1.37; 19 MU 4.39; allotted 4 AOS 23.5.39. Undershot forced landing in bad weather on delivery flight by 1 FPP and hit fence, Burrow Head, Wigtownshire, 23.5.39; DBR
- K5186 Deld to 2 ASU 30.9.35; 102 Sqn 28.7.36 coded N; 149 Sqn; 5 MU; SOC 29.8.39
- K5187 Deld to 2 ASU 2.10.35; 102 Sqn 20.7.36 coded O; 149 Sqn coded M; 19 MU; 4 AOS 5.39; SOC 18.5.40
- K5188 Deld to RAE 11.10.35; 2 ASU 21.11.35; 102 Sqn 20.7.36; crashed in forced landing N of York, .36; 4 AOS 2.5.39; SOC 19.7.40
- K5189 Deld to 2 ASU 16.10.35; 9 Sqn 20.7.36; damaged in crash, 5.38; 97 Sqn; 19 MU; SOC 3.3.40
- K5190 Deld to 2 ASU 24.10.35; 9 Sqn 20.7.36. Hit trees and house on approach to flare path, Scampton, and crashed, Aisthorpe, 1.9.37; SOC 5.11.37
- K5191 Deld to 2 ASU 29.10.35; 99 Sqn 20.1.36 coded W; 149

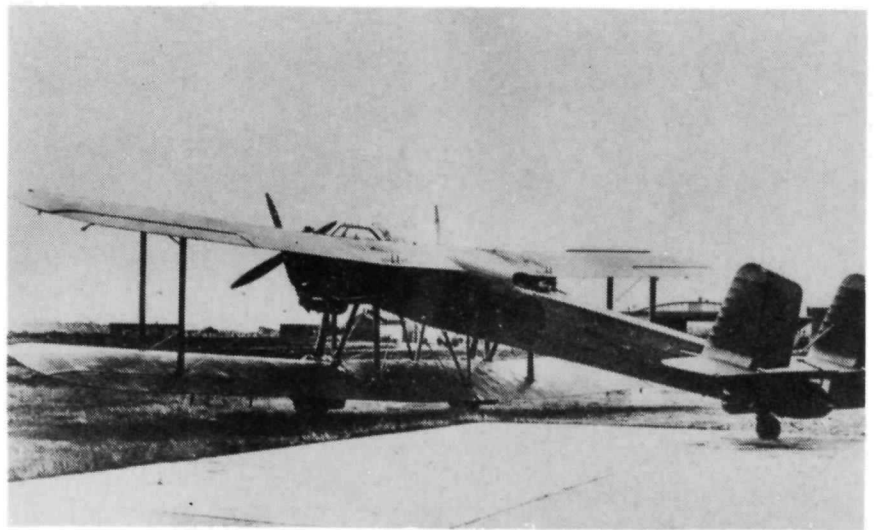


*K3503 acted as the prototype Heyford II with cabin. The "14" in its "New Types Park number for the 1934 RAF Pageant*

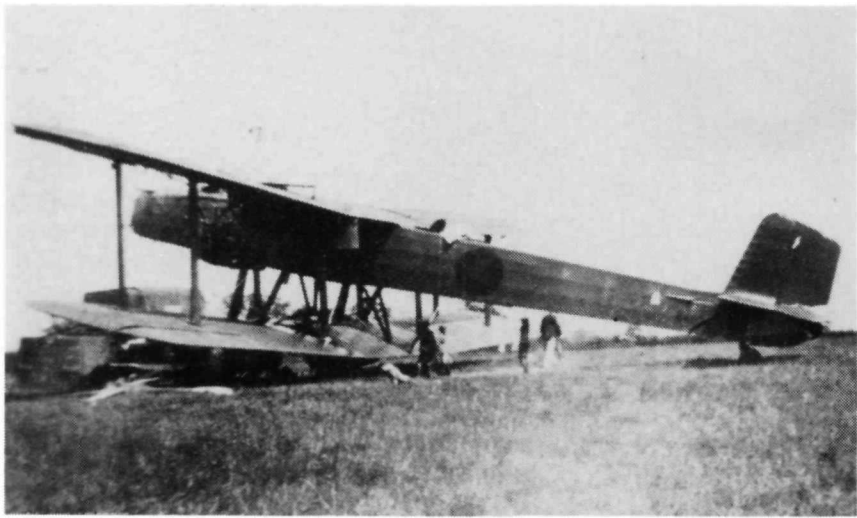
- Sqn 12.4.37; 99 Sqn 31.5.37; 148 Sqn 11.38; 3 AOS 2.5.39; became 3 BGS 1.11.39; 23 MU 15.3.40; SOC 20.8.40
- K5192 Deld to 2 ASU 6.11.35; 9 Sqn 20.7.36; 8 MU 27.3.39; 3 AOS 25.4.39; 23 MU 15.3.40; SOC 20.8.40
- K5193 Deld to 10 Sqn 12.11.35; 78 Sqn 1.11.36; 102 Sqn 1.3.38 coded W; 4 AOS 2.5.39; SOC 20.7.40
- K5194 Deld to 10 Sqn 18.11.35; 78 Sqn 1.11.36; 9 Sqn 12.37. Overshot flare path and hit trees, Stradishall, 14.11.38; DBF; 2 killed; SOC 6.12.38
- K5195 Deld to 10 Sqn 18.11.35; 78 Sqn 1.11.36; 166 Sqn 28.10.37; damaged on landing, Aldergrove, 7.12.38; ROS; 24 MU 27.8.39; 4 AOS 9.9.39; became 4 BGS 1.11.39; SOC 20.7.40
- K5196 Deld to 10 Sqn 18.11.35; 78 Sqn 1.11.36; 99 Sqn 10.37; 148 Sqn 11.38; brakes failed; taxied into hangar, Stradishall, 2.2.39; ROS; 3 AOS 5.39; 23 MU 15.3.40; SOC 20.8.40
- K5197 Deld to 10 Sqn 29.11.35; 78 Sqn 1.11.36; 99 Sqn 10.37; 148 Sqn 11.38; 4 AOS 2.39; became 4 BGS 1.11.39. Taxied into obstruction in black-out, West Freugh, 19.3.40; DBR; SOC 18.7.40
- K5198 Deld to 10 Sqn 29.11.35; 78 Sqn 1.11.36; 99 Sqn 12.10.37; 148 Sqn 9.11.38; 3 AOS 2.5.39; 23 MU 28.3.40; SOC 20.8.40
- K5199 Deld to 99 Sqn 5.12.35; 149 Sqn 12.4.37; 99 Sqn 31.5.37; taxied into K6871, Mildenhall, 19.5.38; ROS; 148 Sqn 9.11.38; 3 AOS by 5.39. Engine cut after take-off from Aldergrove and wing hit tree; forced landed and tipped up, Crumlin, Co. Armagh, 15.8.39; DBR; SOC 5.9.39
- 50 Handley Page Heyford IIIs delivered between January and July 1936 to Contract 431127/35**
- K6857 Deld to 99 Sqn 22.1.36; 149 Sqn 12.4.37; 99 Sqn 31.5.37; 148 Sqn 11.38; 3 AOS 2.39; 23 MU 13.4.40; SOC 20.8.40
- K6858 Deld to 99 Sqn 22.1.36; 149 Sqn 12.4.37; 99 Sqn 31.5.37. DBR in gale, Evanton, 23.1.38; SOC 3.3.38
- K6859 Deld to 38 Sqn 3.2.36; 102 Sqn 4.3.37; 149 Sqn 6.12.38; 102 Sqn; 4 AOS 2.5.39; became 4 BGS 1.11.39; SOC 20.7.40
- K6860 Deld to 38 Sqn 3.2.36; 102 Sqn by 8.37 coded S. Engine cut after take-off; hit haystack on approach and undercarriage collapsed, Evanton, 24.3.38; SOC 11.6.38
- K6861 Deld to 38 Sqn 3.2.36; 102 Sqn coded U; NFT
- K6862 Deld to 38 Sqn 13.2.36; 9 Sqn 8.4.37; 97 Sqn 17.4.37; 78 Sqn 24.5.37; 166 Sqn 20.8.37; 19 MU 14.7.39; 4 BGS 5.12.39; SOC 20.7.40
- K6863 Deld to 38 Sqn 20.2.36; 9 Sqn 8.4.37; 97 Sqn 19.4.37; 166 Sqn. Engine cut on ferry flight to 9 MU; skidded on landing and undercarriage collapsed, Cosford, 21.7.39; SOC 29.8.39
- K6864 Deld to 38 Sqn 18.2.36; 99 Sqn 7.1.37; 149 Sqn 5.37; 99 Sqn 6.37; 148 Sqn 11.38; 3 AOS by 5.39; 23 MU 15.3.40; became 3 BGS 1.11.39; SOC 20.8.40
- K6865 Deld to 9 Sqn 21.2.36. Engine cut; hit ground on Theddlethorpe ranges and undercarriage collapsed on landing, Scampton, 5.1.38; SOC 5.3.38 as BER
- K6866 Deld to 9 Sqn 21.2.36; engine cut on take-off; forced landed in field and hit hedge, Scampton, 29.7.37; 19 MU 3.39; 4 AOS 3.39; became 4 BGS 1.11.39; SOC 18.7.40
- K6867 Deld to 9 Sqn 21.2.36. Engine cut on night take-off; crashlanded in field near Scampton, 9.8.37; SOC 30.11.37
- K6868 Deld to 9 Sqn 20.2.36; 19 MU 3.39; 4 AOS 3.39; became 4 BGS 1.11.39; SOC 20.7.40
- K6869 Deld to 9 Sqn 13.3.36; used by 7 Sqn in 8.37; 9 Sqn; taxied into bomb dump at night, Scampton, 26.11.37; 8 MU 22.3.39; 4 AOS 25.4.39; became 4 BGS 1.11.39; SOC 20.7.40
- K6870 Deld to 9 Sqn 13.3.36; 97 Sqn 8.37; 19 MU; 4 AOS by 4.39; undershot approach to bombing range and hit shelter, 16.5.39; landed OK; became 4 BGS 1.11.39; SOC 1.4.40
- K6871 Deld to 38 Sqn 17.3.36; 99 Sqn 7.1.37; 149 Sqn 4.37; 99 Sqn 5.37; hit by K5199 while awaiting take-off, Mildenhall, 19.5.38; ROS; 148 Sqn 11.38; 3 AOS 2.39; became 3 BGS 1.11.39; brakes failed; hit fence, Aldergrove, 12.11.39; ROS; 23 MU 26.2.40; SOC 20.8.40
- K6872 Deld to 2 ASU 25.3.36; 97 Sqn 20.7.36; 166 Sqn 2.11.36 coded S; taxied into Whitley, Aldergrove, 8.12.38; 9 MU 27.6.39; 4 BGS 15.12.39; SOC 20.7.40



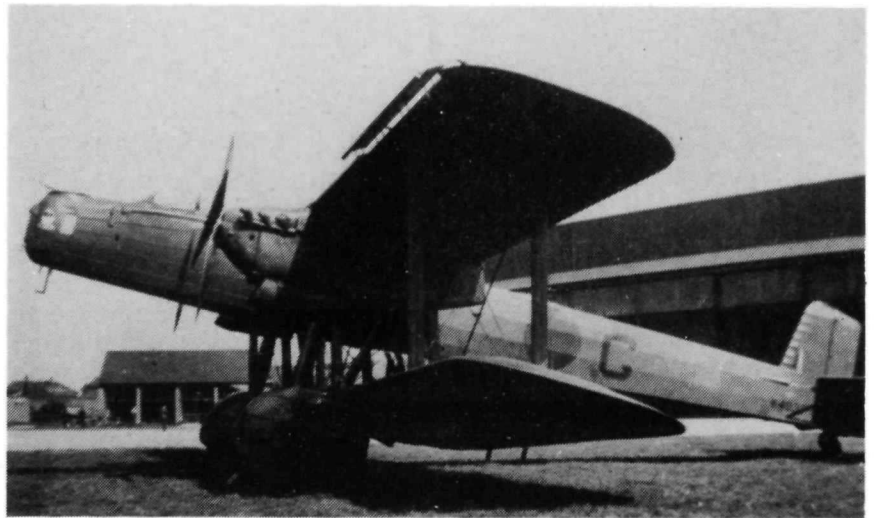
*K4024, C of No.10 Squadron*



*K4029, X of 166 Squadron, shows modified gun position on Mk.IIA*



*K4026, N of No.166 Squadron*



*K4037, G of No.10 Squadron*



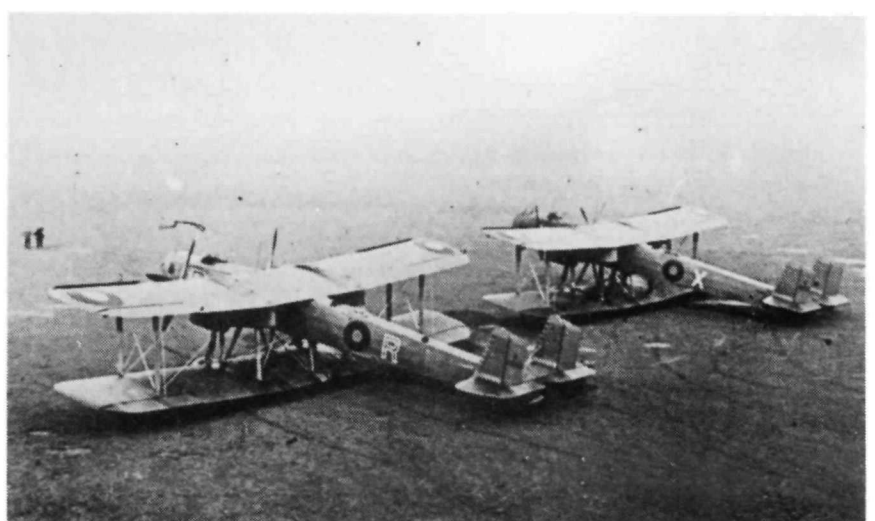
*K3781, W of No.99 Squadron*



*K4878, K of No.7 Squadron at Finningley*



*K3493, U of No.99 Squadron*



*K6889, R of No.166 Squadron*





*K4877, H of 149 Squadron, visiting Brooklands*

- K6873 Deld to 7 Sqn 31.3.36; 97 Sqn 31.8.36 coded C; 166 Sqn 2.11.36 coded C. Overshot landing and hit bank, Leconfield, 5.2.37; DBR
- K6874 Deld to 7 Sqn 31.3.36; 97 Sqn 27.8.36; 166 Sqn 2.11.36; 19 MU 14.7.39; to AMDP and SOC 29.8.40
- K6875 Deld to 7 Sqn 25.3.36; 97 Sqn 27.8.36; 166 Sqn 2.11.36 coded S. Flew into hillside on night navex, Broadlee Bank Tor, near Edale, Derbyshire, 22.7.37; 6 killed
- K6876 Deld to 7 Sqn 25.3.36; 99 Sqn 7.9.36; 149 Sqn 12.4.37; 99 Sqn 31.5.37; 148 Sqn 11.38; 3 AOS by 4.39; 23 MU 27.3.40; SOC 20.8.40
- K6877 Deld to 7 Sqn 17.4.36; 99 Sqn 7.9.36 undershot landing at Mildenhall, 8.4.37; ROS; 149 Sqn 12.4.37; 99 Sqn 31.5.37. Skidded while forcelanding in bad visibility and hit bank near Weston Zoyland, 15.7.37; SOC 6.9.37
- K6878 Deld to 7 Sqn 27.4.36; loaned to R-R for engine trials; 102 Sqn 11.3.37 as T; 9 Sqn 7.12.38; 4 AOS 7.5.39; SOC 8.6.40
- K6879 Deld to 2 ASU 6.4.36; 10 Sqn 4.11.36; 9 Sqn 19.1.37; 78 Sqn 4.37; taxied into K5198, Dishforth, 15.7.37; ROS; 99 Sqn. Forcelanded in fog while lost on navex from Mildenhall to Evanton; undercarriage collapsed on landing on soft ground; overturned, Niddrie, Midlothian, 3.1.38
- K6880 Deld to 2 ASU 17.4.36; 166 Sqn 4.11.36 coded T. Caught fire starting up during Empire Air Day display, Weston-super-Mare, 29.5.37; DBR; SOC 5.11.37
- K6881 Deld to 9 Sqn 17.4.36; 19 MU 3.39; SOC 29.8.39
- K6882 Deld to 9 Sqn 17.4.36. Undercarriage collapsed on landing, Scampton, 11.10.36; SOC 30.10.36 as BER
- K6883 Deld to 9 Sqn 12.5.36; 4 AOS 2.5.39; became 4 BGS 1.11.39. Caught fire in air and burnt out after landing, West Freugh, 3.3.40; SOC 25.3.40
- K6884 Deld to 2 ASU 4.5.36; 9 Sqn 20.7.36; hit roller on landing, Stradishall, 27.5.38; ROS; SOC 1.5.39
- K6885 Deld to 2 ASU 21.5.36; 78 Sqn 4.11.36; 99 Sqn 22.7.37; 148 Sqn 4.11.38; 3 AOS by 4.39; became 3 BGS 1.11.39; 23 MU 15.3.40; SOC 20.8.40
- K6886 Deld to 2 ASU 29.5.36; 78 Sqn 4.11.36; 166 Sqn 4.1.38; 9 MU 23.6.39; SOC 29.8.39
- K6887 Deld to 2 ASU 3.6.36; 166 Sqn 6.11.36; 3 AOS 13.6.39; became 3 BGS 1.11.39; 23 MU 15.3.40; SOC 20.8.40
- K6888 Deld to 2 ASU 9.6.36; 166 Sqn 6.11.36; 4 AOS 6.6.39; became 4 BGS 1.11.39; 23 MU 2.5.40; 83 MU 29.4.41; SOC 7.5.41
- K6889 Deld to 2 ASU 11.6.36; 166 Sqn 19.3.37 coded R; brakes failed; hit gun post, Aldergrove, 9.12.38; 24 MU 13.7.39; 4 AOS 9.9.39 coded F; SOC 20.7.40
- K6890 Deld to 2 ASU 17.6.36; 166 Sqn 19.3.37. Brakes failed; hit hangar, Leconfield, 25.3.39; SOC 15.5.39 as BER
- K6891 Deld to 2 ASU 19.6.36; 166 Sqn 19.3.37; 9 MU 14.11.37; 4 AOS 9.9.39; SOC 20.7.40
- K6892 Deld to 2 ASU 22.6.36; 166 Sqn 19.3.37; 9 MU 4.7.39; SOC 19.6.40
- K6393 Deld to 2 ASU 26.6.36; 99 Sqn 17.6.37; 149 Sqn 25.6.37; 99 Sqn 8.7.37; 9 Sqn 11.10.38; 8 MU 27.3.39; 4 AOS 25.4.39; became 4 BGS 1.11.39; SOC 8.6.40
- K6894 Deld to 2 ASU 1.7.36; 99 Sqn 17.6.37. DBR in gale, Evanton, 23.1.38; SOC 5.3.38
- K6895 Deld to 2 ASU 1.7.36; 166 Sqn 28.6.37; 9 MU 14.7.39; SOC 29.8.39
- K6896 Deld to 2 ASU 2.7.36; 102 Sqn; 99 Sqn; 148 Sqn 11.38; 4 AOS by 5.39; became 4 BGS 1.11.39; SOC 8.6.40
- K6897 Deld to 2 ASU 2.7.36; 149 Sqn 28.6.37; 99 Sqn; 148 Sqn 11.38; allotted to 4 AOS. Brakes failed on ferry flight; hit hangar door, Driffield, 29.4.39; DBR
- K6898 Deld to 102 Sqn 14.7.36. Forcelanded in bad weather and crashed on approach, Jacksons Edge, near Disley, Cheshire, 12.12.36; wreck to 5 FTS 16.12.36; SOC 3.37
- K6899 Deld to 102 Sqn 14.7.36 coded X; 148 Sqn 10.1.39; 3 AOS 2.5.39; became 3 BGS 1.11.39; 23 MU 28.3.40; SOC 20.8.40
- K6900 Deld to 102 Sqn 14.7.36. Iced up and flew into hills in fog, Wadsworth Moor Rifle Range, Hebden Bridge, Yorks., 12.12.36; 3 killed; SOC 8.10.37
- K6901 Deld to 102 Sqn 14.7.36; taxied into K5187 after brakes failed, Honington, 5.11.37; ROS; 149 Sqn; 19 MU; SOC 29.8.39
- K6902 Deld to 2 ASU 22.7.36; RAE and AAEE 2.10.36 for RDF research with Bawdsey; 9 Sqn 9.37; 19 MU 5.39; SOC 29.8.39
- K6903 Deld to 2 ASU 22.7.36; 149 Sqn 6.37 coded E; 99 Sqn; 9 Sqn 12.38; 19 MU 5.39; SOC 29.8.39
- K6904 Deld to 2 ASU 30.7.36; 149 Sqn 6.37; 9 Sqn 12.38; 19 MU 5.39; 3 AOS by 4.39; became 3 BGS 1.11.39; SOC 20.8.40
- K6905 Deld to 2 ASU 30.7.36; 99 Sqn; 148 Sqn 11.38; 3 AOS 3.39; became 3 BGS 1.11.39; 23 MU 29.3.40; SOC 20.8.40
- K6906 Deld to 2 ASU 23.8.36; 99 Sqn; 9 Sqn 12.38; 19 MU 5.39; 4 AOS 5.39; became 4 BGS 1.11.39; SOC 15.2.40



*K3500, R of No.99 Squadron, with a cine-camera mounted in the nose. Note the propeller guards beside the cockpit*

#### Specification

Span: 75 ft (22.9 m); length: 58 ft (17.7 m)  
Wing area: 1,470 sq ft (136.5 sq m)

	Mk.I	Mk.IA	Mks.II, III
Empty weight:			
	9,200 lb (4,170 kg)	9,200 lb (4,170 kg)	10,200 lb (4,660 kg)
Loaded weight:			
	16,750 lb (7,600 kg)	16,900 lb (7,660 kg)	17,000 lb (7,710 kg)
Max speed:			
	138 mph (222 km/h)	142 mph (228 km/h)	154 mph (248 k/hr)
Range: All marks:	920 miles (1,480 km)		
Ceiling: All marks:	21,000 ft (6,500 m)		
Normal bomb load:	2,660 lb (1,200 kg);		
Maximum bomb load:	3,500 lb (1,590 kg)		

#### Notes

The compilation of movements for Heyfords is difficult as all movement cards for the type have been destroyed. Where known, allocation dates have been quoted but where a month only is given, it implies that the unit had received this aircraft by that date and is not necessarily when it arrived. Any additional details would be appreciated.

ROS stands for "repaired on site", used in this instance as being repaired by the unit rather than being returned to the factory or to the Home Aircraft Depot. HQP stands for Headquarters Pool, where aircraft replaced in units were held pending disposal. Other abbreviations are standard as used in Air-Britain RAF registers.

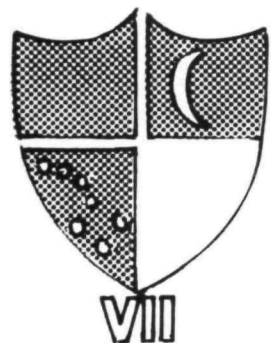


*K4023, K of No.10 Squadron, at Boscombe Down*

*P of No.102 Squadron (serial not known) at Armament Training Camp, Leuchars (Dr. A. A. Duncan)*

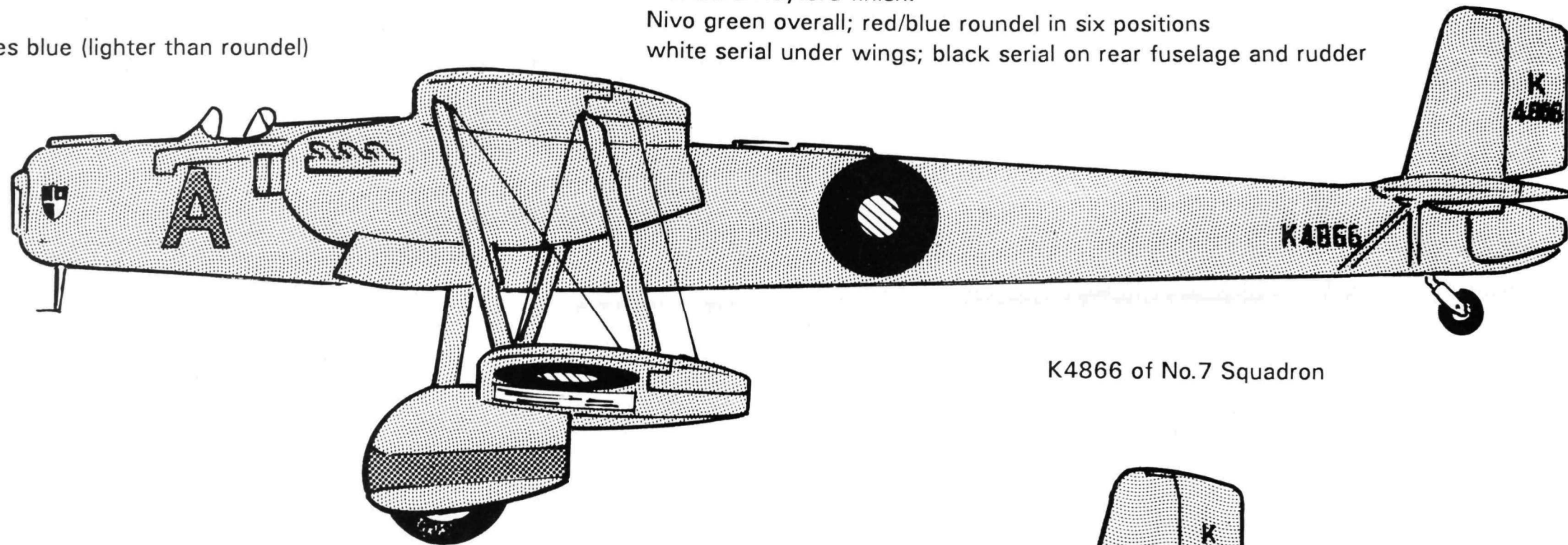


Code A and spat flashes blue (lighter than roundel)



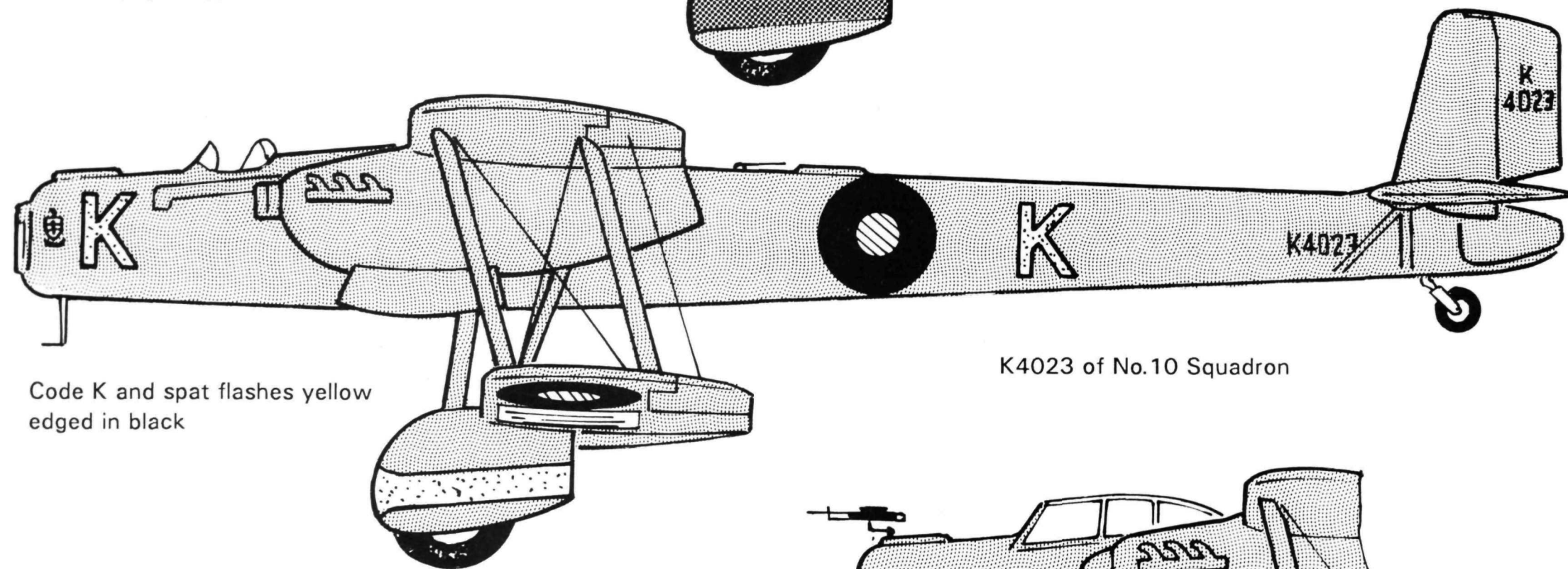
Dark blue and white

Standard Heyford finish:  
Nivo green overall; red/blue roundel in six positions  
white serial under wings; black serial on rear fuselage and rudder



K4866 of No.7 Squadron

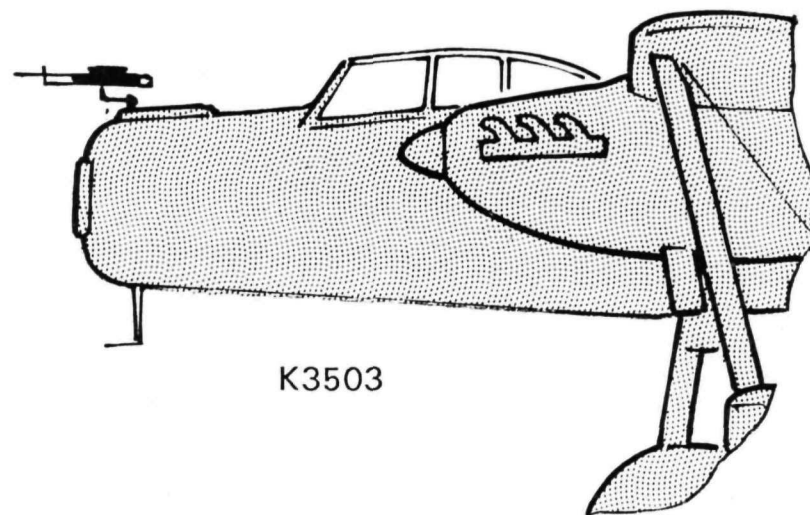
Code K and spat flashes yellow edged in black



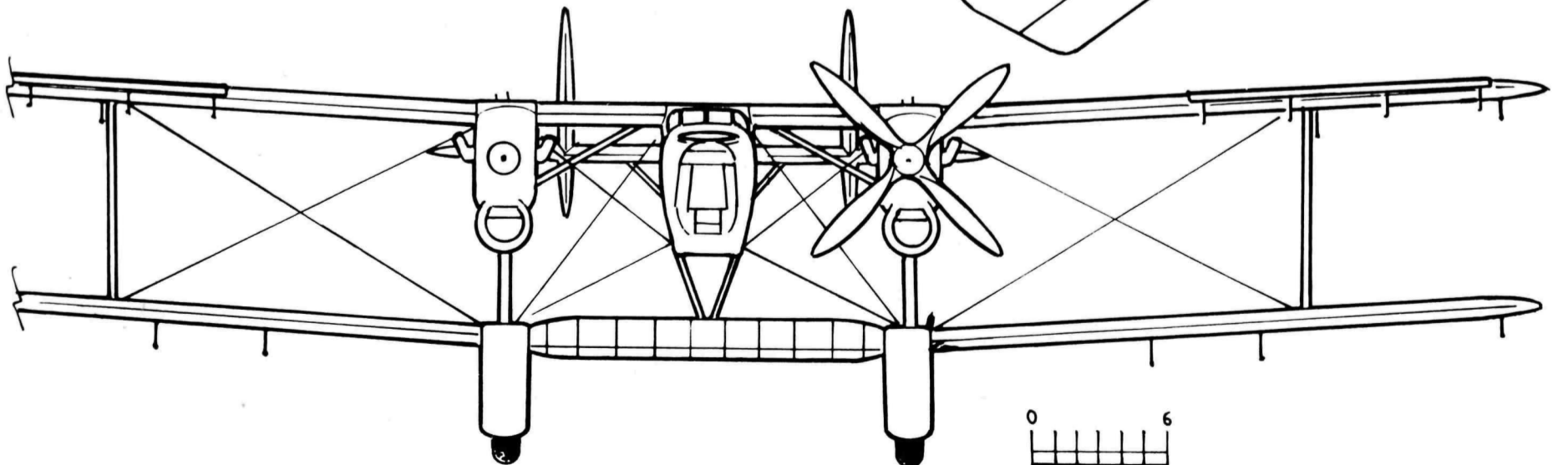
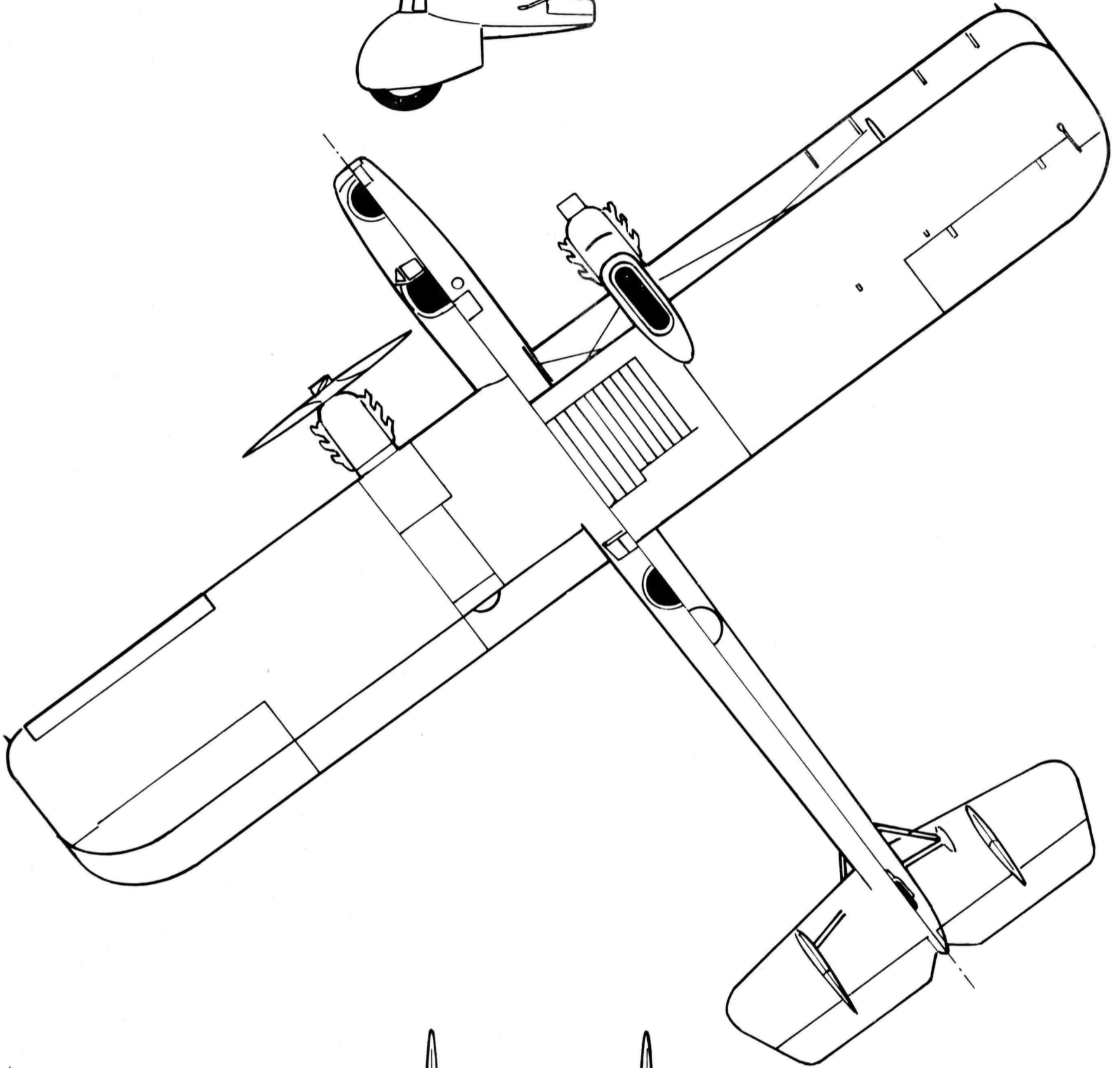
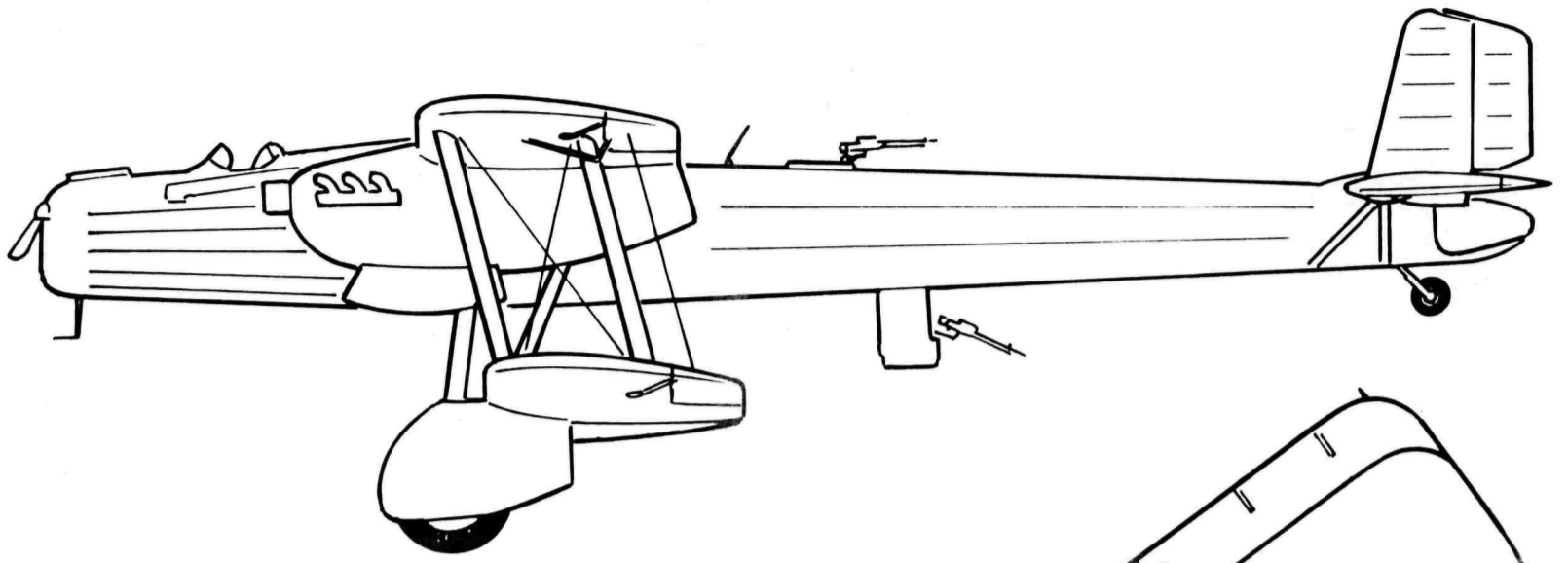
K4023 of No.10 Squadron



Colours uncertain, probably blue/white/red with gold arrow and border; red scroll



K3503



# WRITE-OFFS 1963

## ROYAL AIR FORCE

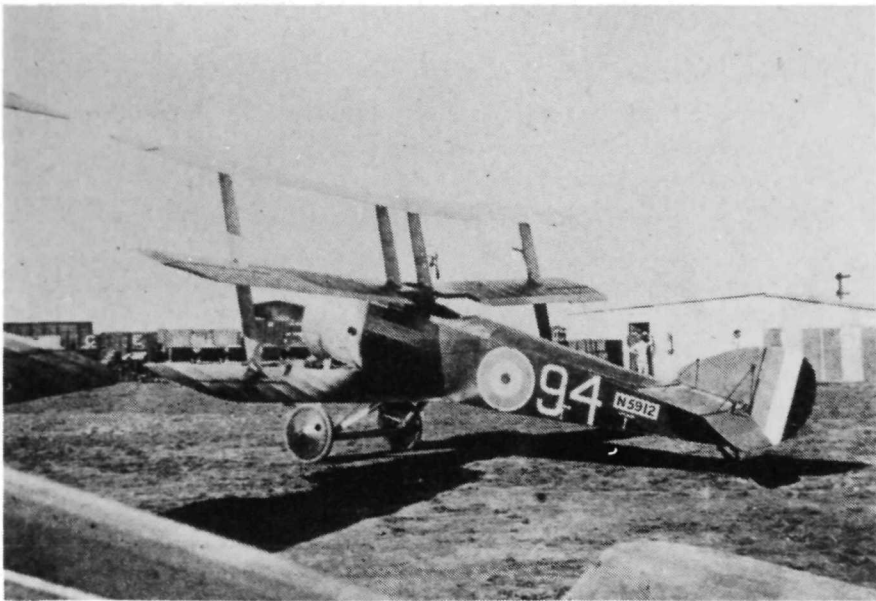
<i>Date</i>	<i>Type</i>	<i>Serial</i>	<i>Unit</i>	<i>Location</i>	<i>Cause</i>
29.1.63	Canberra PR.7	WJ824	58 Sqn	Caldbeck, Cumberland	Flew into ground in bad visibility (2)
29.1.63	Jet Provost T.3	XM476	7 FTS	Church Fenton	Collided with XN466 while landing on same runway in bad visibility
29.1.63	Jet Provost T.3	XN466	7 FTS	Church Fenton	Collided with XM476 while landing on same runway in bad visibility
10.2.63	Pioneer CC.1	XL700	209 Sqn	Patik, Malaya	Failed to gain height on take-off and hit trees
14.2.63	Twin Pioneer C.1	XN318	209 Sqn	6m N of Long Semodo, Sarawak	Flew into trees and hit cliff; fell into river (5)
19.2.63	Jet Provost T.3	XN642	3 FTS	2m for Leeming	Engine flamed out after take-off; abandoned (1)
20.2.63	Hunter F.6	XF385	229 OCU	Chivenor	Engine lost power; undershot landing and nose wheel collapsed
27.2.63	Sycamore HC.14	XJ919	Hdlg Sqn	Boscombe Down	Tail rotor struck ground in hover; aircraft rolled over
7.3.63	Hunter F.6	XF433	229 OCU	2m N of Hartland, Devon	Collided with XE594 during formation aerobatics and abandoned
7.3.63	Hunter F.6	XE594	229 OCU	2m N of Hartland, Devon	Collided with XF433 during formation aerobatics and abandoned
13.3.63	Twin Pioneer C.2	XM290	21 Sqn	Kalimikui, Kenya	Tipped up after landing
14.3.63	Jet Provost T.3	XN504	1 FTS	½m N of Rufforth	Engine lost power in circuit; abandoned on approach
20.3.63	Victor B.2	XM714	100 Sqn	3½m ENE of Wittering	Stalled after take-off at night and spun into ground; DBF (5)
29.3.63	Sycamore HC.14	XE309	CFS	4½m S of Ternhill	Control lost at low altitude; hit ground (1)
18.4.63	Jet Provost T.4	XP635	6 FTS	Whitton Shields, near Morpeth, N'umberland	Abandoned after fire warning
18.4.63	Twin Pioneer C.1	XL994	152 Sqn	1m W of Bu Hafafa, Oman	Dived into ground in circuit (8)
19.4.63	Jet Provost T.4	XP623	2 FTS	Thrussington, Lancs.	Abandoned in spin
24.4.63	Hunter FGA.9	XE628	1 Sqn	off Set Tehami, Libya	Dived into sea during air combat practice (1)
24.4.63	Vampire T.11	WZ612	4 FTS	Valley	Undercarriage leg collapsed on landing
26.4.63	Lightning F.1	XM142	74 Sqn	off Cromer, Norfolk	Hydraulics failed; abandoned
29.4.63	Canberra B.2	WJ719	98 Sqn	Samsun, Turkey	Undercarriage retracted during taxiing
29.4.63	Jet Provost T.3	XM368	2 FTS	2½m SW of Pateley Bridge, Yorks.	Abandoned in spin
2.5.63	Jet Provost T.4	XP588	CFS	½m N of Chedworth airfield	Abandoned after fire warning
4.5.63	Belvedere HC.1	XG473	66 Sqn	20m SW of Labi, Brunei	Yaw control cable failed; crashed out of control in jungle
7.5.63	Whirlwind HAR.10	XK991	228 Sqn	Bridlington Bay, Yorks.	Rotor struck mast while lowering winchman on to pinnace; ditched
15.5.63	Chipmunk T.10	WD364	Aberdeen UAS	8m SW of Dyce	Dived into ground in practice forced landing (1)
6.6.63	Hunter F.6	XF449	CFE	Binbrook	Caught fire while taxiing
6.6.63	Lightning F.1A	XM179	56 Sqn	Great Bricett, Suffolk	Collided with XM181 during bomb burst and abandoned
12.6.63	Anson C.19	VM388	SF Odiham	Cherbourg, France	Airfields closed by fog; forced landed on beach
12.6.63	Vulcan B.1A	XH477	44 Sqn	St.Colme, Aboyne, Aberdeenshire	Flew into hill on low level navex (5)
24.6.63	Hunter FGA.9	XF523	54 Sqn	Benina, Libya	Dived into ground during roll (1)
27.6.63	Javelin FAW.9	XH962	29 Sqn	Nicosia, Cyprus	Swung on take-off and undercarriage collapsed
4.7.63	Chipmunk T.10	WZ857	Edinburgh UAS	Ilfracombe, Devon	Engine cut during aerobatics; crashed in forced landing
4.7.63	Sycamore HC.14	XG512	103 Sqn	Tobruk, Libya	Nosewheel collapsed on landing; rotor hit ground
10.7.63	Vampire T.11	XK633	1 FTS	Rufforth	Veered on take-off and undercarriage collapsed
18.7.63	Lightning F.1A	XM186	111 Sqn	1m W of Wittering	Abandoned in spin during aerobatic display (1)
29.7.63	Jet Provost T.3	XM380	2 FTS	1m S of Seagrave, Leics.	Engine flamed out; abandoned after fire warning
2.8.63	Javelin FAW.8	XH990	41 Sqn	Marham	Undercarriage leg jammed up; swung off runway

23.8.63	Sycamore HC.14	XG517	103 Sqn	Tobruk, Libya	on landing Controls malfunctioned; rolled on landing and rotor hit ground
10.9.63	Whirlwind HAR.10	XJ428	228 Sqn	2m S of Bridlington, Yorks.	Lost power and crashlanded
11.9.63	Javelin FAW.8	XJ113	41 Sqn	Wattisham	Engine failed on take-off; swung off runway and caught fire
20.9.63	Jet Provost T.3	XP622	2 FTS	Wymeswold	Engine cut on take-off from roller landing; landed on grass and undercarriage collapsed
30.9.63	Vampire T.11	WZ578	8 FTS	1m E of Upton Magna, Salop.	Engine flamed out; abandoned
5.10.63	Belvedere HC.1	XG462	72 Sqn	3m SW of Bomba, Libya	Rear engine caught fire in air; crashlanded
17.10.63	Javelin FAW.9	XH758	5 Sqn	2m W of Zonhoven, W. Germany	Engine blew up and tail control lost; abandoned
18.10.63	Gnat T.1	XR536	4 FTS	Sealand	Hit obstruction in forced landing and engine fire warning
25.10.63	Sycamore HR.14	XJ385	CFS	Hinstock airfield	Engine caught fire; forced landed and DBF
5.11.63	Javelin T.3	XM336	FCIRS	Jaujac, France	Both engines cut; abandoned and crashed in Jaujac village, near Orange (4 killed, 8 injured on ground)
5.11.63	Javelin FAW.9	XH765	64 Sqn	Kalaikunda, India	Overshot abandoned take-off
16.11.63	Chipmunk T.10	WD304	1 AEF	5m NW of Manston	Dived into sea (2)
19.11.63	Lightning F.1A	XM187	111 Sqn	Wattisham	Bounced on landing and undercarriage collapsed
25.11.63	Whirlwind HAR.10	XD164	CFS	Holyhead Bay, Anglesey	Engine cut; ditched
13.12.63	Jet Provost T.3	XM421	7 FTS	2m NW of Church Fenton	Control lost in cloud; abandoned
17.12.63	Hastings C.1	TG610	242 OCU	Thorney Island	Swung on landing and hit building (1)

## Royal Navy

15.1.63	Wessex HAS.1	XM924	814 Sqn	off Subic Bay, Philippines	Ditched from <i>Hermes</i>
28.1.63	Sea Vixen FAW.1	XJ585	893 Sqn	16m off The Lizard	Hit round-down landing on <i>Centaur</i> at night; caught fire, skidded and hit 4 other Sea Vixens; went over side
19.2.63	Buccaneer S.1	XN952	Blackburn	Holme-in-Spalding-Moor	Crashed during LABS demonstration
25.4.63	Whirlwind HAS.7	XL872	824 Sqn	off East African coast	Ditched near HMS <i>Aisne</i>
22.5.63	Scimitar F.1	XD239	800 Sqn	Khormaksar	Damaged landing on <i>Ark Royal</i> ; diverted to shore base; BER
31.5.63	Sea Vixen FAW.1	XN695	892 Sqn	200 miles off Okinawa	Exploded in sea after completing fast descent prior to practice Glowworm attack on <i>Hermes</i>
28.6.63	Sea Vixen FAW.1	XN703	892 Sqn	<i>Hermes</i> off Singapore	Pulled up steeply on DLT; stalled and crashed (2)
24.7.63	Whirlwind HAS.7	XM668847	Sqn	Challaborough Down, nr Bigbury, Devon	Engine failure; crashed 400 yds offshore
24.7.63	Whirlwind HAS.7	XK939	SF Brawdy	Treffgarne Owen, Pembs.	Crashed and DBF near Brawdy
31.7.63	Scimitar F.1	XD326	800 Sqn	near <i>Ark Royal</i> in FE	Attempted to recover too late during RP attack on splash target and hit sea
2.8.63	Gannet T.5	XG887	849HQ Flt	Hay-on-Wye, Brecknock	Crashed on ferry flight from Shorts, Belfast to Culdrose
12.8.63	Wessex HAS.1	XM922	814 Sqn	Off Aden	Ditched on plane guard duty from <i>Hermes</i>
29.8.63	Sea Vixen FAW.1	XN710	890 Sqn	E coast of Malaya from <i>Ark Royal</i>	Double flame-out and crashed in jungle,
10.9.63	Wessex HAS.1	XM925	814 Sqn	<i>Victorious</i> off Aden	Ditched after control lost on night sortie from
20.9.63	Scimitar F.1	XD213	803 Sqn	nr East Chaldon, Dorset	Undercarriage leg jammed; pilot ejected
23.9.63	Sea Venom FAW.22	WW221	831 Sqn	Foulsham, Norfolk	Ran out of fuel; crew baled out
4.10.63	Wessex HAS.1	XP145	819 Sqn	nr <i>Hermes</i>	Ditched in home waters after loss of power
21.10.63	Buccaneer S.1	XK533	809 Sqn	Moray Firth, 1m off Lossiemouth	Crashed in sea during practice single-engined approach
10.12.63	Wessex HAS.1	XS117	845 Sqn	in jungle, Sarawak	Crashed on delivery. Recovery attempted by Belvedere but jettisoned due to dangerous instability

PICTURE  
PAGES



Above: The *Monstre* illustrated in AM.4/93 was a Voisin triplane and appeared in 1915 with four Salmson engines. It originally had no fin but the triangular one was fitted when it was modified to take 180 hp Hispano 8Ac engines in tandem pairs on the middle wing. It actually flew as witnessed by this photograph received via Jack Meaden. Is that the Issy power station in the background?

Left: The size of World War One training units may be gauged by the number "94" on this Sopwith Triplane at No.2 School of Aerial Fighting and Gunnery at Marske in October 1918

Below: Fifteen Gladiators were purchased by Iraq prior to the outbreak of war and one anonymous example is pictured here at Hucclecote





Beaufort A9-226 of No.8 Squadron RAAF after a Japanese bombing raid on Vivigani airfield, Goodenough Island, 8.10.43 (via Don Neate)



A9-425 of No.1 OTU taxied into a ditch at East Sale, Vic., 5.4.44 (via Don Neate)



A9-362 of No.100 Squadron RAAF was hit by AA fire and crashlanded at Vivigani, 5.9.43 (via Don Neate)



A9-562 of 1 OTU crashlanded about 1 mile north of East Sale on 10 August 1945 (via Don Neate)

Sea Fury FB.11 TG129 of No.871 Squadron, RCN, ashore at Ford in 1953 while disembarked from HMCS *Magnificent* (via Andy Thomas).







Two Saro designs are illustrated. Above is the A.33, built to Specification R.2/33 to compete with the Sunderland. K4773 came to grief when it hit the wash of a ferry off Cowes on 25 October 1938 and the wing collapsed.

Below: A.17 Cutty Sark S1575 was fitted with a pair of Gipsy II engines and was tested at Felixstowe with a view to adoption by the RAF as a trainer for flying boat pilots at Calshot. It was not chosen but its successor, the Cloud, later went into service.





Above: A Skua carries out dummy deck landings at Yeovilton

Below: Two-seat Siskins, designated Mk.IIIC, were on the strength of fighter squadrons for training purposes. J7552 went to No.111 Squadron in August 1925



# FEEDBACK

## Lightning DPA

### Experimental Numbers

Some interesting additions have come in to add to the list published in the last issue. Perhaps we should have made it clear that the X prefix was not part of the number but shorthand for "Experimental Aeroplane No."

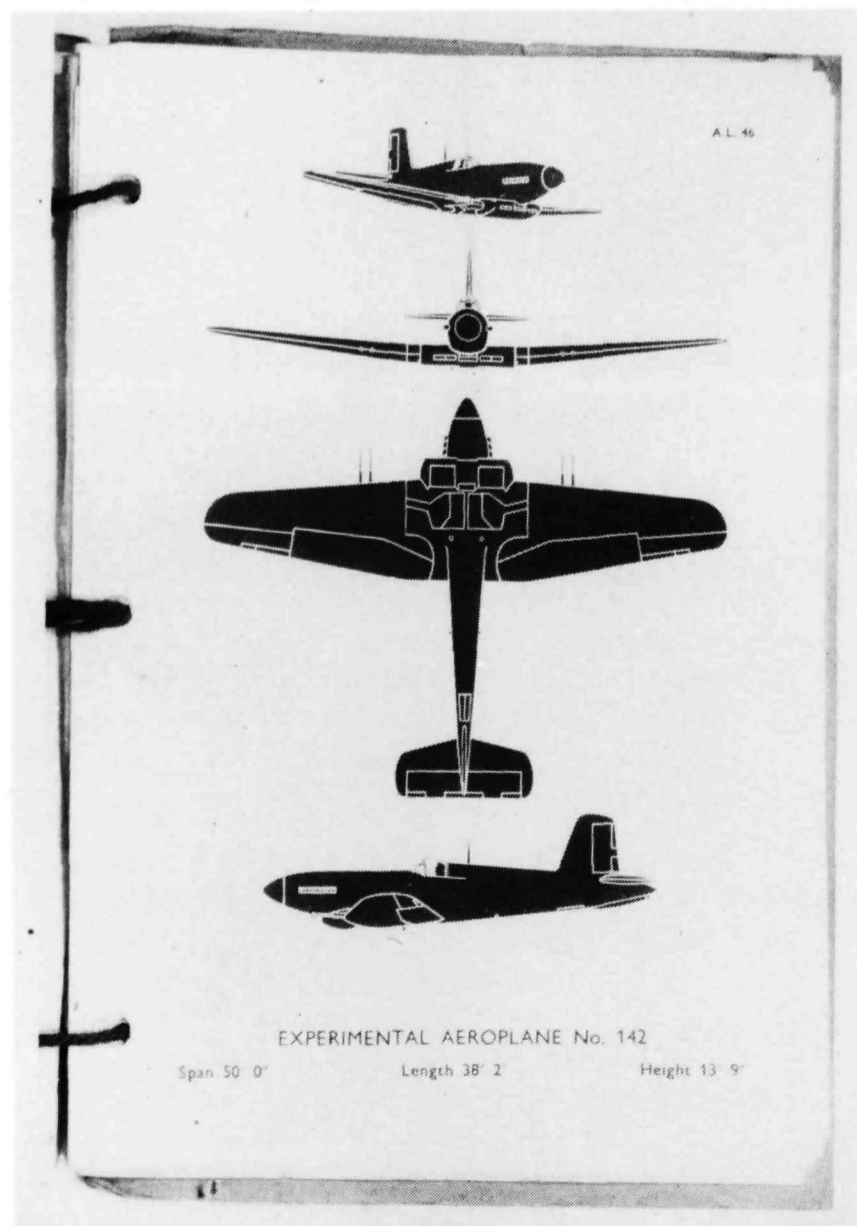
Peter Green has sent in the photo of a page of this publication and some further information. The example shown is of a Firebrand and shows how much information was provided. Aircraft recognition in those days was very much involved in wing spans! We memorised hundreds but can't remember why. It did have some meaning when relating to gun sighting rings on Oerlikons and Bofors.

Originally, Amendment List 13 to AP.1480A (British Aircraft) contained the first un-named aircraft. They were Fairey Experimental (the P.4/34), Gloster Experimental (F.5/34), Bristol Experimental (Type 148), Heston Experimental (T.1/37), Martin-Baker Experimental (MB.2 with small fin, later re-issued with larger fin) and Phillips & Powis Experimental (Miles T.1/37).

AP1480X was introduced late 1940 or early 1941. No.100 showed the Barracuda with the low-set tailplane but AL.40 substituted a drawing with the normal high tailplane. AL24 had a triple fin GAL Fleet Shadower, amended by AL.46 to show a single fin.

No.124 was of the triple-fin version as the Manchester III. No.157 showed the Battle with the Fairey Prince engine so perhaps No.151 has been transposed. No.158 was the second Vulture Battle (L5286) with the smaller radiator.

It seems likely that No.201, the Beaufighter XVI, was a corruption of a Beaufighter with Hercules XVI engines.



The saga of the P-38 that appeared in AM 3/93 continues. The definitive answer seems to come from Huby Fairhead. He refers to a letter from Gp Capt C B Owen which describes how he came to fly 42-3517. The RAF liaison officer at 8th Air Force headquarters was loaned a P-47 when he left there and this was brought to Coningsby. He did not like it and it was exchanged for a P-38 which arrived on 20 July 1944 from Langford Lodge. Gp Capt Owen was volunteered to fly it, which he did several times.

On 6 August, a two-seater P-38 arrived from Glatton for trials. It was fitted with a glazed nose and provision for a Norden bomb sight and had two external tanks under the centre section. It had no serial (although actually 42-4300) and was simply called the PB-38. It was flown by Guy Gibson when he was Base Staff Officer at Coningsby before being lost in a Mosquito.

After trials, it was decided to modify 42-3517 to a similar configuration and it was flown to Burtonwood on 14 August. The PB-38 was returned to Glatton and 3517 was collected from Langford Lodge on 16 September. It now was a two-seater with twin VHF sets and Gee and Loran in the nose. At Coningsby it was painted in PR Blue. It was flown on night operations from 23 September.

Air Cdre Sharp left Coningsby to join Transport Command and took 3517 with him to Northolt. Gp Capt Owen was given the task of collecting it from there on 18 June 1946 and delivered it, via Marham, to 51 MU Lichfield.

This seems to make it clear that it was a RAF aircraft but the significance of "DPA" remains obscure and it was still at Lichfield in November 1946.

Some investigation as to its operational use seems called for and we will do some research when time permits. Unless someone already has found something.....

### West African Sunderlands

Gp Capt Tom Harvey has written in about the losses of Sunderlands en route from Gibraltar to West Africa in July 1944. No less than four ditched on this route during July and he was Captain of ML860.

His log book shows that this aircraft left No.302 Ferry Training Unit at Oban on 19 July 1944 for Gibraltar. It left Gib on 23 July in company with ML845. Both aircraft ditched with engine failure after the same flying time from Gibraltar, some 90 miles apart off Cape Jubi, Rio de Oro, then a Spanish colony. *Chasseur 85* of the French Navy arrived on the scene and took the boat in tow. ML845 was taken in tow by a US Navy PT boat from Casablanca.

ML860 continued to be towed for two days in the direction of Agadir but heavy seas developed and the boat listed 40 degrees, forcing the crew to perch on the wing in an attempt to stabilise it. But the force of the storm was too much and ML860 had to be abandoned and sunk by gunfire about 75 miles SW of Agadir. ML845 suffered a similar fate.

On 14 July, ML852 had ditched off Cape St. Mary and on 17 July ML855 crashed 30m N of St. Louis, Senegal. The close sequence of these losses calls into question the possibility of sabotage while the boats were at Gibraltar and fairly accessible to interference by Spanish fascists.

Fuel or oil contamination is another possibility but we have yet to find any report of an inquiry into how four Sunderlands could go down in such similar circumstances within ten days of each other. One may be buried in the Public Record Office but has anyone found it?

As this page is about to go to press, Gp Capt Harvey has provided more details of what happened to his Sunderland, ML860. The first indication of trouble was engine oil flowing heavily from the oil overflow pipe on the port-inner engine. He landed (rather than "ditched" on this occasion) about half-a-mile offshore to investigate and, hopefully, remedy the problem. The engine filter, easily accessible on the front of the Pegasus XVIII, was found to be blocked with a gooey substance rather like chewing gum. This was easily washed out with petrol, the filter replaced and the flight to Bathurst resumed.

Less than ten minutes later, the port outer and starboard inner began spewing oil in a similar fashion. Another landing was made and the filters on both engines, and again the port-inner, were cleaned. Unfortunately, the retaining nut for one of the filters was accidentally dropped overboard. This left three engines and a non-feathering propeller for the rest of the trip.

The useless prop on the port-inner was lashed to prevent windmilling and all surplus fuel pumped out. Numerous attempts were made to take off in nil wind on a glassy sea, invariably with a major swing to port as soon as power was brought on to the SI engine. With the nose up in the air, there was no sign that the aircraft would ever get on to the step.

The outside air temperature was in the 90s and the engines were over-heating badly so it was necessary to abandon these efforts. A radio call to Gibraltar asked that a replacement for the missing nut be flown out but this was not done. Instead, Gibraltar informed the flying boat that a towing vessel would be sent out.

At about the same time, ML845 responded to a radio call. She was only some 30 nm from ML860's position and had taxied into a bay on the coast from which she had to make a hurried exit when a party of over-interested civilians appeared on the shore. The territory was Rio de Oro, then part of Spanish Morocco and neutral territory. Within three hours, the two Sunderlands met up on the afternoon of 24th July, some 24 hours after the original landing of ML860.

Shortly after 1830, *Chasseur 85*, a 110-ft US-built submarine chaser transferred to the French Navy, hove in sight and by 1700 the two Sunderlands were under tow in tandem and heading for Agadir, 220 miles away. Unfortunately, the French crew assumed they could proceed at maximum speed and the tow rope to the leading Sunderland soon snapped. ML860 ran on into her but only minor damage resulted.

At 0900 on 25th July, a US Navy PT boat from Casablanca showed up and took ML845 under tow while ML860 continued with the sub-chaser.

The morning of 26th July dawned with a rising north-west wind and heavier seas. During the day, the port wing was packed with baggage and heavy kit through the servicing platform hatches and the crew was sent out on to the port wing in an effort to keep the aircraft level. In addition, the flight engineer managed to get on to the starboard float which had been punctured and with a pump endeavoured to keep it from flooding. Unfortunately, as the sea increased, he had to be recalled since he was spending most of the time submerged and was in danger of drowning. He was subsequently awarded a BEM for his efforts.

By late afternoon, the boat had a permanent list to starboard of 30 - 40 degrees and efforts to persuade the French skipper to steer a windward course were unsuccessful. As darkness approached, it was clear that with no decrease in wind force and in very heavy seas, the aircraft could not survive the night and rescue after dark in such conditions

would be difficult. It was reluctantly decided to abandon the aircraft which was done, three at a time, in the Sunderland's inflatable dinghy. As the aircraft was new, with several pieces of secret items of equipment on board, it could not be left afloat. The gallant Frenchmen then took twenty minutes to get a hit on the aircraft with their 40mm gun. The Captain ordered a change of gun crew during this procedure.

The crew was taken to Agadir and on 29th July was flown up to Casablanca in a USAAF Marauder. The USAAF conducted an inquiry, during which it was suggested that both Sunderlands could have been the victims of sabotage during the stop-over at Gibraltar. Both aircraft had been moored outside the harbour overnight, adjacent to the runway and only 300 metres from the Spanish shore where German agents were known to operate. Contamination of the engine oil with sugar would have been simple and effective. Unfortunately, this could not be proved.

The Captain of ML845 was a Canadian so perhaps something may come from our members in that country.

Our thanks to Gp Capt Harvey for providing such a detailed account. The accident records for this event have little detail, probably due to the diffused responsibility involved. Form 765C had to be completed, all four pages of it, by the unit on whose charge an aircraft was at the time of the accident. But the FTU had disposed of these boats and had no direct link to the crews after departure from which to obtain the details. No.200 Group in West Africa had not acquired them while RAF Gibraltar was simply a staging post en route. All good excuses for not filling in yet another form.



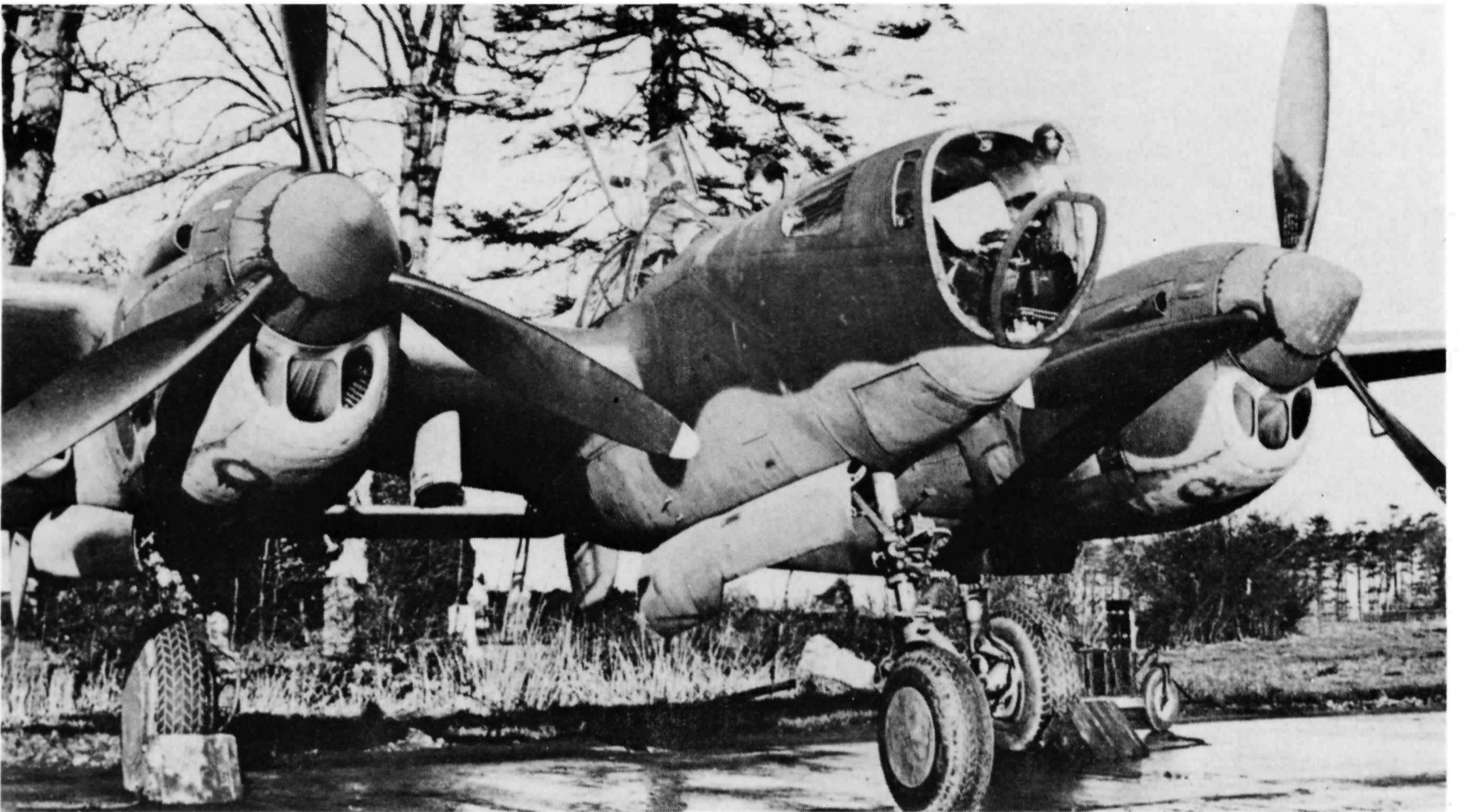
### RCAF "Codes"

Since we have had a couple of queries about the code letters appearing on RCAF biplanes that seemed to be pre-war, this is an opportunity to answer them.

The relatively-few aircraft being operated by the Canadian Government in the 1920s used civil registrations in the G-Cxxx range. This Keystone Puffer, G-CYZH was one of two examples, the other being ZI. Such aircraft carried roundels but only the last two letters of the registration on the rear fuselage. The system changed when RCAF aircraft were given serial numbers.

The Puffer, illustrated above, seems to have been ignored by the encyclopaedias. The Illustrated Encyclopaedia of Aircraft had begun to lose momentum by the time the letter K was reached and Keystone only gets a resume of its aircraft other than the twin-engined bomber series which has a separate entry. The Puffer is not mentioned and it does not appear in Janes Encyclopaedia of Aviation.

Time for another Putnam?



*Jack Meaden has sent in this photo of the prototype conversion of a P-38J to a glazed nose version at Langford Lodge. It would be too much to hope it was 4300 but everything fits. It could carry two 2,000-lb bombs in place of drop tanks (or one of each) when leading formations of standard P-38s. Jack raises the question of why it was referred to as a "droop-snoot" when the nose actually turns up! Another mystery of World War Two.*

#### Wallace 2506M

Rex Nicholls was reminded of wartime train travel by the Wallace article in AM.4/93. He used to visit his grandparents on the Isle of Wight and he carefully sat on the side that overlooked Brooklands and Portsmouth Airport. In those days, we all planned our journeys for a similar purpose.

On 16 September 1944, when approaching Portsmouth City station, he spotted a Wallace parked beside the tracks. It was camouflaged and bore the number M2506. Once more the M-serials had caught out a painter used to letter/number combinations. Only the fuselage, engine, rear cockpit canopy and upper wing centre section remained, the wings, tail unit, undercarriage and propellers having gone.

In June 1948, he cycled to the Isle of Wight and diverted into the rail yard and there it was, still in the same state apart from the fact that all the fabric had gone.

The Air Ministry movement record only shows the initial allocation of K8680 to 5 S of TT at Locking but this is common. It may be that the airframe later went to an ATC squadron in Portsmouth but do we recall a Gauntlet being found in a civil defence unit at Portsmouth some time after the war?

In connection with M-serials, one wonders why it was necessary to allot numbers and then replace them with later numbers. Was there some esoteric system of allocations involved depending on the type of use to be made of the airframe?

The M-series are often referred to as "Maintenance Numbers" but they started long before Maintenance Command existed and were allotted by Training Command and its predecessors and, to the present day, by its successors as owners of the Schools of Technical Training.

#### The Hornet File

Mr. D. Trapp got a copy of the above for Christmas and likes it. However, he points out two discrepancies evident from his time with the FAA Sea Hornets where he served with Nos.738 and 759 Squadrons, whose pilots included a Lt Ray Lygo, later Captain of *Ark Royal* and then on to Admiral.

On page 114, VZ664 has been attributed to No.728 but was one of "his" on No.738 Squadron. The other is on page 109 where someone has moved Malta round a bit. We did spot this but only after the book arrived from the printer.

Those who know Malta will probably have realised that the pier in the photograph, complete with wrecked bridge, sticks out from Fort St. Elmo on the west side of Grand Harbour. The bridge was the sole victim of the Italian MAS-boat raid that included explosive boats. Watchful Royal Malta Artillery posts spotted them on the way in and none penetrated the harbour, the survivors being caught by Hurricanes at dawn and wiped out. One of the explosive boats rammed the jetty and the bridge was never rebuilt. It was still down ten years ago and probably still is.

The picture, or rather the negative, was reversed during the printing process after we had checked the plates. This is one of the inevitable glitches that can hit without warning and only becomes evident when the book is delivered and invariably falls open on the page where it happened, causing pain and suffering for the editor.

Mr. Trapp recalls the Sea Hornet as being a perfect lady and very easy to maintain. As the pilots do not seem to have a thing to say against it either, it seems that de Havilland managed to produce the impossible, a beautiful aircraft, a good handler and an aircraft that did not involve its ground crews in contortions to do a simple maintenance job.

## Rams

In September 1937, the Committee for the Scientific Survey of Air Defence received a paper from Professor B Melvill Jones AFC, MC, on the subject of fighter attack on bombers. The Professor had been at Orfordness from 1916 to 1918 on experimental work.

In discussions on this paper, the Committee was of the opinion that the increased speeds of aircraft had made obsolete the methods of sighting used in World War One, e.g. the ring-and-bead sight. It concluded that attack from astern would need numerous guns if it was to be effective in destroying bombers. Flexible guns would only be practicable for firing upwards from below and behind into the undersides of bombers and 20 mm shells would be the best ammunition. Shades of *Schrage Musick*.

The use of eight machine guns on fighters and the Defiant with its four-gun turret were on the way but the Committee turned its attention to something more revolutionary.

In August 1928, a Hungarian, Mr. Tihanyi, had submitted a proposal to the Air Ministry for an Air Torpedo. The was a small pilotless plane fitted with an explosive warhead which would be controlled from an accompanying aircraft after being launched from the ground.

It would be fitted with an "electric telescope" with a range of ten kilometres which would be used to home in on the target aircraft. It could operate despite smoke screens and would lock on to the target and not be distracted by other flying objects - like birds.

The "telescope" was a form of camera focussed on to a sensitive selenium cell divided into four quadrants. Light received from ahead of the device was filtered into the scope by a sensor. The quadrants of the cell controlled the mirror so that the image of the target was always in the centre by correcting the flying controls and so directing the torpedo by means of two adjustable diaphragms, one focussing on the target and the other on the sky. Tihanyi was given facilities to demonstrate his diaphragms in an Air Ministry laboratory but there the story seems to end.

The idea was a novel one and appears to have been the first attempt at a target-seeking SAM. But it was not as new as it appeared. In 1909, an eleven-minute film called *The Airship Destroyer* was produced by Charles Urban Trading Co. in Britain and depicted an attack by a formation of airships which dropped shells on various targets. Defence was in the hands of an armoured car with a high-angle gun - until an airship drops a bomb on it. Some aeroplanes try to attack the airships but are all shot down.

Enter the inventor with his flying torpedo controlled by wireless and it scores a direct hit on an airship which comes down in flames. Presumably all the others fled on the assumption they had entered a SAM belt and the threat to This Other Eden was lifted.

Some years later, airships began flying over Britain and dropping explosive things. The film industry being on the ball, moneywise, the film was dug out, refurbished and issued again in 1915 as *The Aerial Torpedo*. In 1916, an American film studio produced a 75-minute film called *The Flying Torpedo*, a tale of spies attempting to steal "the plans" of a very similar device. They are foiled, providentially, since at that moment an "army of yellow men from the East" invades California. A bit of mass production and the invading troops and ships are destroyed by waves of flying torpedoes whose operators sit on the ground in safety. The SAMs have been converted into SSMs for the sake of the plot.

Although the Hungarian solution to the problems of air defence seems to have lapsed, in December 1938 the Committee was considering the case for another flying ram. The Ram consisted of an aircraft fitted with a 500-lb bomb - and a pilot. The latter would abandon ship just before impact while the former was exploded by a time fuse. This would probably not have proved a popular posting for RAF pilots. The difficulties are obvious; given an effective ejector seat, the pilot might have got away with it but trying to bail out in a high speed dive close enough to make sure of a hit would have been problematical. Perhaps the Airspeed A.S.31 would have given an extra micro-second, having its cabin on the tailplane.

The idea was abandoned on the ground of the high cost (in sterling, not personnel). A modified Ram and Shepherd idea was also mooted. The Ram would be fitted with Queen Bee controls and directed from a Shepherd which would, presumably, stay well clear of the bomber formation. That the Ram would have had some state-of-the-art equipment aboard is indicated by the methods of homing quoted: engine noise, exhaust heat and picking up reflective surfaces.

The Air Defence Experimental Establishment was consulted but had found great difficulty in developing a microphone that would pick up the target but was adequately screened from the noise of the Ram. However, it did eventually produce a high frequency sound microphone but it was only practicable at ranges of 100 to 200 feet.

For exhaust heat, infra-red was considered as there seemed no other method but again it was limited to a few hundred feet.

Reflective radio waves sounded promising and was pursued but the scientific staff required was fully engaged on air defence radar and developing the RDF chain and airborne AI and ASV equipment.

Tihanyi's experiments were revived after being abandoned due to the difficulty of making them work in cloud or at night but to no avail.

Research found that two aircraft would be needed to keep track of the Ram and there was also difficulty in developing suitable controls. The whole idea was abandoned.

The invulnerability of heavy bombers in the late 1930s was widely canvassed. One American aviation magazine predicted that conventional fighters would be obsolete in a future war and the **only** way they could survive as a type was to be used for ramming bombers. The author may have been influenced by Boeing brochures, the whole concept of the "Flying Fortress" being highly popular in America - and without a power-operated turret in sight.

Fortunately, the Air Ministry put their faith in eight-gun fighters while Duncan Sandys was a minor political hopeful so he could not announce an end to manned fighters and have the Cabinet believe him as he did in 1957.

Ramming was used on occasion, usually by damaged fighters, but not as an organised defensive system. In the days of mass production of fighters, pilots were more valuable than planes so conventional methods of attack were the norm. Even the Japanese *Kamikaze* system was not very effective against formations of heavy bombers which, by then, really were "flying fortresses". Such tactics were best employed against large targets, like ships. There was also a manned V-1 system in Germany towards the end of the war which was to be used as a ground-attack weapon.

The British SAM system lapsed until 1945, when the Fairey "Stooge" was developed to combat Japanese suicide aircraft. By then, proximity fuses gave such a missile a better chance of damaging or destroying an enemy aircraft.

## BOOKSHELF

### **Boulton Paul Aircraft since 1915** by Alec Brew - Putnam - £30.00

A long-awaited addition to the Putnam series has finally come to fruition. The Boulton Paul line started in World War One in Norwich as Boulton & Paul, a well-established firm of metalworkers and woodworkers dealing with domestic and agricultural equipment. An order for 50 F.E.2bs began the firm's lengthy involvement with aircraft.

In common with other companies engaged in sub-contract work, BP formed a design department in 1917 and produced the Bobolink single-seat fighter as a potential replacement for the Camels it was currently building. It was not chosen for production and the same fate befell all the other military designs until the Sidestrand. A few civil P.9s two-seaters were built but competition from surplus military aircraft at low prices resulted in its demise.

The Sidestrand was adopted as the standard twin-engined day bomber for the Royal Air Force but as there was only one squadron in this class, orders were small, only two prototypes and 18 production aircraft being built. It was developed into the Overstrand with the first power-operated nose turret. Of these, 24 were built as such and four converted from Sidestrands to re-equip the one Sidestrand squadron.

After a move to Wolverhampton and building some prototypes and two civil transports, BP finally got into full production with the Defiant, having been awarded an earlier contract for Demons with open turrets and thus becoming the country's experts in turret fighters. The story of the Defiant appeared in *Aeromilitaria* 4/90. The company also built Blackburn Roc turret fighters and after production of Defiants ended, built Beaufighters and Barracudas.

Post-war, BP was most famous for the Balliol, the standard advanced trainer of the RAF in the 1950s. But it was the end of the road for aircraft production at BP. After building two delta-wing research aircraft, it moved to other, more reliable, markets, including powered controls, and finally merged with Dowty.

This is an excellent review of the company's activities, the first 138 pages covering the background before beginning a detailed listing of all the aircraft. Appendices include projects, sub-contracted aircraft and gun turrets. There are many interesting photographs that we do not recall ever having seen published. A must for the bookshelf.

\* \* \* \* \*

### **Sea Fury, Firefly and Sea Venom in Australian Service** **Phantom, Hornet and Skyhawk in Australian Service** by Stewart Wilson - Aerospace Publications - \$A19.95

Two additions to the range of types that have been used by the Australian fighting service have appeared. The format is the same as those reviewed earlier, comprising an initial description of the aircraft and its background and proceeding on to its service in Australia.

Lists of individual aircraft delivery and SOC dates are provided, with brief details of their fates. As always, the illustrations are excellent, including colour photos, although for the naval types most of these are of preserved aircraft.

After eleven volumes, one wonders what comes next. Bulldogs and Demons come to mind but would Tiger Moths and Dragons sell?

### **Spitfires over Israel**

Brian Cull, Shlomo Aloni and David Nicolle  
Grub Street - £25.00

Despite the title, this book is not all about Spitfires over Israel. Many other types intrude and the adjoining countries get into the act.

The tried and trusted Grub Street diary-format has been abandoned and it is divided into chapters covering various preliminaries and phases to the 1948 war between the newly-founded Israeli state and its neighbouring Arab countries. As might be anticipated, a great variety of aircraft types was pressed into service, none of the air forces involved being very large while Israel had to build up a force from whatever could be acquired.

A mix of Israeli and Egyptian Spitfires made aircraft recognition a nightmare, coupled with the fact that there were RAF Spitfires in the area. In the confusion, some of the latter were destroyed by both sides.

Illustrations cover a wide field. In addition to Spitfires, there are many photographs of Fiat G-55s, Macchi C-205, Mustangs, Bf 109s, Furies - and these were just the fighters. Other types range from B-17s to an Aerovan!

Despite a lack of input from the Arab countries, this must be the most detailed account of the war in the air during that fateful year in the history of Israel.

\* \* \* \* \*

### **The Royal Air Force of World War Two in Colour** by Roger A Freeman - Arms & Armour - £19.99

Since colour film ceased to be available in the UK during World War Two, it is surprising how many colour photographs of contemporary aircraft exist. Some were due to the generosity of the USAAF, notably in the case of Charles E Brown, while some imported Kodachrome became available to official photographers in the latter half of the war.

Over 300 photographs provide a wide range of types, some well-known but others seen in print for the first time. In some cases, the slide has faded; they were allegedly only supposed to last 20 years if kept in the dark. Unusual types include a Henley, Mentor, Stirling V and Warwick V. Chapters cover various Commands and areas and even a Resettlement Training Centre gets into the act.

This is a fine collection of photographs to browse through and the captions are informative.

\* \* \* \* \*

### **Green Markers Ahead Skipper!** by Gilbert Gray - Newton Books - £15.95

An addition to the growing number of personal accounts of the air war during World War Two but, as always, interesting for the varied experiences of the writers.

Gray was a flight engineer on Lancasters with No.106 Squadron at Metheringham during 1944 and flew 34 sorties before being posted to a Heavy Conversion Unit. Each one is described in detail while the fates of other crews provide a vivid example of the risks involved.

Appendices list the aircraft and crews at this time, the losses and operations of No.106 Squadron.

There are few photographs and only one of a Lancaster but some drawings illustrate raids and features of the Lancaster's flight engineer's controls.

**On Silver Wings** by Alec Lumsden and Owen Thetford  
Osprey Publishing - £25.00

The era between the end of World War One and the arrival of camouflage was a Golden Age, when the silver fighter biplanes with their colourful squadron markings projected a striking image of the Royal Air Force to the public.

The Snipe was the first fighter to shed the drab P.C.10 wartime finish in favour of silver dope but it was some time before they acquired rudimentary squadron markings.

The Grebe and Woodcock followed and it was with these types that squadron markings became fully established. As well as on the fuselage, these were painted on the upper wings. They were not entirely decorative since they did identify the unit when forming - or when low flying.

But it was on the Bulldog and Fury that they will always be remembered. The general public had their annual outing to Hendon where these aircraft demonstrated their nimbleness but few outside the Services were aware of how few there were.

This is an excellent, and nostalgic, account of the fighters of the RAF. The Gladiator was the last to carry such markings before the Munich Crisis plunged the RAF's aircraft into camouflage and code letters. The first Hurricanes had also arrived, already in camouflage.

*On Silver Wings* is based on the series of articles that appeared in *Aeroplane Monthly* and it is nice to have it all in hard covers. The 230 photographs were, in the main, originally taken by photographers for *The Aeroplane*. There are 16 pages of drawings covering over 100 individual aircraft in colour and detailing squadron markings.

\* \* \* \* \*

**The Sunderland - Flying Boat Queen - Volume 2**  
by John Evans - Paterchurch Publications - £7.95

Who can tire of looking at photographs of Sunderlands? This is a second helping following the success of Volume 1 and a large number of photos that missed the first volume are now displayed.

There is no text but the captions are large and informative. Included is a section of wrecked Sunderlands that shows, among others, VB886 being winched up the ramp at Pembroke Dock after sinking in a gale and W6055 perched on the sands of Benbecula.

There is also a nice shot of W6075 taxiing at Pembroke Dock and not on the water but waddling on its beaching trolley. It is being taxied by Flt Lt Derek Martin of No.308 Ferry Training Unit as an experiment but the danger of over-stressing meant that it was not to become standard practice.

A book to browse through time and time again.

\* \* \* \* \*

**The Memories Linger On** by Jean Shapland

This is a small book of reminiscences compiled by Mrs. Shapland, who lives beside St.Eval, to provide memories of that airfield's wartime activities.

Although not a "history" in our meaning of the term, it does give an interesting background through the

experiences of a wide variety of people who served there.

The booklet appears to have been compiled privately but a note to Mrs. Shapland at Trevisker Farm, St.Eval, Cornwall should tell how much it would cost (strictly stamped self-addressed envelopes with your letter please!)

\* \* \* \* \*

**The Vaulted Sky** by Jack Weinronk  
Merlin Books - £9.95

An addition to the growing library of personal accounts is this one by a South African who volunteered in September 1940. Holding a PPL, he was sent to train at Oudtshoorn. After a period in Egypt and Palestine, he was sent to Nanyuki to train on Blenheims at No.72 OTU at Nanyuki, Kenya. Then on to 70 OTU at Nakuru where there were Bostons, the type he was to fly in when he reached No.24 Squadron SAAF at Amriya.

The book is in the form of a diary which the author kept at this time. It provides an interesting background to a subject which is not often covered by personal accounts. There are 16 photographs, apparently taken from snapshots.

\* \* \* \* \*

**Happy is the Day** by Tom Slack  
United Writers Publications - £12.95

Tom Slack had an unusual introduction to the RAF. He reported for flying training to the Government Flying Training School at Kallang, Singapore's then-new airport in October 1940 where he learned to fly on Tiger Moths. After six weeks, he was officially attested into the RAF. Thence to No.4 FTS at Habbaniya to fly Harts and Audaxes in which he found himself prematurely operational when the Iraqis attacked the station, flying bombing raids in his Audax. He then was sent to Rhodesia to complete his training!

Sailing to Britain, he went to No.57 OTU at Hawarden to fly Spitfires, the type he was to fly on operations with No.41 Squadron. He had a break from operations in July 1943 when he was shot down near Abbeville. Scooped up by the locals, he emerged via Spain and Gibraltar thirty days later. Back with the squadron he ended up in the sea again but came home via a Walrus and an ASR launch.

Next time it was a crashlanding near Hesdin where he was collected by some friendly Austrian flak gunners. However, the Germans acquired him and into Stalag Luft 3 he went until the Russians arrived and he returned home.

An interesting account, illustrated with cartoons.

\* \* \* \* \*

**Airfields and Airstrips of Norfolk and Suffolk**

The Norfolk & Suffolk Aviation Museum have seven 30-page booklets on airfields at £1.50 each (plus A4 SAE and 34p postage). Included are Docking/Martlesham (1), Bungay/Horsham (2), Bodney/Felixstowe (3), Bentwaters/Chedburgh (4), Hethel/Langham (5), Gt Ashfield/Oulton (6), Woodbridge/W. Raynham (7) plus other lesser fields in each. Available from H.J.Fairhead, 48 Monks Cottages, Langley, Norwich, NR14 6DG. Also available is a booklet on the Museum's aircraft at 50p plus the SAE and 18p postage.



## Contracts

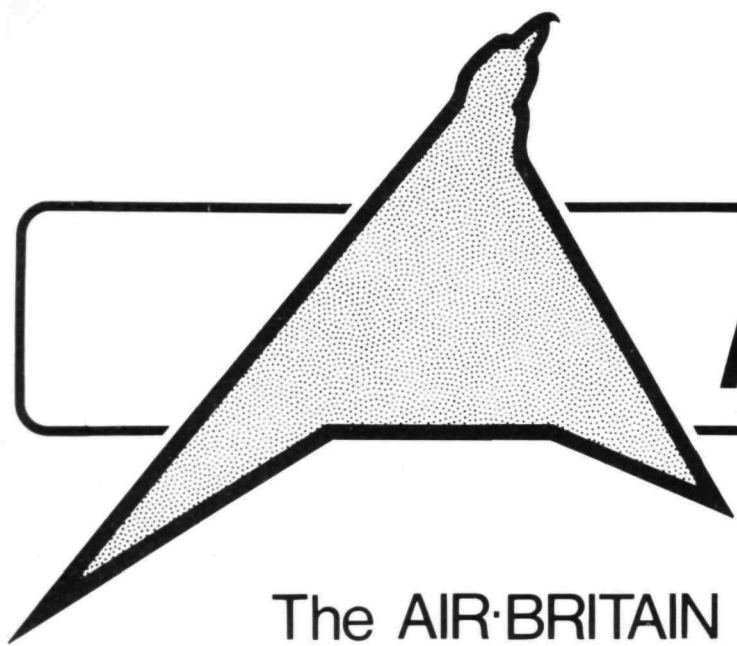
The following table is the first instalment of a list of Contracts awarded for the supply of aircraft to the Royal Air Force from 1920 onwards. It is in serial batch order and shows what was ordered and from whom. What came out of the factory was not necessarily exactly what was ordered, having been overtaken by changes in specification, nomenclature, etc. Not every aircraft that was allotted an Air Ministry serial number was the subject of a contract but these have been included for continuity. Conversely, some aircraft awarded contracts were never built. In some cases, aircraft were built as private ventures and later purchased and modified to meet a later specification. Early aircraft were designed to Director of Research classifications.

<i>Serials</i>	<i>Type</i>	<i>No.</i>	<i>Contractor</i>	<i>Contract No. Spec No.</i>	<i>Remarks</i>
J6583	Siskin III	1	A Whitworth	217448/20	All-metal construction
J6584	Bolton	1	Boulton & Paul	232562/20 4/20	
J6585	Tadpole	1	A Whitworth	295075/20 8/20	Walrus prototype
J6586 - J6800	Bristol F.2B	215	Bristol	211474/20	
J6801 - J6848	Nighthawk	48	RAE	378663/20	Rebuilds not undertaken
J6849 - J6850	Doncaster	2	D.H.	107614/21 & 378100/21	DoR 4B and 10/20
J6851	Limousine	1	Westland	354221/21 10/20?	DoR 4B
J6852 - J6853	Aldershot	2	Avro	324861/20 2/20	
J6854	Silver Streak	1	Short Bros	369371/20 19/21	
J6855	Vimy Ambulance	1	Vickers	222245/20 6/20 & 11/21	
J6856 - J6857	Virginia	2	Vickers	302897/20 1/21 (ex DoR 4A)	
J6858 - J6859	Sinaia	2	Siddeley Deasy	55143/21 RAF Type XI	
J6860 - J6861	Victoria	2	Vickers	306082/20 5/20	Mk I and Mk II p'types
J6862 - J6863	Possum	2	Parnall	305924/20 9/20 & 11/20	
J6864 - J6893	Vernon	30	Vickers	121877/21 4/21 & 43/22	
J6894 - J6895	Derby	2	D.H.	331693/20 2/20	
J6896	Avro 504K	1	Halton	35557/21	Built from spares
J6897 - J6898	Awana	2	A Whitworth	306069/20 5/20	
J6899 - J6900	D.H.18B	2	D.H.	119851/21	Civil registered
J6901 - J69003	Bullfinch	3	Bristol	114298/21 2/21	DoR 1, 2
J6904 - J6905	Vimy Ambulance	2	Vickers	195542/21 6/20 & 11/21	
J6906	H.P.20	1	Handley Page	225505/21 13/21	Mod D.H.9A cancelled
J6907 - J6909	Fawn	3	Fairey	140039/21 5/21	DoR 3; prototype Mk I/II
J6910 - J6911	Bodmin	2	Boulton & Paul	305919/20 9/20 & 11/20	DoR 3
J6912 - J6913	Tramp	2	Bristol	177844/20 1/20	DoR 11; neither flown
J6914	H.P.20	1	Handley Page	225504/21 13/21	D.H.9A for slot tests
J6915 - J6917	Denbigh	3	D.H.	140038/21 D of R 3A	Cancelled
J6918 - J6920	Duiker	3	Hawker	195557/21 10/21 & 7/22	DoR 3A; first only built
J6921 - J6923	Wolf	3	A Whitworth	195547/21 10/21, 7/22, 8/22	DoR 3A
J6924	Vanguard	1	Vickers	156988/21 1/22	Also regd G-EBCP
J6925 - J6927	Nighthawk	3	Gloucestershire	340272/22 DoR 1	
J6928 - J6929	Nighthawk	2	RAE	346773/22	Rebuilds not undertaken
J6930 - J6941	Nightjar	12	Gloucestershire	373763/22 RAF Type XX	
J6942 - J6944	Aldershot	3	Avro	369334/22	
J6945 - J6956	Aldershot III	12	Avro	375620/22 10/23	
J6957 - J6962	D.H.9A	6	Westland	375546/22 22/23	Rebuilds
J6963 - J6968	D.H.9A	6	Handley Page	376225/22 22/23	Rebuilds
J6969 - J6971	Nighthawk	3	Gloucestershire	402023/23 3/23	Delivered as Grebes
J6972	Nightjar	1	Gloucestershire	363763/22 RAF Type XX	Replacement for J6930
J6973	Wren	1	English Electric	406094/23 4/23	
J6974 - J6975	Springbok	2	Short Bros	388600/22 19/21	DoR 3A
J6976 - J6980	Vernon II	5	Vickers	375419/22 43/22	
J6981 - J6983	Siskin III	3	A Whitworth	342619/22 14/22	Prototypes
J6984 - J6985	Bugle I	2	Boulton & Paul	369336/22 30/22	
J6986	Dreadnought	1	Westland	382430/23 6/21 & 29/22	
J6987	Woodcock I	1	Hawker	356228/22 25/22 & 3/24	Originally also for next two
J6988	Woodcock II	1	Hawker	422420/23	
J6989	Woodcock	1	Hawker	None	PV; built as Heron
J6990 - J6991	Fawn II	2	Fairey	369335/22 20/23	
J6992 - J6993	Virginia III	2	Handley Page	369333/22 1/21	
J6994	Hyderabad	1	Handley Page	369332/22 31/22	Prototype
J6995 - J6996	Duiker	2	Hawker	369331/22 7/22	Cancelled
J6997	Brandon	1	Bristol	377434/22 32/22	

J6998 - J7003	Siskin III	6	A Whitworth	369339/22	14/22	
J7004	Seeley II	1	Bristol	408484/23		Jupiter testbed
J7005	Dormouse	1	D.H.	391318/22	22/22	
J7006 - J7007	Dormouse	2	D.H.	391318/22	8/24	Deld as Dingos
J7008 - J7017	D.H.9A	10	D.H.		22/23	Rebuilds
J7018 - J7032	D.H.9A	15	Handley Page			Rebuilds
J7033 - J7072	D.H.9A	40	Westland			Rebuilds
J7073 - J7087	D.H.9A	15	Gloucestershire		45/22	Rebuilds
J7088 - J7102	D.H.9A	15	Hawker			Rebuilds
J7103 - J7127	D.H.9A	25	RAF Ascot			Rebuilds
J7128	Peyret Glider	1	Peyret	406990/23		
J7129 - J7132	Virginia III	4	Vickers	429978/23	1/21	
J7133 - J7142	Vernon II	10	Vickers	424489/23	43/22	
J7143 - J7144	Vimy Ambulance	2	Vickers	428716/23		
J7145 - J7181	Siskin III	37	A Whitworth	439840/23	19/23	
J7182 - J7231	Fawn I/II	50	Fairey	440787/23	20/23	
J7232	Junkers F.13	1	Handley Page			
J7233	H.P.22	1	Handley Page	446453/23	47/22	
J7234	Gloster I	1	Gloucestershire	453927/23		Ex G-AEXZ; Bamel
J7235	Bugle I	1	Boulton & Paul	439250/23	30/22	
J7236 - J7237	Bloodhound	2	Bristol	389319/22	22/22	
J7238 - J7247	Vimy IV	10	Vickers	459943/23		
J7248	Bloodhound	1	Bristol	389319/22	22/22	Addition to contract
J7249 - J7258	D.H.9A	10	Gloucestershire	467059/23	45/23	
J7259 - J7260	Bugle I	2	Boulton & Paul	454262/23		
J7261 - J7264	Andover	4	Avro	458918/23	29/23	
J7265	H.P.23	1	Handley Page	488791/24	47/22	Ultralight aircraft
J7266 - J7267	Bugle II	2	Boulton & Paul	469837/23	30/22	
J7268 - J7273	Humming Bird	6	D.H.	469593/23	44/23	
J7274 - J7275	Virginia IV	2	Handley Page	453931/23	28/23	
J7276	Dornier Komet	1	Handley Page	469409/24		
J7277 - J7282	Venture I	6	Vickers	483332/24	45/23	
J7283 - J7294	Grebe II	12	Gloucestershire	468248/23	37/23	
J7295 - J7300	Springbok II	6	Short Bros	481416/24	8/24	Last 3 cancelled
J7301	Avro 504N	1	Avro	492529/24	32/24	
J7302 - J7309	D.H.9A	8	D.H.	495330/24		Rebuilds
J7310 - J7321	D.H.9A	12	Hawker	495691/24		Rebuilds
J7322	Avro 560	1	Avro	487256/24	44/23	Ultralight aircraft
J7323 - J7324	Pixie II	2	Parnall	487254/24	44/23	Ultralight aircraft
J7325 - J7326	Humming Bird	2	D.H.	487253/24		Ultralight aircraft
J7327 - J7346	D.H.9A	20	Westland	495692/24		Rebuilds
J7347 - J7356	D.H.9A	10	Gloucestershire	495693/24		Rebuilds
J7357 - J7402	Grebe II	46	Gloucestershire	511658/24		
J7403 - J7405	Berkeley	3	Bristol	445078/23	26/23	
J7406 - J7417	Grebe II	12	Gloucestershire	498862/24		
J7418 - J7439	Virginia V	22	Vickers	515990/24	12/24	
J7440 - J7454	Vimy IV	15	Vickers	493802/24		
J7455 - J7496	Flycatcher	42	Fairey	517058/24		Renumb. N9854-N9895
J7497	Gamecock	1	Gloucestershire	504577/24		
J7498 - J7500	Handcross	3	Handley Page	445076/24	26/33	
J7501 - J7503	Gorcock	3	Gloucestershire	452554/24	24/33 & 7/24	
J7504 - J7505	Gloster II	2	Gloucestershire	475614/24	39/23	
J7506	ANEC I	1	Air Nav & Eng	487255/24	44/23	Ultralight aircraft
J7507	Breguet XIX	1	Breguet	511344/24		
J7508 - J7510	Yeovil	3	Westland	445077/24	26/23	
J7511	Horsley	1	Hawker	519932/24	26/23	Later C/N 41042/25
J7512 - J7517	Woodcock II	6	Hawker	495946/24	3/24	
J7518	Handasyde-Raynham		Air Nav & Eng	487257/24	44/23	Ultralight aircraft
J7519 - J7538	Grebe IIIC	20	Gloucestershire	511658/24		Addition to contract
J7539 - J7548	Vernon III	10	Vickers	511657/24		
J7549 - J7554	Siskin IIIC	6	A Whitworth	530519/24	33/23	
J7555 - J7556	Avro 504K	2	Sperry			Instrument test a/c
J7557	Inflexible	1	Beardmore	445337/23	18/23	
J7558 - J7567	Virginia VI	10	Vickers	547527/24	12/24	
J7568 - J7603	Grebe II	36	Gloucestershire	547417/24		
J7592 - J7595	Woodcock II	4	Hawker	301011/24	3/24	Renumbered

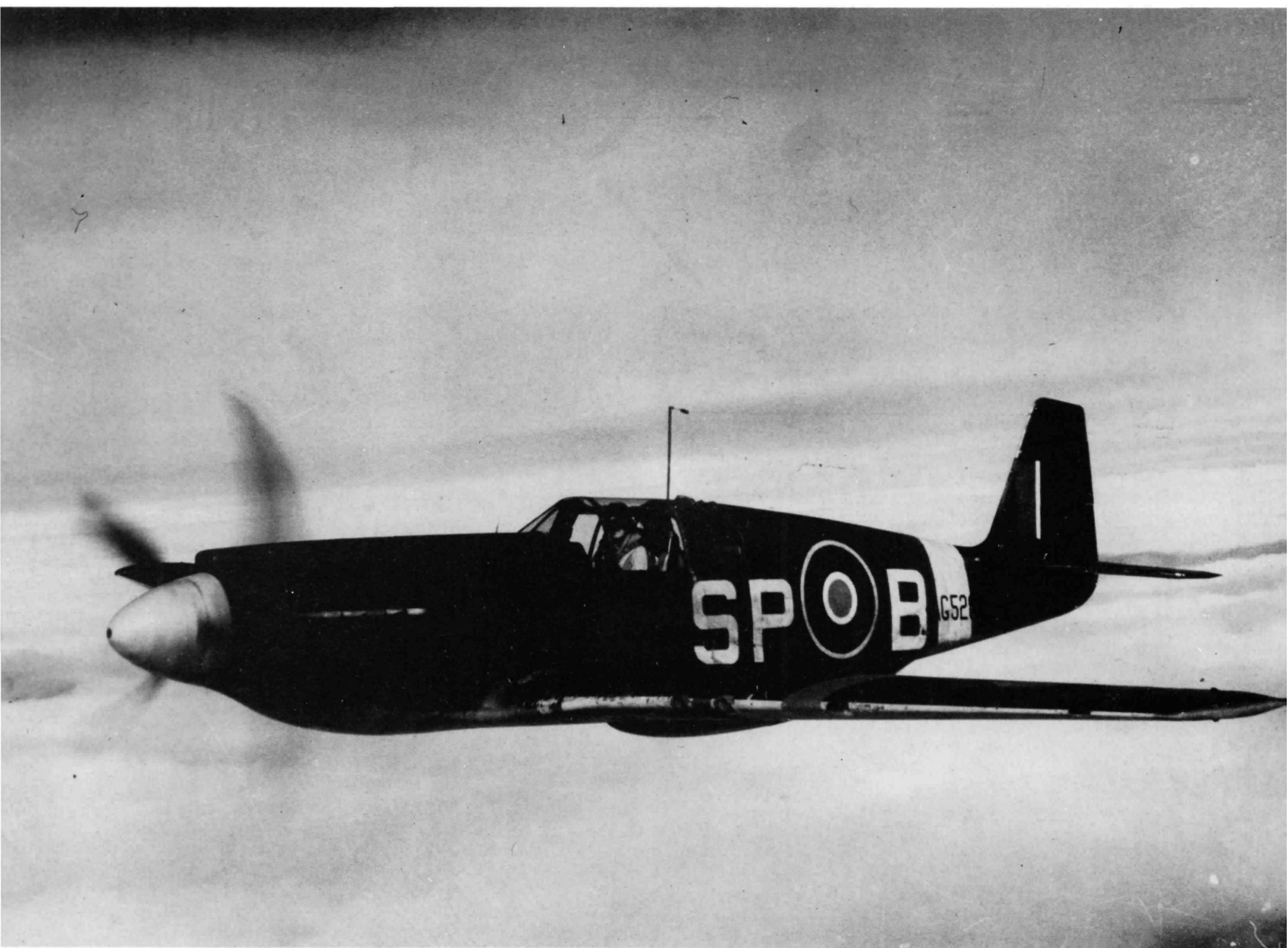
J7604 - J7615	D.H.9A	12	Hawker	553694/24		Rebuilds
J7616 - J7699	Bristol Fighter II	84	Bristol		3/25	
J7700	D.H.9A	1	D.H.	517176/24		
J7701 - J7705	Vimy IV	5	Vickers	571171/25	38/23	
J7706 - J7720	Virginia VI	15	Vickers	571413/25	12/24	
J7721	Horsley	1	Hawker	519932/24	22/25	2nd prototype
J7722 - J7724	Guan	3	Gloucestershire	570353/25	17/24	Third a/c cancelled
J7725 - J7737	Woodcock II	13	Hawker	554469/24		
J7738 - J7752	Hyderabad	15	Handley Page	517715/24	15/24	
J7753 - J7755	Ape	3	A Whitworth	437548/23	48/22	
J7756 - J7757	Gamecock	2	Gloucestershire	571417/25	37/23	
J7758 - J7764	Siskin III	7	A Whitworth	576184/25		
J7765 - J7766	Westbury	2	Westland	542527/24	4/24	
J7767	Bagshot	1	Bristol	542526/24	4/24	
J7768 - J7779	Fawn III	12	Fairey	579344/25	1/25	
J7780 - J7781	Hyena	2	D.H.	593919/25	30/24	
J7782	Hornbill	1	Hawker	532731/24	7/24	
J7783	Woodcock II	1	Hawker	554469/25		
J7784 - J7786	Grebe II	3	Gloucestershire	547417/24		
J7787 - J7798	D.H.9A	12	D.H.	623200/25		
J7799 - J7819	D.H.9A	21	Westland	602586/25		
J7820 - J7822	Siskin III	3	A Whitworth	576184/25		
J7823 - J7834	D.H.9A	12	Short Bros	623332/25		
J7835 - J7854	D.H.9A	20	Hawker	623331/25		
J7855 - J7866	D.H.9A	12	Westland	640047/25		
J7867 - J7876	D.H.9A	10	Hawker	640048/25		
J7877 - J7883	D.H.9A	7	D.H.	640049/25		
J7884 - J7890	D.H.9A	7	Short Bros	640050/25		
J7891 - J7920	Gamecock I	30	Gloucestershire	606962/25	18/25	
J7921 - J7935	Victoria III	15	Vickers	612920/25	13/25	
J7936 - J7937	Bittern	2	Boulton & Paul	617051/25	27/24	
J7938 - J7939	Sidestrand I	2	Boulton & Paul	555797/25	9/24	
J7940 -	Goldfinch	1	Gloucestershire	633678/25	16/25, 9/26	
J7941 - J7958	Fox I	18	Fairey	624212/25	21/25, 11/27	
J7959	Gamecock	1	Boulton & Paul	633677/25		Cancelled
J7960 - J7977	Woodcock II	18	Hawker	626819/25		
J7978 - J7985	Fawn III	8	Fairey	594235/25		
J7986	F.VII/3M	1	Fokker	603056/25		
J7987 - J8026	Horsley I	40	Hawker	634686/25	22/25	Last 30 blt as Mk.II
J8027 - J8028	Starling	2	A Whitworth	576942/25	28/24	
J8029	Avro 504K	1	Avro	667589/26		Rebuild
J8030	Humming Bird	1	D.H.	635519/25		
J8031 - J8032	Humming Bird	2	D.H.	667490/26		
J8033 - J8047	Gamecock I	15	Gloucestershire	664493/26		
J8048 - J8060	Siskin IIIA	13	A Whitworth	625304/25	25/25	
J8061 - J8066	Victoria IIIA	6	Vickers	673289/26		
J8067	Pterodactyl	1	GTR Hill	666688/26		
J8068	Cierva C.6C	1	Avro	680624/26	3/26	
J8069 - J8095	Gamecock I	30	Gloucestershire	664493/26 (2)		
J8096 - J8128	D.H.9A	33	Westland	682340/26	13/26	
J8129 - J8153	D.H.9A	25	D.H.	700821/26		
J8154 - J8171	D.H.9A	18	Short Bros	700822/26		
J8172 - J8189	D.H.9A	18	Parnall	700823/26		
J8190 - J8207	D.H.9A	18	Saunders	700824/26		
J8208 - J8225	D.H.9A	18	Blackburn	700825/26		
J8226 - J8235	Victoria III	10	Vickers	707156/26		
J8236 - J8241	Virginia VII	6	Vickers	698878/26 (1)		
J8242 - J8291	Fighter III	50	Bristol	709172/26	8/26	
J8292 - J8316	Woodcock II	25	Hawker	709619/26	20/26	
J8317 - J8324	Hyderabad	8	Handley Page	709618/26	18/26	
J8325	Harrier	1	Hawker	716898/26	23/25	Also c/n 836740/28
J8326 - J8330	Virginia VII	5	Vickers	698878/26 (2)		
J8331 - J8380	Avro 504K	50	Avro	707157/26	15/26	
J8381 - J8404	Siskin IIIA	24	A Whitworth	709171/26		
J8405 - J8422	Gamecock I	18	Gloster	664493/26 (3)		
J8423 - J8427	Fox I	5	Fairey	713440/26		





# AEROMILITARIA

The AIR·BRITAIN Military Aviation Historical Quarterly



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The AIR BRITAIN Military Aviation Historical Quarterly

Edited by James J Halley and Ray Sturtivant

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Middlesex TW17 ORW

As we go to press, a new military monograph is about to go to the printers and should be available in June. This is *Scorpions Sting*, a comprehensive history of No.84 Squadron written by Don Neate with a vast amount of support from former members of the Squadron.

No.84's story mirrors that of the Royal Air Force in that from 1917 to the present day, it has been involved in a variety of roles and spent its time outside the British Isles, first in France and then in the Middle East before going to the Far East as the Japanese attacked. Its spectrum of types included the S.E.5A, D.H.9A, Wapiti, Vincent, Blenheim, Vengeance, Mosquito, Beaufighter, Brigand, Valetta, Beverley, Andover, Whirlwind and Wessex.

No.84 produced a wide range of "characters" which made the Squadron one of the most efficient in the Royal Air Force.

The price to members is £11.00 post free (£16.50 to non-members) for a 160-page hardback with 160 photographs, most of them previously unpublished. Orders to the Sales Dept at 5 Bradley Road, Upper Norwood, London, SE19 3NT or pick up a copy at the Fly-In at Wellesbourne Mountford on 25/26 June. Printers permitting...

### In this Issue

The Rangoon was not built in large numbers; one had only just the need to use the other hand to count them on one's fingers. But it did a valuable job in the harsh conditions of the Persian Gulf and ranged far afield to prove the ability of flying boats to operate as independent units.

The Martlet was an attractive little fighter and while its performance was not spectacular when compared with European land-based types, it had a valuable asset - it was available when needed. The Fleet Air Arm appreciated this rather skittish new addition even if, like so many US-built fighters, it always seemed to be trying to gas its pilots. There must be some simple explanation for this!

We have continued our listing of Air Ministry contracts, showing what was ordered at the time of issue rather than what actually appeared off the production line. Thus, only some aircraft were ordered by mark number while others were designated according to their proposed names, for example Sea Hornet instead of Nimrod.

The organisation of the Royal Air Force immediately following the outbreak of war, and the consequent disbandments, re-designations and moves, has been compiled to show the whole story. Most published lists restrict themselves to the operational squadrons.

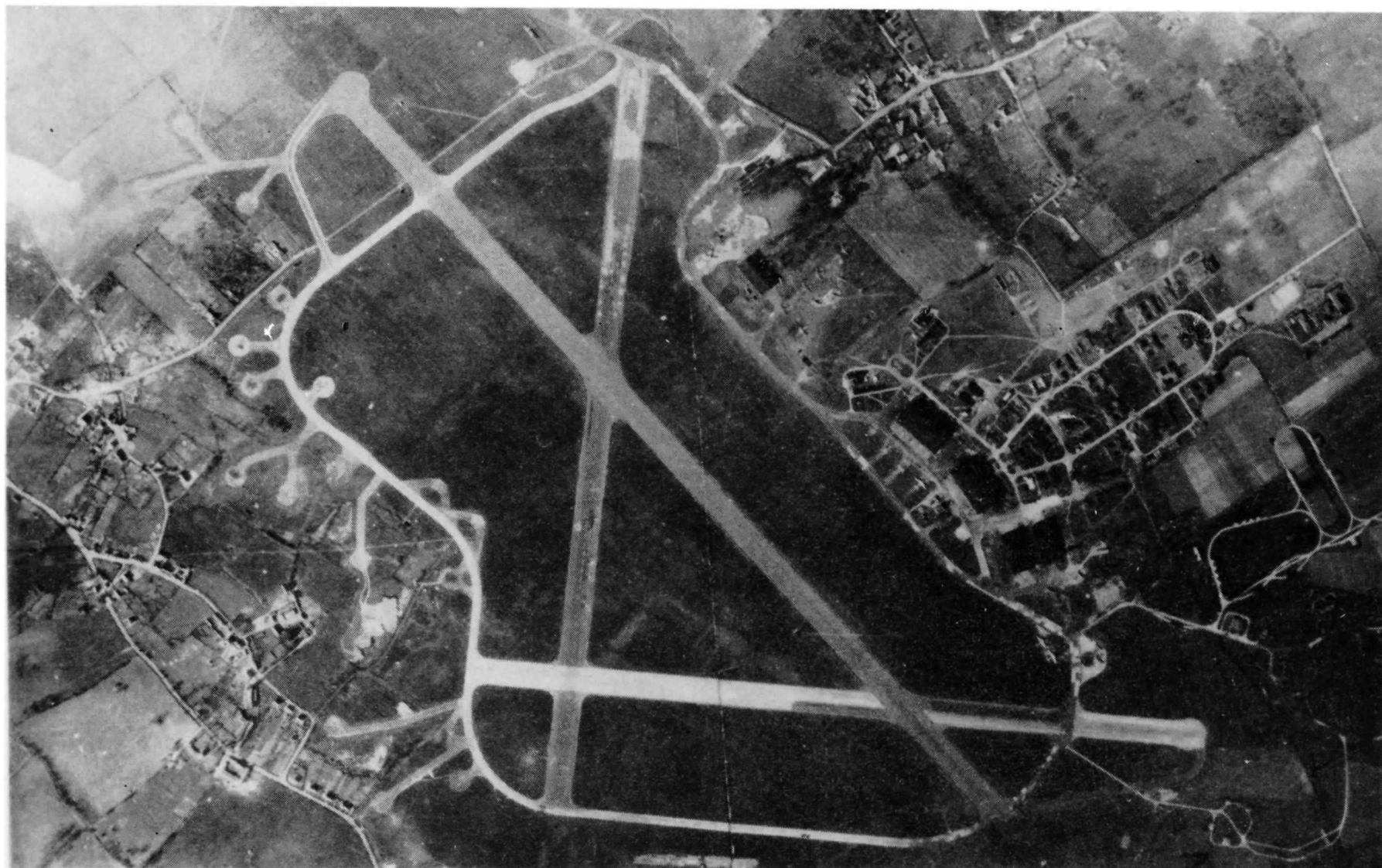
### Cover Photographs

The front cover depicts Mustang I AG528 in service with No.400 Squadron, RCAF, taken in the late summer of 1942.

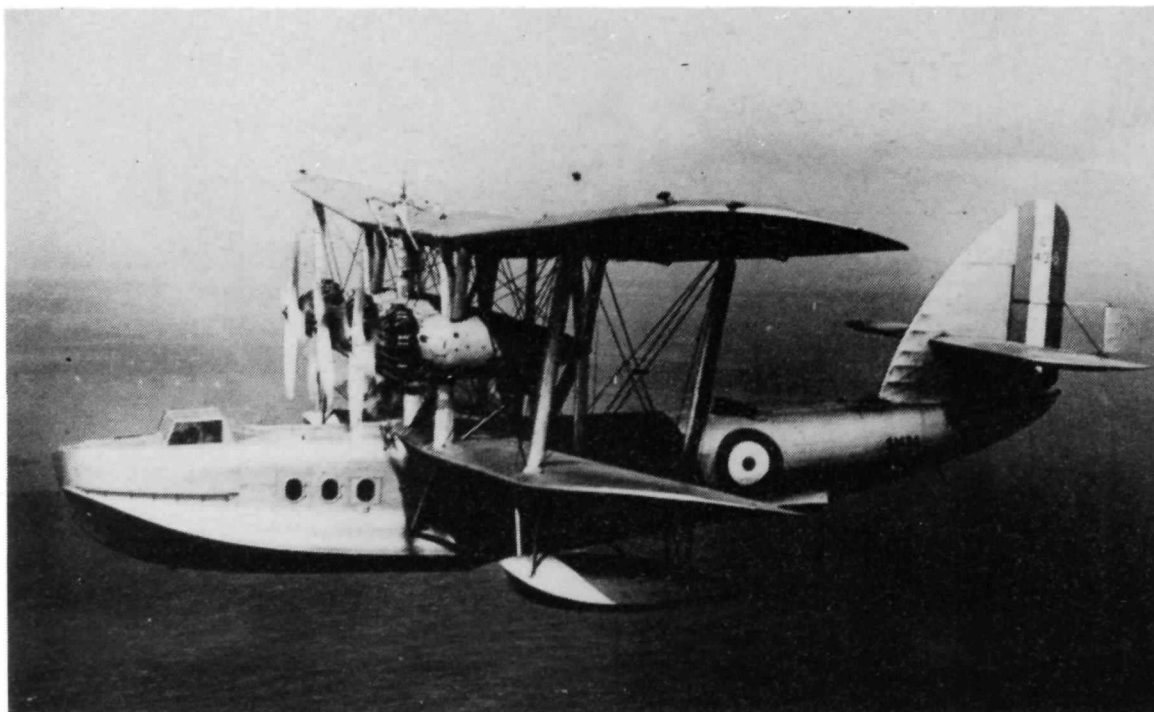
On the back cover, and lined up at Hobsonville on 4 March 1946 before leaving for Japan, are the Corsairs of No.14 Squadron, RNZAF.

### Puzzle Pic

Last issue's airfield was Oakington. But what is this one?



# THE SHORT RANGOON



*Rangoon S1434 of No.203 Squadron*

On 14 February 1928, the first Short Calcutta, G-EBVG, took off for the first time from the Medway. Intended for Imperial Airways, it was a large three-engined flying boat capable of taking 15 passengers and mail over the Empire air routes. It was the first of five for the airline which was setting up an air route from the UK to India. The Calcuttas were initially intended for the Genoa - Alexandria section of the route but there was political disruption by both French and Italian Government agencies over payments until 1931, when the Italian terminal for the Calcuttas became Brindisi.

They were soon replaced by four-engined Kent boats on this service but continued to fly along the Nile to Khartoum as part of the South African route as well as stages in the eastern Mediterranean. They were finally taken out of service in 1936 but one survived as a crew trainer with Air Service Training until 1939.

The Calcutta formed the basis for a tender by Shorts for a reconnaissance flying boat to conform with Specification R.18/29. No.203 Squadron in the Persian Gulf was operating Supermarine Southamptons but something larger and roomier was required for the conditions under which this Squadron flew. Three examples of a militarised Calcutta were ordered under Contract No. 3438/30, to be fitted with three 540 hp Bristol Jupiter XIF radial engines.

A military Calcutta had been delivered to France and later Breguet built four, with a fifth delivered from Rochester, but further production was banned by the French Government to prevent foreign-designed aircraft being used, even if built in France. Breguet then redesigned the Calcutta and named it Saigon, in its civil form, and Bizerte as its military version.

The French orders meant that the RAF's boats could be delivered quickly without a great deal of development work. The name Rangoon was applied to these boats and the first, S1433, flew on 24 September 1930, with S1434 and S1435 following on 2nd and 20th December. They had three machine guns in the nose and two dorsal positions and a bomb load of 1,000 lbs.

On 6 February 1931, the three boats left Felixstowe under the command of Gp Capt W L Welsh DSC AFC in S1434 captained by Sqn Ldr P H Mackworth DFC, with S1433 (Flt Lt R L Ragg AFC) and S1435 (Flt Lt H A Hammersly MC). The stages were from Felixstowe to Calshot (6th), Calshot to Mount Batten (7th), Mount Batten to Hourtin (14th), Hourtin to Berre (15th), Berre to Ostia (18th),

Ostia to Naples (23rd), Naples to Calafra (25th). There was a pause in Malta before the flight was resumed on 16 April to Sollum, Sollum to Aboukir (17th), Aboukir to Alexandretta (18th), Alexandretta to Lake Habbaniya (19th) - not yet an RAF station - Habbaniya to Basra (21st) although S1434 remained at Habbaniya until the 23rd. On arrival, Gp Capt Welsh assumed command of No.203 Squadron. On the 28th, Southamptons S1421, S1422 and S1423 left for the UK.

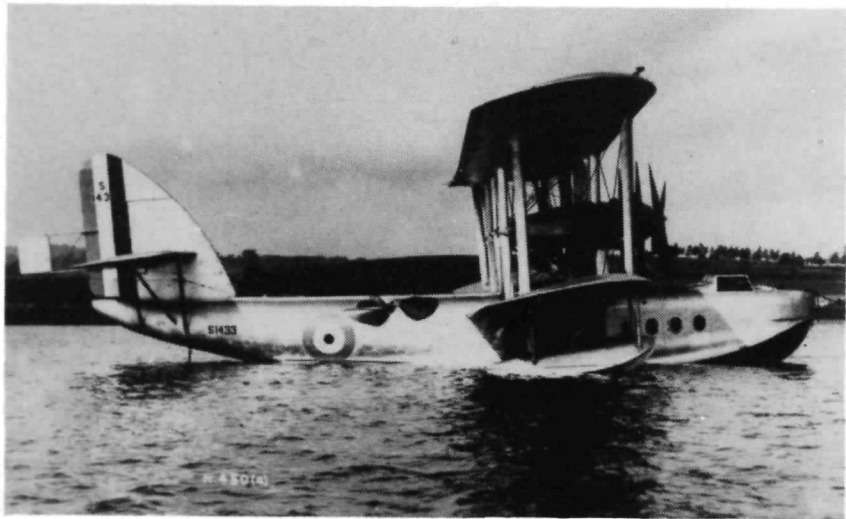
On 12 May, S1434 and S1435 left for a cruise up the Gulf coast to Bahrein, providing some support for a flight of No.84 Squadron consisting of two landplanes and one seaplane with the same destination. On the 19th, a flight was made to Yas Island and next day to Ras al Khaimah and Muscat. On the 24th, the boats flew to Masira Island and returned to Muscat next day. Masirah (having acquired an official "H" at the end) became a major RAF base during World War Two. The boats then returned to Basra.

On 29th June, S1435 presented the squadron with a quandary. After taking off at 03.00 for bombing practice, it was suddenly plunged into silence at 04.30 when all three engines stopped. It was unable to reach the river and forced landed on a flooded area of Hammar Lake. As this was only 15 inches deep, the Rangoon slid along the bottom, its draught being 2 feet 11 inches. The fuel gauges showed 95 gallons but S1435 turned out to be out of fuel.

At 04.45, S1433, also on bombing practice, sighted S1435 which signalled it not to land by Aldis lamp, the radio not being serviceable. After a reconnaissance around the approaches, no deeper water could be found and the nearest point by road was three miles away. S1433 returned to Basra and refuelled and later parachuted two packages of water and two of food to the stranded boat.

After negotiating several obstacles, the road convoy eventually got to a point 3 miles east of S1435 but could get no further. S1433 found another route via the railway and this eventually brought the vehicles to a point 1½ miles S of S1435. A rubber dinghy was waded out and ammunition and heavy accumulators were removed, along with all but two of the crew.

Just after midnight on the 30th, a convoy set out to refuel the aircraft. The 1st was a dead calm but on the 2nd, a 20-25 knot wind was blowing. S1433 took up position over the lake while S1435 opened up and slithered along the surface for



*S1433 moored in the Medway at Rochester*

twenty seconds and flew off! On return to base, it was slipped but no damage was found.

On 27 July, all three boats departed to verify the ability of flying boats to operate off Masirah in south-west monsoon conditions and to photograph landing grounds along the coast. Sea conditions were too bad for a landing so the boats proceeded to Khor Jarami. As the tide dropped, S1434 grounded and was slightly damaged. The boats then returned to Basra.

During September, the squadron received a Wapiti from No.84 Squadron to convert to a seaplane; this first flew in November and was used to provide training for Rangoon pilots. At the same time, a party of mechanics from Shorts arrived to remove the lower fuel tanks of all three Rangoons to save weight.

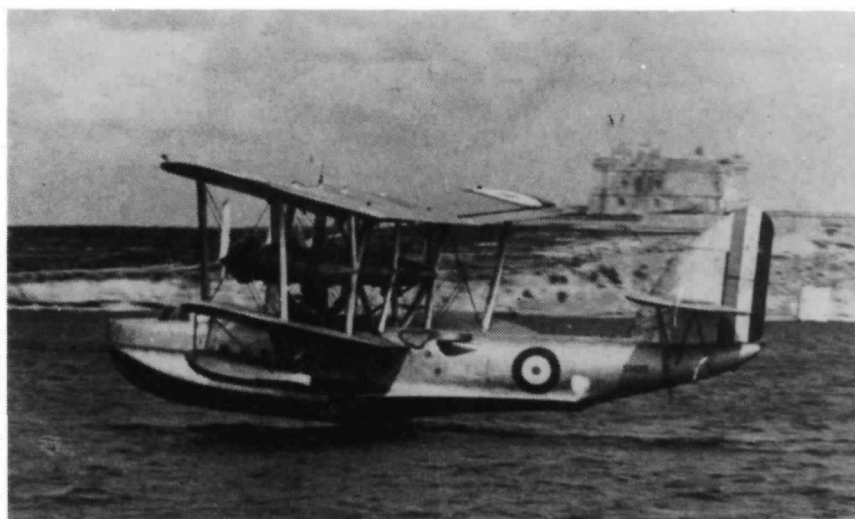
On 9 October, S1435 took part in searchlight practice with the sloop HMS *Penzance*. This was the beginning of a period night flying training by the squadron.

S1435 was dispatched on 26 October 1931, via Habbaniya and Tiberias (on the Sea of Galilee) to Famagusta. This was to provide ASR cover for the movement of five Victoria troop-carrier from Egypt with troops to control rioting among the Greek population. The Victorias had flown along the Lebanese coast to Beirut before making the shortest sea crossing to Nicosia. S1435 returned via Lake Timsah and Port Said to survey the lake as a landing place then flew down the Nile to Cairo where it moored at the southern end of Gezira Island. On 12 November, it flew the GOC Egypt to Famagusta and brought him back on the 14th before returning to Base via Antioch, Aleppo, Mesken, Faluja and Baghdad.

The next few months saw several survey flights to check alighting areas for Imperial Airways flying boats. On 9 January 1932, S1433 and S1434 left for Karachi via Ras al Khaimah and Gwadar. The fuel pump on S1433 failed and an engine seized. The boat force-landed and taxied for 8½ hours into Gwadar. S1434 had the same problem and was forced to taxi nearly two hours to Jezirat Jinnah. S1435 left Basra with a new engine which was changed by the crew and S1434 returned to base. On 16 January, a new engine for S1433 arrived on the SS *Bandra*. It was trans-shipped to the flying boat and on the 28th S1433 left for base.

On 6 March, all three boats flew to Khor Jarama. The Balad Beni under Sheikh Beni bu Ali had been revolting against Saiyeh Sa'id, who had a treaty with Britain. After the three Rangoons had scattered warning leaflets, the rebels gave up, probably worried about what might arrive next from the three huge aircraft.

On 6 April 1932, reinforcements arrived in the shape of K2134, Contract 112915/31 having been issued for a further Rangoon. This incorporated various modifications and was a welcome addition to the squadron. It had staged out from



*S1435 lands at Kalafrana on her ferry flight*

Felixstowe via Mount Batten, Berre (1st), Naples (2nd), Athens (3rd), Alexandretta (5th) (now Eskenderun), Habbaniya (6th) and on to Basra on the same day. The transit time was considerably better than the first voyage of No.203's Rangoons.

There were more flights to check landing grounds for Imperial Airways and on 5 October, S1435 was positioned at Yas Island while both eastbound and westbound Imperial flights passed over. Air-sea rescue was not a term then in use but No.203's boats were pioneering it. The same task was carried out on the 12th.

An unusual incident took place when S1434 was flying on 23 March 1933 along the mountains behind Dibah. An up-current from a strong westerly wind took the boat up to 9,000 feet. The squadron claimed a World Altitude Record for Rangoons.

K2134 and S1435 left Basra on 15 April to take the Secretary of State for the Colonies for a tour of inspection, initially to Baghdad. It eventually finished up in Cyprus via the usual tortuous route up the Euphrates and through Syria to the Turkish coast. There were sufficient wet bits in case of a forced landing. Tiberius, on Lake Galilee was reasonably close to the Palestine coast and made a good refuelling stop en route to Egypt. Later, flying boats, particularly the new Empire boats, would make the trip from Tiberius straight across the desert to Habbaniya but Jupiters, although very reliable by contemporary standards, were not to be trusted that far. Unfortunately, S1435 was found to need an engine change and it was not until 22 April that a new one arrived by sea. It was installed by the crew and the boat departed on 7 May. The way in which engines were changed away from base is noteworthy as it freed flying boats for self-sufficient operations. Having a top wing also helped.

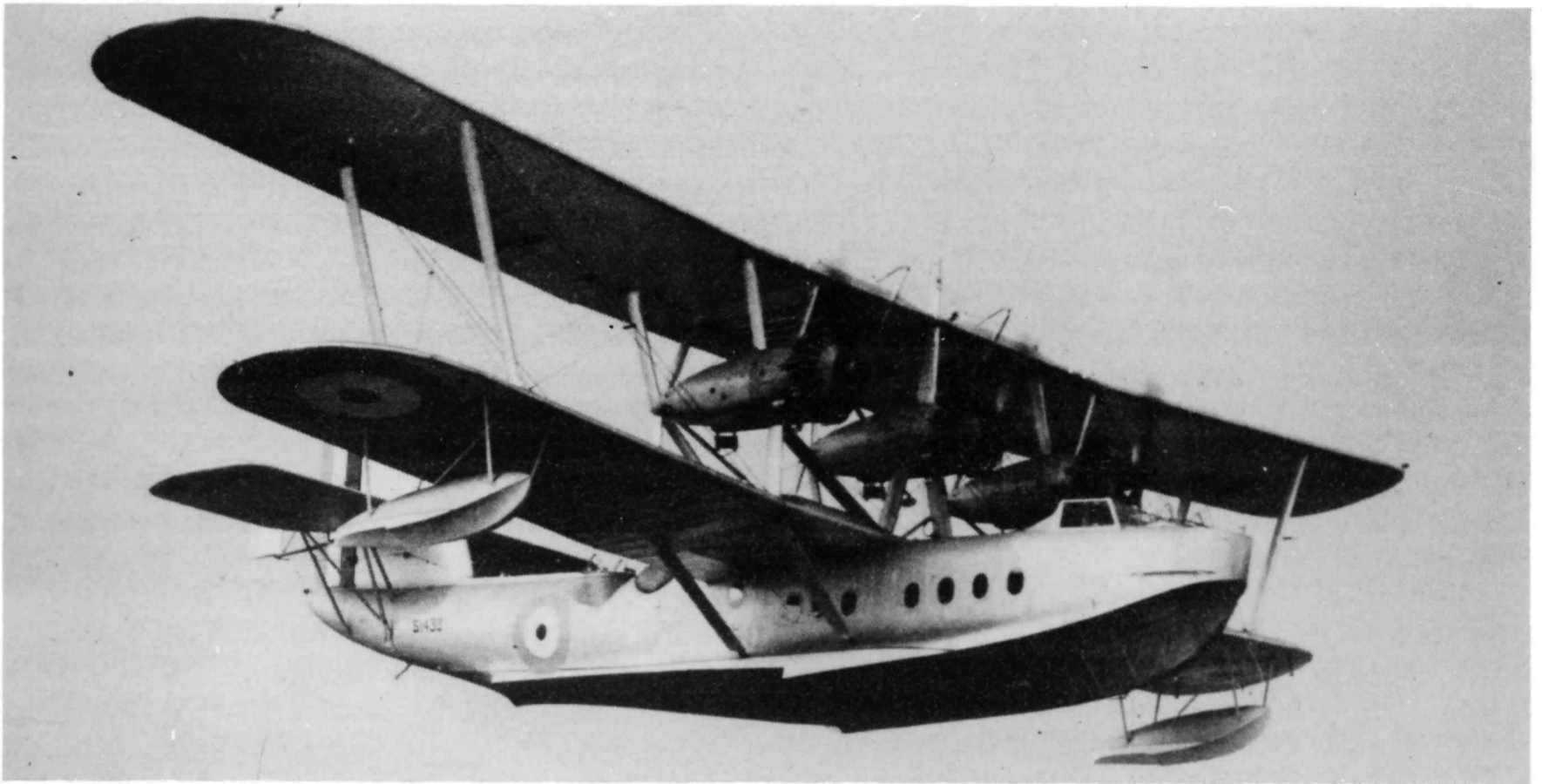
S1433 had left for Rochester on 3 May to be overhauled but K2809 had arrived on 23 April so strength remained at four boats. It had flown the same route as K2134 and was soon in service, escorting Victoria K2340 on 27 June between Dubai and Sharjah en route to Karachi.

On 24 July, K2134 had the port engine seize 8 miles off Ras al Bidya. It force-landed and taxied into harbour. A new engine was mounted on K2809 and flown out to Bahrein where it was transferred to a dhow. This arrived on the 29th and the engine was installed on the same day.

On 16 August, an urgent signal sent K2809 and S1434 en route to Brindisi. Both reached Famagusta before a signal told them their presence at Brindisi was not required. The reason has not been found but was probably due to the lack of an Imperial Airways aircraft to carry the mail eastwards.

A long cruise began on 1 February 1934 when Group Capt Saul led two Rangoons, K2809 and S1434 to Calcutta. Bombay was reached on 3 February and they flew by stages





*S1433 on a test flight over the Medway*

around the coast, stopping at Mangalore (6th), Cochin and Colombo (7th), Trincomalee (8th) after surveying Lake Negombo and Madras (9th), where they landed on Chambarabakkam Tank. Next day, the flight was resumed to Vizagapatam via Pulicat Lake and Coconada and on to Calcutta on the 10th. A mooring was provided at Ichapur, 15 miles up the river from the city. While refuelling, one of these odd incident occurred that always bedevil long distance flights. The deck of the petrol barge collapsed and an aircraftman had to be taken to the British Military Hospital in Calcutta. Faced with remaining in Calcutta, he made a rapid recovery and rejoined his boat before it left.

The two boats left Calcutta on 21 February, refuelling at Chilka Lake, last used by the Southamptons of the Far East Flight in transit to Singapore. The route retraced the same stages as the outward trip and they arrived home on 13 March, having covered 8,076 miles in a total flying time of 231 hours.

S1433 arrived back at Basra after overhaul by Shorts and updating to Specification R.19/31 standard. On 23 June, K3678, built to Contract 259468/33, arrived at Basra, having staged through Hourtin, (11th), Berre (12th), Nisida (13th), Brindisi (15th), Athens (16), Castel Rosso (19th), Alexandretta (21st) and Hinaidi (22nd). Castel Rosso, then part of the Italian-occupied Dodecanese Islands, became the Greek Kastellorizon and was used as an advanced base by British raiding parties during the war.

No.203's longest cruise began on 5 September 1934. Gp Capt Saul in K2809 led S1433 (Flt Lt E F Waring) and K3678 (Flt Lt H M Parker) off to Ras al Khaimah on the first stage of a trip to Australia for the 150th anniversary of the settlement of Australia. They then flew non-stop to Karachi on the 6th and thence to Salaya (7th), Udaipur (8th), landing on Jai Samand Lake), Gwalior/Tignara Reservoir (9th) in very bad weather, Allahabad (10th), Chittagoing (11th), Akyab and Rangoon (13th), Mergui (15th), Victoria Point and Penang (16th) and Singapore (17th). After maintenance, the flight resumed through Batavia (20th), Surabaya (22nd), Bima on Sumbawa (23rd), Koepang on Timor (24th), Darwin

(26th), Milingimbi(27th), Thursday Island (28th). Cooktown (29th), Bowen (1st), Brisbane and Gladstone (2nd), Newcastle and Sydney (5th), where the boats were based on HMAS *Penguin*.

On the 8th, the squadron left for Metung near Lakes Entrance in Victoria to refuel and proceeded to Melbourne where it was greeted by an escort of nine Wapitis and two Southamptons. After landing at St. Kilda for a reception, the Rangoons taxied to Geelong.

The Duke of Gloucester arrived in the cruiser *Sussex* on the 18th and was given an escort of three boats. Next day, they taxied to Williamstown where the crews were able to visit Essendon for the end of the England - Australia Air Race.

On 12 November, the Rangoons began to retrace their path home, using the same staging posts as the outward trip. At Singapore, two engines were changed and on 11 December, K2809 and K3178 left for Penang. On the 13th S1433 left Singapore and caught up with the other two at Rangoon. All three reached Basra on 20 December.

It had been an outstandingly successful cruise. K2809 had a broken oil pipe on 1 October and landed for a repair at Cape Upstart on the way out while the same boat had a split fuel tank at Surabaya which was repaired by the Royal Netherlands Navy. Each aircraft had flown 272 hours and covered 20,528 miles. Average speed, 75 mph!

After this effort, what followed seemed routine. On 29 March 1935, Victoria K8916 of No.70 Squadron became bogged down on the landing ground at Yas Island. K3678 and S1433 were dispatched with a salvage party. They dug out the Victoria and prepared a short runway with wire netting. The engines were opened up, the brakes released and J8916 was airborne in forty yards!

On 24 July, S1433, S1434, S1435 and K2809 left Basra for the UK to be handed over to No.210 Squadron, via Habbaniya and Alexandretta. The first attempt to reach Alexandretta was defeated by a head wind and a landing was made at Deir ez Dor, the stage being completed next day. However, S1433 had an engine seizure and forced landed on



*K2134 moored in the flying boat dock at Basra*

the Euphrates at Madan. The other three continued to Athens via Castel Rosso while K3678 left Basra with a new engine for S1433. This was installed on the 28th and next day reached Athens while the other three boats arrived at Brindisi. All four joined up at Naples on the 30th. Two more stages via Berre and Hourtin brought the four Rangoons to Pembroke Dock on 3 August where they were handed over to No.210 Squadron on 11 August. S1435 was rather belated as it suffered engine failure and forced-landed at Falmouth. After replacing a push rod and rocker arm, the crew pressed on to Pembroke Dock.

On 23 September, K3678 and K2134 left Basra for Aden. They did not take the coastal route but headed for Habbaniya and Lake Timsah, then down the Red Sea, stopping at Hurgada, Dougouah Bay, Port Sudan and Kamaran. Their stay was not to be long as they left No.203's new Singapores at Aden on 11th October and flew up the Red Sea to Aboukir. They then staged through Mirabella (Crete), Athens, Corfu, Malta, Bizerte and Algiers to Gibraltar, where No.210 had been deployed during the Abyssinian crisis.

On 11 August 1935, No.210 Squadron at Pembroke Dock took over the four Rangoons from No.203 Squadron and passed its three Singapores to No.203 Squadron, which were then ferried out to Iraq. No.210 had only a short time to become used to its new boats when it was deployed to Gibraltar. Its Rangoons were taken into the hangar for inspection and overhaul, the first time it had been used. Previous inspections were either carried out on the water or in the floating dock.

On 25 September, two of them flew from Pembroke Dock to Gibraltar via Hourtin and Vigo, arriving on the 28th. A Stranraer and London also flew out on 2 October via Mount Batten, Hourtin and Lisbon as a temporary reinforcement. They were joined on 2 November by K3678 and K2134 from Basra, where they replaced Stranraer K3973

and London K3580, which returned to the UK.

On 20 February 1936, S1433 arrived while on 19 March, S1435 left for the UK on delivery to Imperial Airways as a crew trainer. This item in the squadron ORB does not tie up with the Putnam on Shorts which shows S1433 as being taken out of use in January 1936, stripped of military equipment and overhauled by Shorts before being registered G-AEIM, receiving its C of A on 26 September 1936.

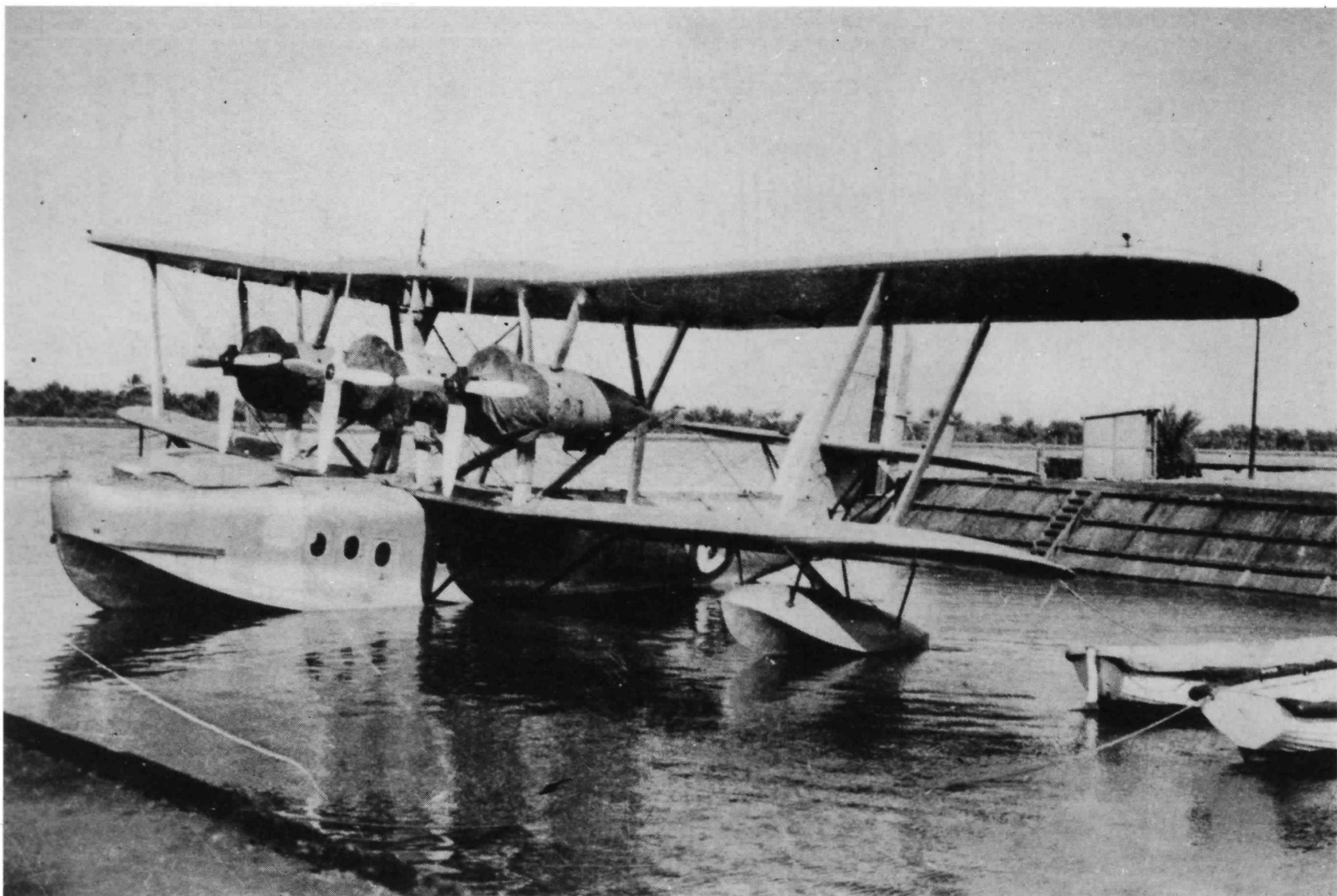
The four Rangoons on charge left Gibraltar on 29 July 1936 for Algiers and then flew via Marseille/Marignane and Hourtin to Pembroke Dock, arriving on 5 August. The ground echelon returned in the transport *Lancashire* to Southampton on the 7th.

Once back at base, the Rangoons were taken out of use and were formally struck off charge in September, being replaced by Singapores. G-AEIM remained training civilian pilots until the end of 1938.

Considering the small number built, the Rangoon covered a lot of ground and served the RAF well.



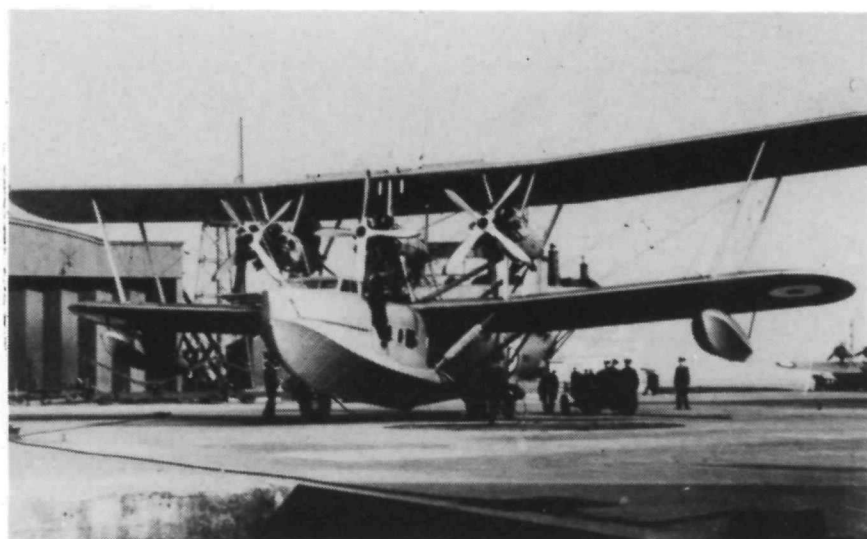
*The specially-designed launching trolley for a Rangoon*



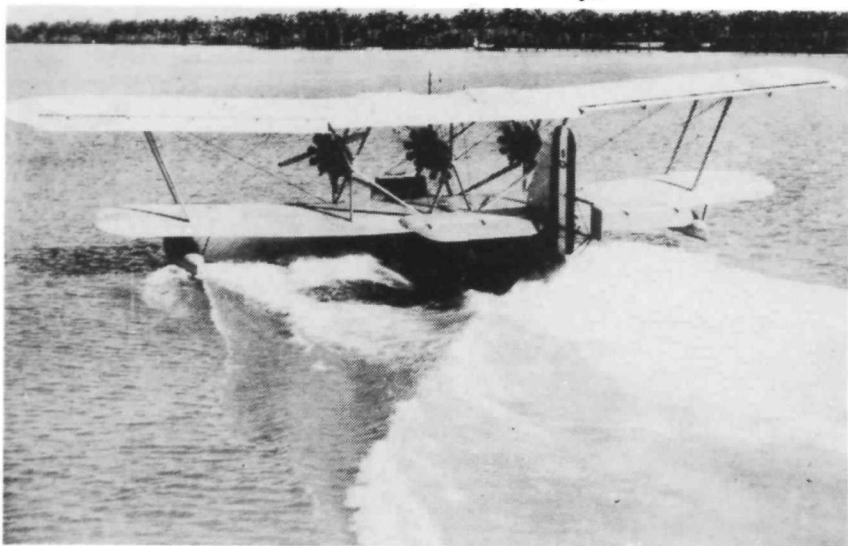
*S1434 in dock at Basra*



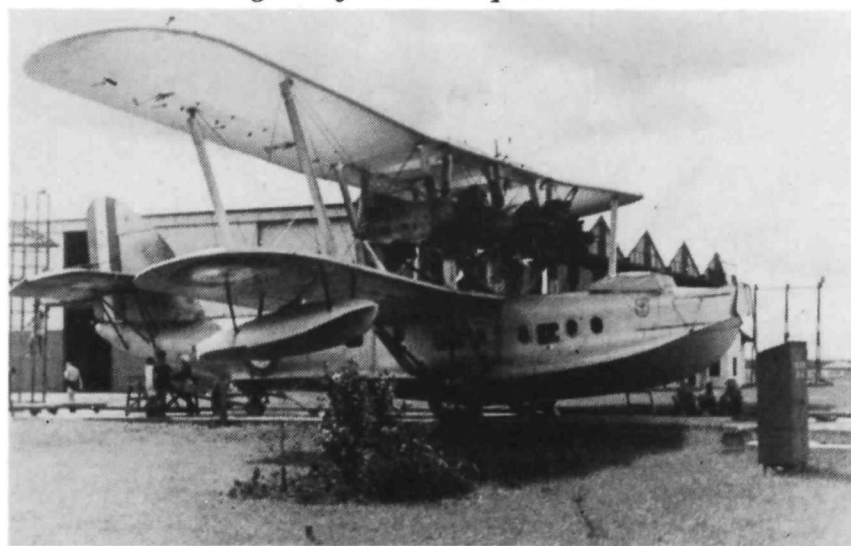
*S1433 moored in Marsaxlokk Bay, Malta*



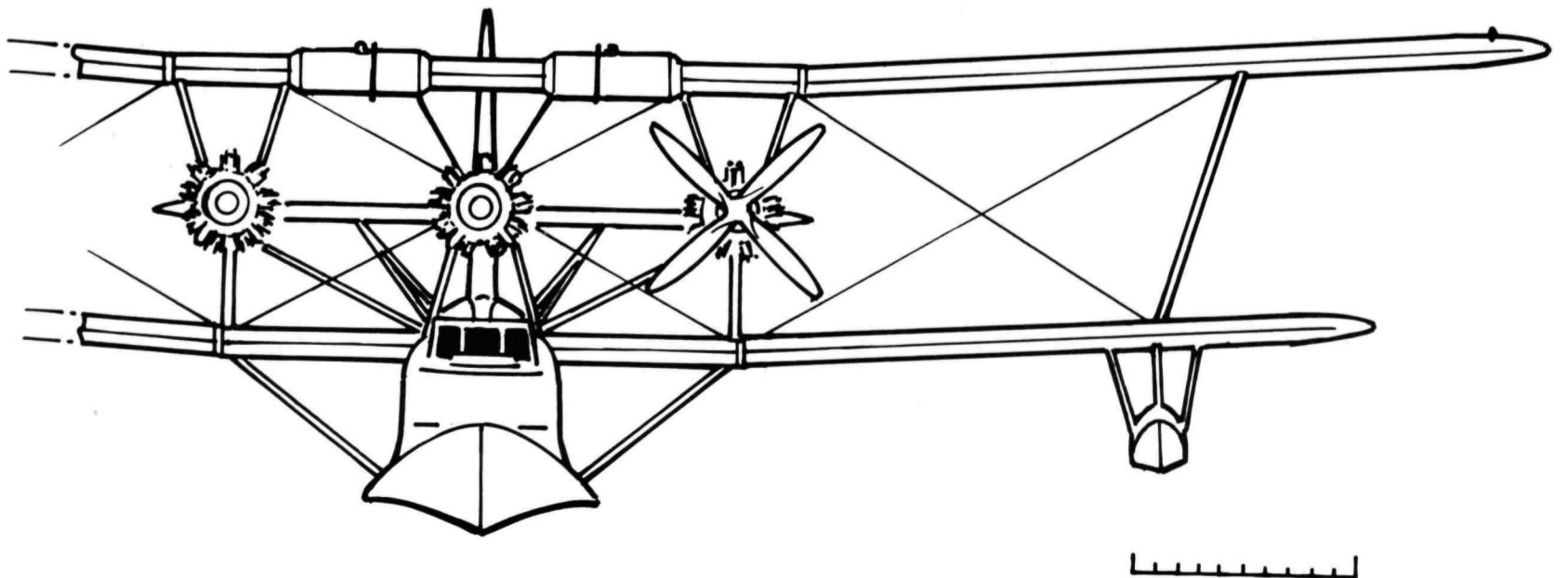
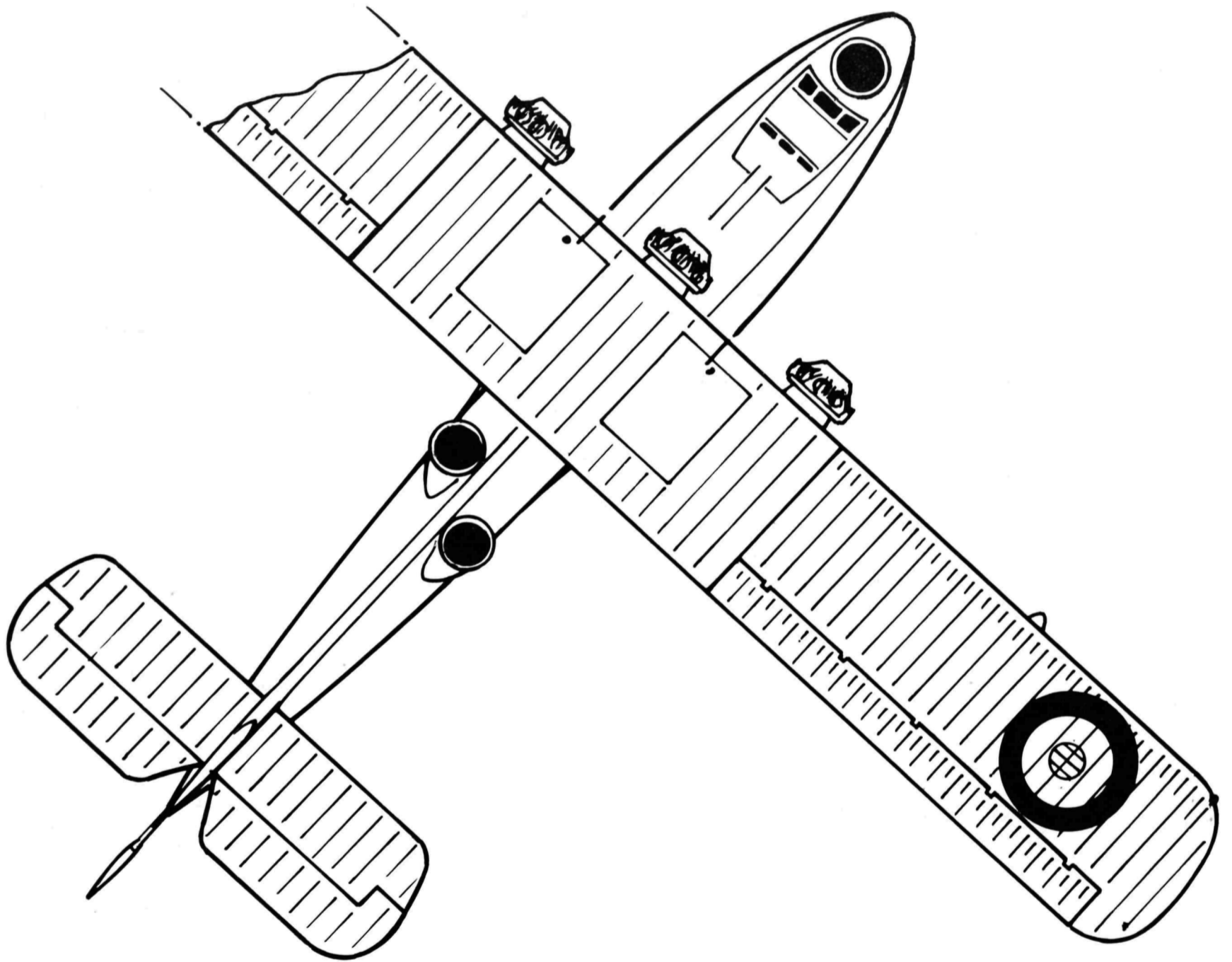
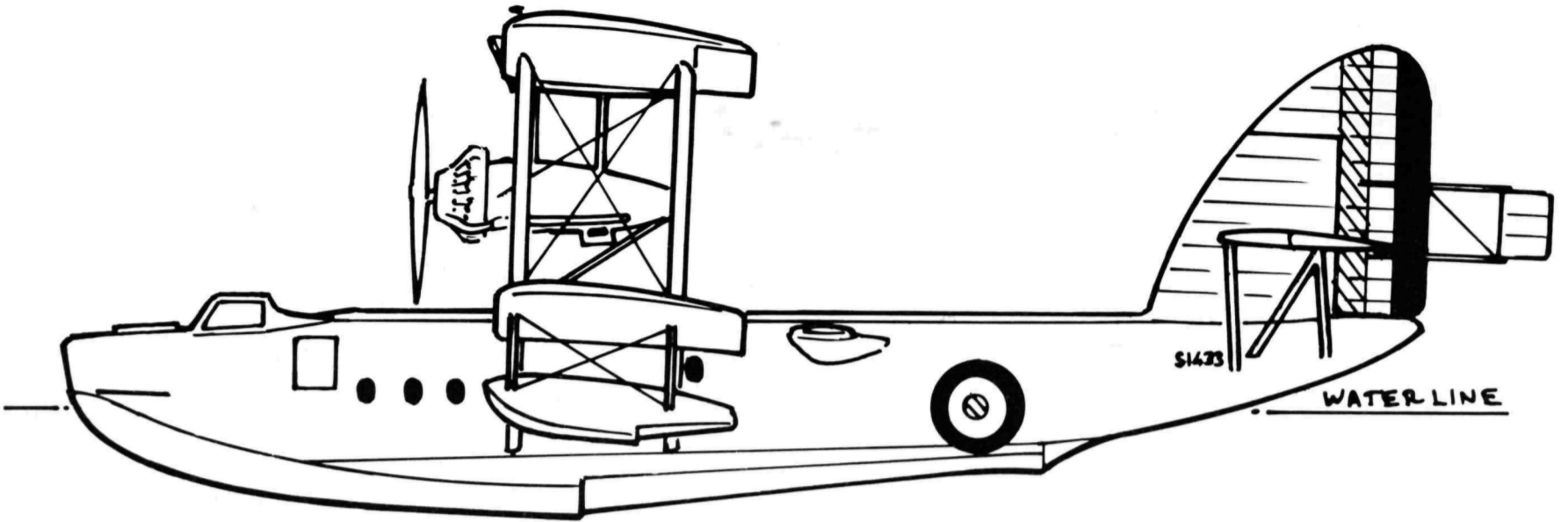
*A Rangoon of No. 210 Squadron at Calshot*



*S1434 taxis up the Tigris - on two engines*



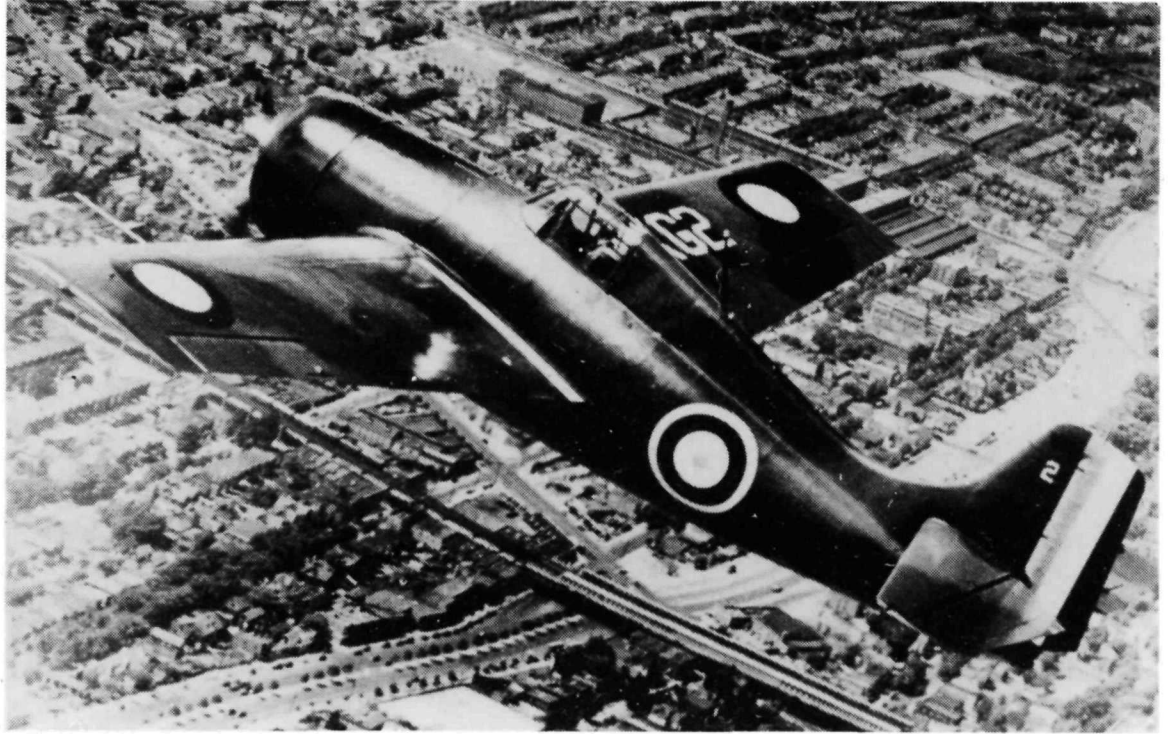
*K3678 displays No. 203's winged seahorse on the nose*



## TESTING

## THE

## MARTLET



*The second F4F of the French contract on test with temporary registration XG2*

The Grumman Martlet entered service with the Fleet Air Arm by courtesy of the French Navy which had ordered a batch of 81 to equip the fighter squadrons intended for service in the new 18,000-ton aircraft carriers, *Joffre* and *Painlevé*, the only existing carrier, *Béarn* being now too slow and cramped for serious fleet operations. Both failed to materialise, the former being still on the stocks in June 1940 and the latter not even started.

The Grumman F4F started life in 1936 as the XF4F-1, a biplane powered by a Pratt & Whitney R-1535-92 engine. The competing Brewster F.2A design was a monoplane that became infamous as the Buffalo. However, studies soon demonstrated that the F4F would not have much of an edge over its preceding F3F so in July 1936, the US Navy requirement was changed to permit Grumman to submit a monoplane design, the XF4F-2.

Fitted with a Pratt & Whitney R-1830-66 engine, the new design appeared at first sight to be a monoplane F3F, mainly due to the typically-Grumman system of tucking the undercarriage up into the fuselage but there the resemblance ended. It had the standard two-gun armament in the nose that was clung to by both the US Army and Navy but provision was made for two more to be fitted in the wings, if specified. It first flew at Bethpage on 2 September 1937. Although ten mph faster than the Brewster design, it was the F2A which was selected for production.

Development continued and the XF4F-3 flew on 12 February 1939 with a supercharged R-1830-76 and its improved performance resulted in an order for 54 F4F-3s in August 1939, the first aircraft appearing in February 1940. Four 0.5" machine guns became the standard armament.

In June 1940, the collapse of France resulted in the French order being transferred to Britain and the first aircraft from this was delivered on 27 July, before any had gone into service with USN squadrons, and erected at Prestwick.

The first example of the F4F, now named Martlet for British service, was received by No.804 Squadron at Hatston on 8 September 1940 (see *Aeromilitaria* No.3/83). There, and at Skeabrae, they supplemented the Gladiators that the squadron used to provide fighter defence for the fleet anchorage at Scapa Flow. Since its operations fell within the criteria for the Battle of Britain, the Martlet became the only US-built aircraft to officially participate in the Battle and the first in RAF service to destroy an enemy aircraft.

It was January 1941 before an example was available for testing at Boscombe Down by the A & AEE. The was AX826, a fixed-wing Mk.I fitted with a 1,240 hp Wright Cyclone G-205A and armed with four guns. It was later joined by AX828.

The standard A & AEE tests revealed that the Martlet handled well and would take off in 280 yards and land in 225 yards. The total fuel load was 136 gallons.

The flaps had two positions, up for take-off and down for landing! It was soon found that carbon monoxide was seeping through from the engine into the cockpit, a perennial problem with the FAA's American-built types. Asbestos seals were inserted but it was still dangerous at high altitudes. Three-inch extension exhausts were recommended and the bulkhead behind the pilot to be sealed as exhaust fumes were seeping back in the airflow into the rear fuselage.

Two no-slip mats were fitted on the wings to allow access to the cockpit, not a minor point on a wet carrier deck. However, it was still awkward for the pilot to get in without a hand-hold. The seat was comfortable if a back cushion was used. The harness was also adequate once the badly-designed lap strap had been replaced.

The noise level in the cockpit was reasonable and did not interfere with the radio but the hood required both hands to open. There was considerable buffeting when it was open and it could not be jettisoned. The view was good except in rain but the canopy could be left open at low speeds. There was no cockpit heating so the canopy tended to ice up.

The oxygen supply for the pilot was to US standard and could not be used with the British microphone mask and there was no supply failure warning. The exhaust flames were very bright at night.

The undercarriage could be manually retracted in 25-30 seconds. There were no control locks. The boost controls had to be adjusted manually and could result in damage in a dive if boost rose quickly without it being noticed by the pilot.

Taxying was normal but could be difficult in a strong wind because of the narrow track undercarriage. The brakes were awkward to use and each wheel had an independent system.

The controls were found to be light and effective but the



*Martlet AM969 was representative of the Mk.II and was tested at A & AEE, Boscombe Down*

aircraft became longitudinally unstable with the CG aft. The Martlet stalled at 83 mph with flaps and undercarriage up, 70 mph when down. The approach view was bad and the aircraft had to be landed tail-down and could swing easily. There was also a tendency to nose over on braking.

Generally speaking, the Martlet was fit for operational service.

AM969 was tested as representative of the Mk.II. This had a 1,200 hp Pratt & Whitney Twin Wasp S3C4-G engine and folding wings on all but the first ten of the original order for 100 to British requirements. Performance was similar to the Mk.I. Heating was found to be improved and the windscreen could be defrosted. A rear-view mirror was fitted and the hood could be jettisoned. A Curtiss electric propeller was fitted but the throttles and mixture controls were still unsatisfactory.

AM987 had arrived at Boscombe Down on 22 December 1941 for armament trials but without all the required equipment. It had provision for six 0.5-inch machine guns. The gun-bay was not watertight and the guns became rusty. The cocking handles in the cockpit required 85 lbs pressure and were inoperable by the pilot without assistance from ground crews. The link chutes were unsatisfactory and required modifications.

AL247 was used for flame damping trials with triple cascade fishtails while BJ525 ran IFF trials with a Mk.IC system which was not found satisfactory. A modified IFF was fitted and proved satisfactory up to 44 miles range.

BJ570 was modified to reduce the carbon monoxide levels in the cockpit but they were still too high when tested in June 1942. In later trials in April 1943 with the same aircraft, they were still excessive. AM987 checked the carbon monoxide effects of firing the guns but this would have a negligible effect.

AM991 was used for performance trials and fuel consumption tests between April and September 1942. With a weight of 7790 lbs, the take-off run was 320 yards.

Thirty Martlet IIIs were received from a Belgian contract for fixed-wing fighters but none were tested as the performance and handling was similar to the Mk.II.

The Martlet IV was an F4F-4B delivered under Lend-Lease and had a Cyclone engine. FN111 checked out the TR1196 radio in September 1942 as satisfactory. The usual carbon monoxide trials still proved unsatisfactory. This aircraft was kept busy with handling arrivals at 7,760 lbs, fitted with a Hamilton Hydromatic propeller. A pair of 100-lb bombs were fitted but considerable height was still required for recovery from a dive. The gun-heating was not up to Air Ministry standards and had to be modified. There was poor access to the guns and only a limited range of adjustment was possible. Flare damping was by twin open exhaust stacks but was not up to Royal Navy requirements.

FN130 tested zero-length RP installations for four missiles while FN202 ran trials with six RPs, showing no noticeable difference in handling or performance.

FN336 carried out trials with a US Navy Mk.VIII reflector sight which was found acceptable.

The Martlet V was built by General Motors as the US Navy FM-1 and had a 1,200 hp Pratt & Whitney R-1830-86 engine. Maximum speed had crept up by 20 mph and about 4,000 feet was added to the service ceiling.

JV336 was engaged in tests of a Mk.V from June to August 1943. The CO level was still too high for British standards. Handling was satisfactory and during December 1943 and January 1944, the camera installation was tested and found satisfactory. JV336 went on to test a pair of 250-lb containers (see *Aeromilitaria* No.2/83).

JV468 began flame damping trials with a triple fishtail in June 1944 but it was still too bright; however, the CO level had dropped to just about acceptable. JV528 tested the RP installation between January and April 1945.

JV528 replaced FN202 in the RP trials from March 1944 to January 1945.

The Martlet VI was the General Motors FM-2 with a taller fin and a 1,350 hp Cyclone. By the time it was being taken into service from June 1944, the name Martlet had been abandoned in favour of the US Navy's Wildcat to avoid any possible confusion.

JV642 had begun trials in April 1944, first for position error and then for IFF Mk.III tests which proved satisfactory.



*JV875 was used for testing the six rocket projectile mountings on the Wildcat VI*

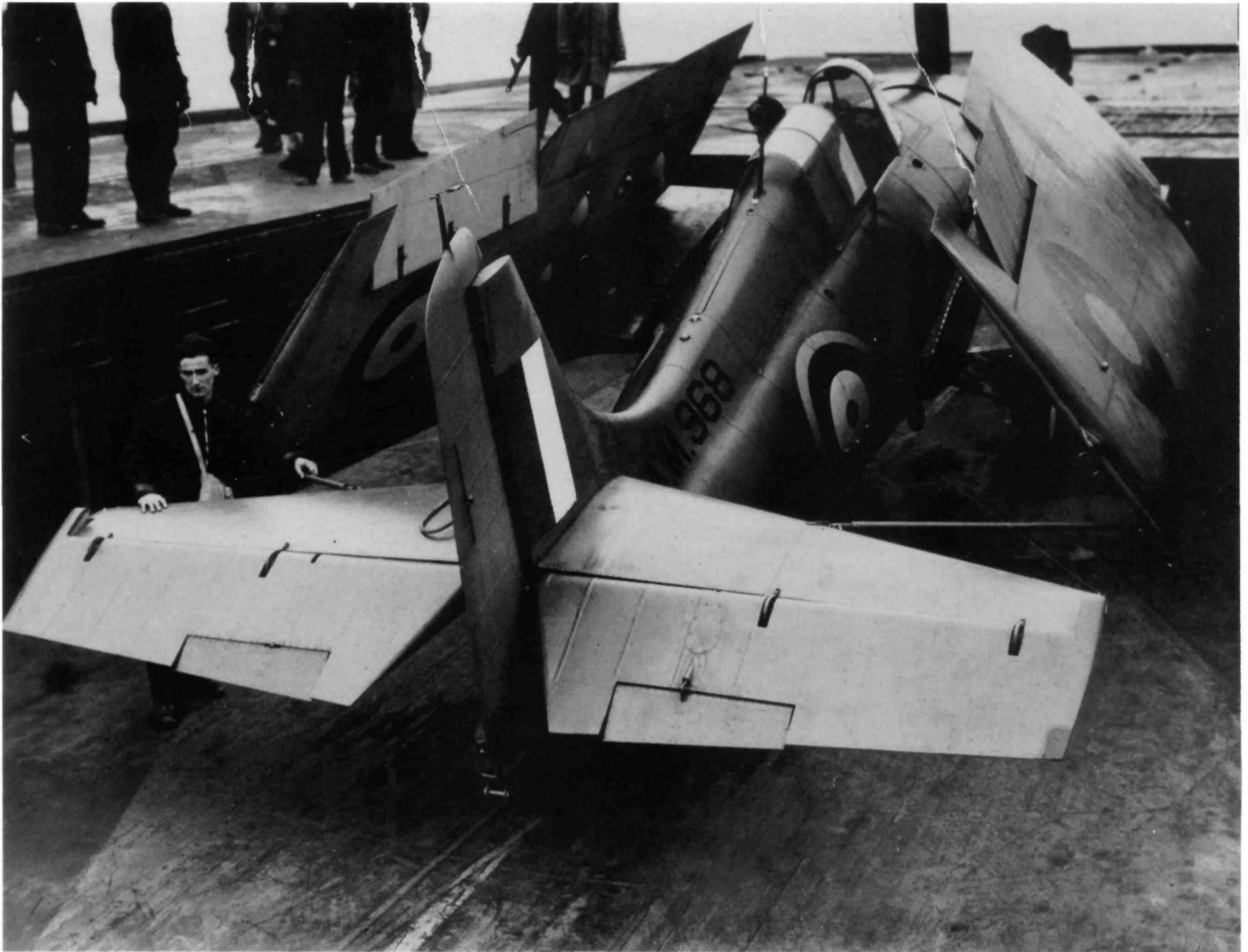
The CO levels were also satisfactory - just! Handling trials showed the aircraft to have excellent controls. It stalled at 81 mph with wheels and flaps up. An underwing fuel tank was carried and in July, two 48-gallon tanks were tested.

JV782 joined the trials programme for comparative tests with and without water injection. JV783 ran successful RP trials but the pilot was back on oxygen, the CO level having again risen to unsatisfactory levels. JV875 was also used for RP trials

Deliveries of Martlets and Wildcats amounted to 91 Mk.Is, 100 Mk.IIs, 30 Mk.IIIIs, 220 Mk.IVs, 312 Mk.Vs and 370 Mk.VIs. Although not on a par with land-based European fighters, they served well in British carriers until replaced by Seafires, Hellcats and Corsairs of much later vintage. Despite their narrow-track undercarriages, they were active on small escort carriers where they supplemented the anti-submarine Swordfish for air defence of convoys. They served until the end of the war but it was their service in 1941/42 that was important. In that period, they provided the Fleet Air Arm with an efficient single-seat fighter that had been lacking after Faireys refused in 1939 to build a carrier-borne Spitfire in place of its two-seater Fulmars.



*Head-on views of the Martlet II and Martlet VI show the type's narrow-track undercarriage*



*Martlet II AM968 goes down the hatch during carrier trials. Note the retaining struts between wing-tip and tailplane*

*Fixed-wing Martlet I AX828 taxis out at Prestwick after assembly*







## Royal Air Force Order of Battle, November 1939

In the first few weeks after the outbreak of war, the Royal Air Force was re-organised to a considerable extent, especially in the United Kingdom. One major change was the departure of two groups of squadrons to France. No.1 Group's Battles departed on 2 September 1939 for airfields around Reims, to be followed by some of No.2 Group's Blenheim squadrons and most of the army co-operation squadrons of No.22 Group. Various support units began to move to France at this time.

By October, a new framework was either in place or in formation. The existing network of maintenance units was augmented by a large number of new units, covering supplies of all types. Two new groups were formed, one to control salvage and repair work and the other to look after fuel and ammunition stocks. Most of the fuel depots were based on existing civilian depots which had been used in peace-time to supply the needs of the services.

New squadrons were in the course of being formed but were not yet operational. Many squadrons moved their bases

and, in the Advanced Air Striking Force, the Air Component of the British Expeditionary Force and No.2 Group, were controlled by newly-formed wings.

In Training Command, the new Elementary Flying Training Schools came into being to replace the pre-war civilian-run Elementary and Reserve Flying Training Schools which were disbanded, en masse, on 3 September 1939. Their navigation training components were replaced, fleetingly, by Civil Air Navigation Schools before they were re-designated Air Observer Navigation Schools after a few weeks.

Balloon Command was already in place and apart from the odd move or addition was little changed from peace-time.

As an ally of Germany, Italy remained an unknown quantity and RAF Middle East deployed a number of units to airfields where they could cover the Egyptian frontier.

To the best of our knowledge, no listing of RAF units for this period has previously been published. The position may be taken as representative of the beginning of November 1939 but some units were still in a state of flux.

### Bomber Command

#### No.2 (Bomber) Group, Huntingdon

Wattisham	No.83 Wg; Nos.107 and 110 Sqns
Watton	No.79 Wg; Nos.21 and 82 Sqns
West Raynham	No.102 Sqns
Wyton	No.82 Wg; Nos.114 and 139 Sqns; Stn Flt

#### No.3 (Bomber) Group, Mildenhall

Feltwell	Nos.37 and 214 Sqns
Honington	No.9 Sqn
Marham	Nos.38 and 115 Sqns
Mildenhall	Nos.99 and 149 Sqns; Berners Heath range
Stradishall	-

#### No.4 (Bomber) Group, Linton-on-Ouse

Boscombe Down	No.58 Sqn
Dishforth	Nos.10 and 78 Sqns
Driffield	Nos.77 and 102 Sqns

Linton-on-Ouse No.51 Sqn

#### No.5 (Bomber) Group, Grantham

Cottesmore	No.185 Sqn
Finningley	No.106 Sqn
Hemswell	Nos.61 and 144 Sqns; Misson range
Scampton	Nos.49 and 83 Sqns
Waddington	Nos.44 and 50 Sqns

#### No.6 (Bomber) Group, Abingdon

Abingdon	Nos.97 and 166 Sqns; Stn Flt; Otmoor bombing range
Bassingbourn	No.215 Sqn
Benson	Nos.52 and 63 Sqns
Bicester	Nos.104 and 108 Sqns
Cranfield	Nos.35 and 207 Sqns
Harwell	Nos.75 and 148 Sqns; NZ Flt
Hucknall	No.98 Sqn
Upper Heyford	Nos.7 and 76 Sqns
Upwood	No.90 Sqn

**Fighter Command, Bentley Priory****No.11 (Fighter) Group, Uxbridge**

Biggin Hill	Nos. 32 and 601 Sqns
Croydon	Nos.145* and 615 Sqns
Filton	Nos.263* and 501 Sqns
Hendon	No.248* Sqn
Hornchurch	Nos.54, 74 and 600 Sqns
Manston	Nos.3, 79, 235* and 253* Sqns
Martlesham Heath	Nos.56, 236* and 254* Sqns
Northolt	Nos.25 and 65 Sqns; Stn Flt
North Weald	Nos.151 and 604 Sqns
St.Athan	No.11 Group Pool (in Trg Cmd)
Tangmere	Nos.43, 92* and 605 Sqns

**No.12 (Fighter) Group, Hucknall**

Aston Down	No.12 Gp Pool (in Maint Cmd)
Debden	Nos.17, 29 and 504 Sqns
Digby	Nos.46, 229* and 611 Sqns
Doncaster	Civil Acft Flt
Duxford	Nos.19, 66 and 222* Sqns; Stn Flt
Stradishall	Nos.236* and 245* Sqns (in Bbr Cmd)
Sutton Bridge	Nos.264* and 266* Sqns
Wittering	Nos.23, 213 and 610 Sqns

**No.13 (Fighter) Group, Newcastle**

Acklington	Nos.111, 152 and 607 Sqns
Catterick	Nos.41 and 219* Sqns
Church Fenton	Nos.64 and 242* Sqns
Drem	Nos.72, 602 and 609 Sqns
Grangemouth	No.141* Sqn
Leconfield	Nos.234*, 245* and 616* Sqns
Turnhouse	No.603 Sqn

**No.22 (Army Co-operation) Group, Farnborough**

Odiham	Nos.225*, 613* and 614* Sqns
Old Sarum	No.16 Sqn; School of Army Co-operation; No.22 Gp Pool

\*indicates non-operational units

**Advanced Air Striking Force**

Auberive	No.75 Wg; No.218 Sqn; No.5 Serv Sec
Berry-au-Bac	No.76 Wg; Nos.12 and 142 Sqns
Bétheniville	No.71 Wg; No.40 Sqn; 1 Serv Flt
Challerange	No.74 Wg; No.103 Sqn
Condé-Vraux	No.15 Sqn; No.6 Serv Flt
Ecury-sur-Cooles	No.150 Sqn; Nos.7 and 8 Serv Flts
Mourmelon	No.88 Sqn; No.2 Serv Flt
Reims/Champagne	No.72 Wg; No.226 Sqn; Nos.2 & 3 Serv Flt; No.1 Salvage Section
Rouvres	No.67 Wg; Nos. 1 and 73 Sqn
Toul	M Balloon Unit
Villeneuve	No.105 Sqn
No.4 ASP, No.5 ASP, No.6 ASP, Forward Ammunition Park being established in France	

**Air Component, British Expeditionary Force**

Abbeville/Drucat	No.51 Wg; Nos.2 and 26 Sqns
Amiens/Montjoie	Comm Sqn
Meharicourt	No.70 Wg; Nos.18 and 57 Sqns
Merville	No.60 Wg; Nos.85 and 87 Sqns
Mons-en-Chaussée	No.50 Wg; Nos.4 and 13 Sqns

Poix No.52 Wg; Nos.53 and 59 Sqns  
No.61 Wg Serv Unit, No.62 Wg Serv Unit, No.1 ASP, No.2  
ASP, No.3 ASP being established in France

**Coastal Command****No.15 (Reconnaissance) Group, Plymouth**

Aldergrove	No.502 Sqn
Carew Cheriton	1 flt of No.217 Sqn
Hooton Park	1 flt of No.206 Sqn
Mount Batten	No.204 Sqn; C Flt No.2 AACU
Pembroke Dock	Nos.210 and 228 Sqns
St. Eval	No.217 Sqn

**No.16 (Reconnaissance) Group, Chatham**

Bircham Newton	Nos.42 and 206 Sqns
Detling	No.500 Sqn; 1 flt of 48 Sqn; det 1 CACU
Thorney Island	Nos.22 and 48 Sqns; No.1 CACU

**No.17 (Training) Group, Gosport**

Calshot	FBTS; Maint Section
Gosport	TDU; TDF; No.2 AACU
Silloth	Coastal Cmd Pool
Thorney Island	School of General Reconnaissance

**No.18 (Reconnaissance) Group, Pitreavie Castle**

Abbotsinch	No.224 Sqn
Dyce	No.612 Sqn
Helensburgh	MAEE
Invergordon	No.201 Sqn
Leuchars	Nos.224, 233 Sqns; 1 flt of No.269 Sqn
Oban	No.209 Sqn
Sullom Voe	No.240 Sqn
Thornaby	Nos.220 and 608 Sqns
Wick	Nos.269 and 803 Sqns

**No.21 (Training) Group, Cranwell**

Cranwell:	RAF College; No.1 E&WS; RAF Hospital; Equipment Training School; School of Clerks Accounting; Supplies Depot
Grantham	No.12 FTS
Kinloss	No.14 FTS
Lossiemouth	No.15 FTS
Montrose	No.8 FTS
Yatesbury	No.2 E&WS; RDF School

**No.23 (Training) Group, South Cerney**

Brize Norton	No.2 FTS
Hullavington	No.9 FTS
Little Rissington	No.6 FTS; Equipment Trg School
Netheravon	No.1 FTS
Peterborough	No.7 FTS
Sealand	No.5 FTS
Shawbury	No.11 FTS
South Cerney	No.3 FTS
St. Athan	School of Air Navigation
Ternhill	No.10 FTS; Stn Flt
Upavon	Central Flying School

**No.24 (Training) Group, Halton**

Blackpool	No.3 S of TT
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Boscombe Down	A & AEE
Bridgenorth	No.4 Recruits Reception Centre;
Cardington	No.2 Recruits Reception Centre;
Cosford	No.2 S of TT
Farnborough	School of Photography
Felixstowe	No.7 Recruit Training Pool
Finningley	No.5 Recruit Training Pool
Halton	No.1 S of TT; School of Cookery; Princess Mary's Hospital; RAF Institute of Pathology & Tropical Medicine; Equip- ment Trg School; Medical Trg Depot
Hawkinge	
Hednesford	No.6 S of TT
Henlow	Misc Tech Trg Unit; School of Aero- nautical Engineering
Locking	No.5 S of TT
London	No.1 Supplementary S of TT
Manston	No.3 S of TT; No.8 Recruit Training Pool
Martlesham Heath	A & AEE
Matlock	No.4 Recruit Training Pool
Padgate	No.3 Recruits Reception Centre;
Rollestone Camp	Anti-gas School
St. Athan	No.4 S of TT
Upwood	No.6 Recruit Training Pool
Uxbridge	No.1 RAF Recruits Reception Centre; Hospital; School of Physical Training; Service Police School

**No.25 (Armament) Group, Brize Norton**

Aldergrove	No.3 AOS; Stn Flt
Catfoss	No. 1 Recruit Training Pool
Eastchurch	C & M Party
Evanton	No.8 AOS
Jurby	No.5 AOS
Manby	No.1 AAS; Wainfleet Sands range
North Coates	No.2 Recruit Training Pool
Pembrey	No.2 AAS
Penrhos	No.9 AOS
Porthcawl	No.7 AOS
Warmwell	No.10 AOS
West Freugh	No.4 AOS

**No.50 (Training) Group, London**

Fairoaks	No.18 EFTS
Filton	No.2 EFTS
Hamble	No.3 EFTS; No.1 Supp School of Wireless Training
Hanworth	No.5 EFTS
Hatfield	No.1 EFTS
Redhill	No.15 EFTS
Staverton	No.6 AONS
Weston-super-Mare	No.5 AONS
White Waltham	No.13 EFTS
Woodley	No.8 EFTS
Yatesbury	No.10 EFTS; No.2 AONS

**No.51 (Training) Group, Leeds**

Ansty	No.9 EFTS; No.4 AONS
Brough	No.4 EFTS
Burnaston	No.30 EFTS
Cambridge	No.22 EFTS
Desford	No.7 EFTS; No.3 AONS
Elmdon	14 EFTS
Grangemouth	No.10 AONS
Perth	11 EFTS; No.7 AONS
Prestwick	12 EFTS; No.1 AONS; No.2 Supp School

Squires Gate	of Wireless Training
Sydenham	No.9 AONS
Sywell	No.24 EFTS
	No.6 EFTS; No.8 AONS

**No.54 (Training) Group, Reading**

Bexhill	No.4 Initial Training Wing
Cambridge	No.1 Initial Training Wing
Hastings	No.3 Initial Training Wing

**Maintenance Command****No.40 (Maintenance) Group, Abingdon**

Carlisle	No.14 MU
Coventry	C MU
Dumfries	H MU
Hammersmith	B MU
Hartlebury	No.25 MU
Heywood	No.35 MU
Kidbrooke	No.1 MU
Milton	No.3 MU
Newport	E MU
Norwich	G MU
Quedgeley	No.7 MU
Ruislip	No.4 MU
Shepton Mallet	K MU
Waddington	F MU
Wembley	A & D Sub Units

**No.41 (Maintenance) Group, Andover**

Aston Down	No.20 MU
Brize Norton	No.6 MU
Cosford	No.9 MU
Hullavington	No.10 MU
Kemble	No.5 MU
Kirkbride	No.12 MU
Little Rissington	No.8 MU
Sealand	No.36 MU
Shawbury	No.27 MU
Silloth	No.22 MU
St. Athan	No.19 MU
Ternhill	No.24 MU

**No.42 (Maintenance) Group, Burghfield Common,****Aviation Fuel & Oil Reserve Depots:**

Ardrossan, Avonmouth, Barrow, Beeston Castle, Birkenhead, Bowling, Brixham, Brampton, Claydon, Crawley Crossing, Dovehole (Buxton), Grangemouth, Islip, Llandarcy, Massingham, Mode Wheel, Mountnessing, Much Wenlock, Peterborough, Poole, Preston, Redmile, Rowfont, Saffron Walden, Stourport, Thetford, Thornaby, Upton, Watton, Wilton, Wye.

**Ammunition Depots:**

Altrincham Ridge	2 MU (Ammo)
Barnham	Air Ammunition Park (Par. Honington) Later to 94 MU
Brafferton	Air Ammunition Park (Par. Dishforth) Later to 92 MU
Chilmark	No.11 MU (Ammo)
Fauld	No.21 MU (Ammo) (near Holywell)
Lords Bridge	Air Ammunition Park (Par. Bassingbourn) Later to 95 MU
Pulham	No.21 Sub Unit; det of 21 MU
Southburn	Air Ammunition Park (Par. Driffield)

Swinderby Later to 91 MU  
Air Ammunition Park (Par. Waddington)  
Later to 93 MU

#### No.43 (Maintenance) Group, Andover

Cambridge No.54 MU (S)  
Carlisle No.63 MU (S)  
Cowley No.26 MU (R) for Cardington  
Henlow No.13 MU (R)  
Horsham/ Faygate No.49 MU (S)  
Newark No.58 MU (S)  
Oxford/Cowley No.50 MU (S)  
Sealand No.30 MU (R)  
St. Athan No.32 MU (R)  
Skipton No.60 MU (S)

#### Balloon Command

##### No.30 (Balloon Barrage) Group, London

Chigwell No.4 Balloon Centre; Nos.908, 909, 910 Sqs  
Hook No.2 Balloon Centre; Nos.904, 905 Sqs  
Kidbrooke No.1 Balloon Centre; Nos.901, 902, 903 Sqs  
Stanmore No.3 Balloon Centre; Nos.906, 907 Sqs

##### No.31 (Balloon Barrage) Group, Birmingham

Alvaston/Derby No.7 Balloon Centre; 918 Sqn  
Fazakerley No.8 Balloon Centre; Nos.919, 920, 921 Sqs  
/Liverpool  
Manchester No.10 Balloon Centre; Nos. 924, 925 926 Sqs  
Sutton Coldfield No.5 Balloon Centre; Nos.911, 912, 913 Sqs  
Warrington No.9 Balloon Centre; Nos.922, 923, 949 Sqs  
Wythall No.6 Balloon Centre; Nos.914, 915, 916, 917 Sqs

##### No.32 (Balloon Barrage) Group, Portsmouth

Bristol No.11 Balloon Centre; Nos.945, 946, 947 Sqs  
Cardiff No.14 Balloon Centre; No. 935 Sqn  
Collaton Cross/  
Plymouth No.13 Balloon Centre; No.934 Sqn  
Titchfield No.12 Balloon Centre; Nos.930, 931, 932, 933 Sqs

##### No.33 (Balloon Barrage) Group, Newcastle

Glasgow No.18 Balloon Centre; Nos.945, 946, 947 Sqs  
Sutton-on-Hull No.17 Balloon Centre; Nos.942, 943, 944 Sqs  
Long Benton/  
Newcastle No.15 Balloon Centre; Nos.936, 937, 938 Sqs  
Rosyth No.19 Balloon Centre; Nos.929, 948 Sqs  
Sheffield No.16 Balloon Centre; Nos.939, 940, 941 Sqs

#### Royal Air Force, Middle East, Cairo

Aboukir No.103 MU  
Abu Sueir No.102 MU; Pilots Trg Unit & Reinforcement Pool

Amman SHQ  
Amriya No.80 Sqn  
Basra Base Supply & Transport Depot  
Daba No.211 Sqn  
Dar es Salaam Air Defence Unit  
El Ma'sara No.101 MU  
Fuka No.45 Sqn; No.31 ME Air Stores Park; No.6 Supplies & Transport Section; No.1 Adv Repair Section  
Habbaniya AHQ Iraq; No.4 FTS; S and Y Sqs; Aircraft Depot; Comm Flt; Supplies Depot; No.1 Arm Car Coy; RAF General Hospital  
Heliopolis No.202 Gp; No.251 Wg; Nos.113 and 216 Sqs; Comm Flt  
Helwan Nos.70 and 112 Sqs  
Ismailia No.250 Wg; Nos.14, 30 and 55 Sqs  
Jerusalem HQ RAF T&J  
Khartoum No.254 Wg HQ; No.47 Sqn  
Ma'an Sqn of No.2 Arm Car Coy  
Maaten Bagush No.253 Wg HQ  
Mersa Matruh No.33 Sqn  
Mombasa No.3 Flt Kenya Aux Air Unit  
Nairobi No.1 Sqn SRAF; 1 and 2 Flts Kenya Aux Air Units  
Qasaba No.208 Sqn; 1 flt of No.14 Sqn  
Ramleh No.6 Sqn; No.2 Arm Car Coy; Stn Flt  
Sarafand RAF Hospital; Equipment & Supply Depot  
Shafrahana No.252 Wg HQ  
Shaibah No.84 Sqn; Sec of No.1 ACC  
Summit No.223 Sqn

#### Royal Air Force, Mediterranean, Valetta

Alexandria No.201 Gp HQ  
Gibraltar No.200 Gp HQ; No.86 Wg; No.202 Sqn  
Hal Far SHQ; Stn Flt; No.3 AACU  
Kalafrana SHQ  
Valetta AHQ

#### Royal Air Force, Aden

Khormaksar SHQ; Nos.8 and 203 Sqs; GP Flt  
Sheikh Othman No.94 Sqn  
Steamer Point AHQ; RAF Hospital; Arm Car Section; Equipment & Supplies Depot

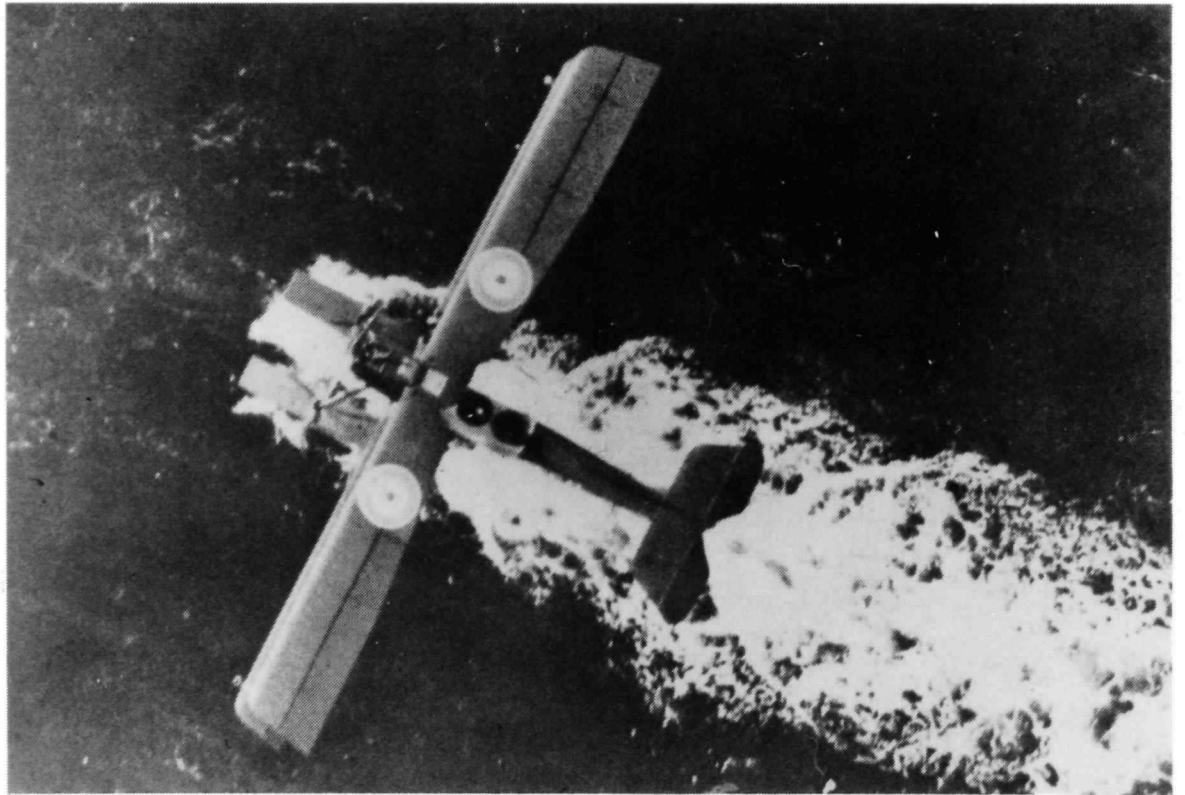
#### Royal Air Force, India, New Delhi

Ambala No.1 Sqn IAF; No.60 Sqn  
Fort Sandeman 1 flt of No.5 Sqn  
Karachi Aircraft Depot  
Kohat Nos.28 Sqn  
Lahore No.31 Sqn; Aircraft Park  
Peshawar No.1 (I) Wg; No.20 Sqn  
Risalpur SHQ; No.27 Sqn

#### Royal Air Force Far East, Singapore

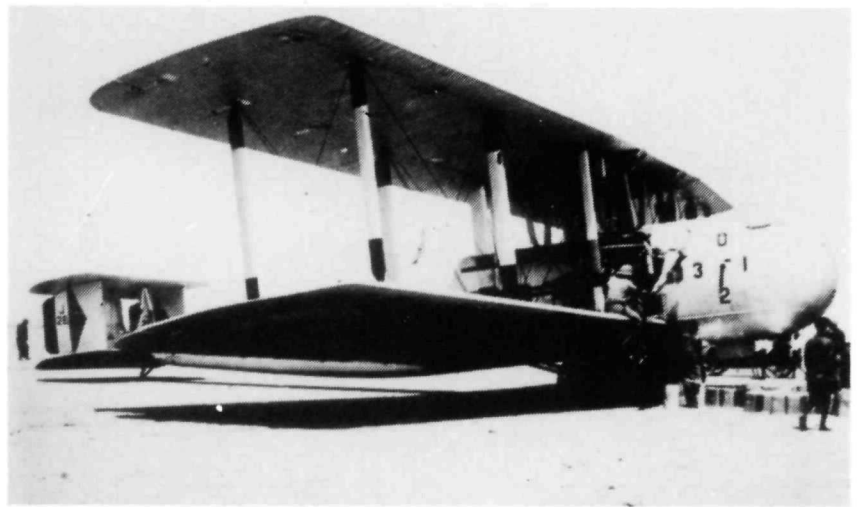
China Bay No.273 Sqn; Stn Flt  
Kai Tak SHQ; Stn Flt  
Kallang No.2 (I) Wg; Nos.11 and 39 Sqs; Comm Flt  
Seletar SHQ; Nos.36, 100, 205, 230 Sqs; Aircraft Depot; No.4 AACU  
Tengah SHQ; Nos.34 and 62 Sqs

**PICTURE  
PAGES**



Above right: A Short 184 taxiing in a choppy sea. The position of the roundels is unusual, possibly being sited to avoid painting on the ailerons.

Right: Victoria III J7928 of No.216 Squadron - but what is the purpose of the 0 - 1 - 2 - 3 pointer?



Avro 504 No.753, one of the original versions of that long-lived family, appears to have a form of camouflage.





The Beardmore W.B.IV was an attempt to provide a ship-based aircraft that could be flown off and recovered. Designed in 1915, it anticipated later practice in placing the engine behind the pilot and driving the propeller via a shaft between the pilot's legs (as in the Westland F.7/30 and the Airacobra).

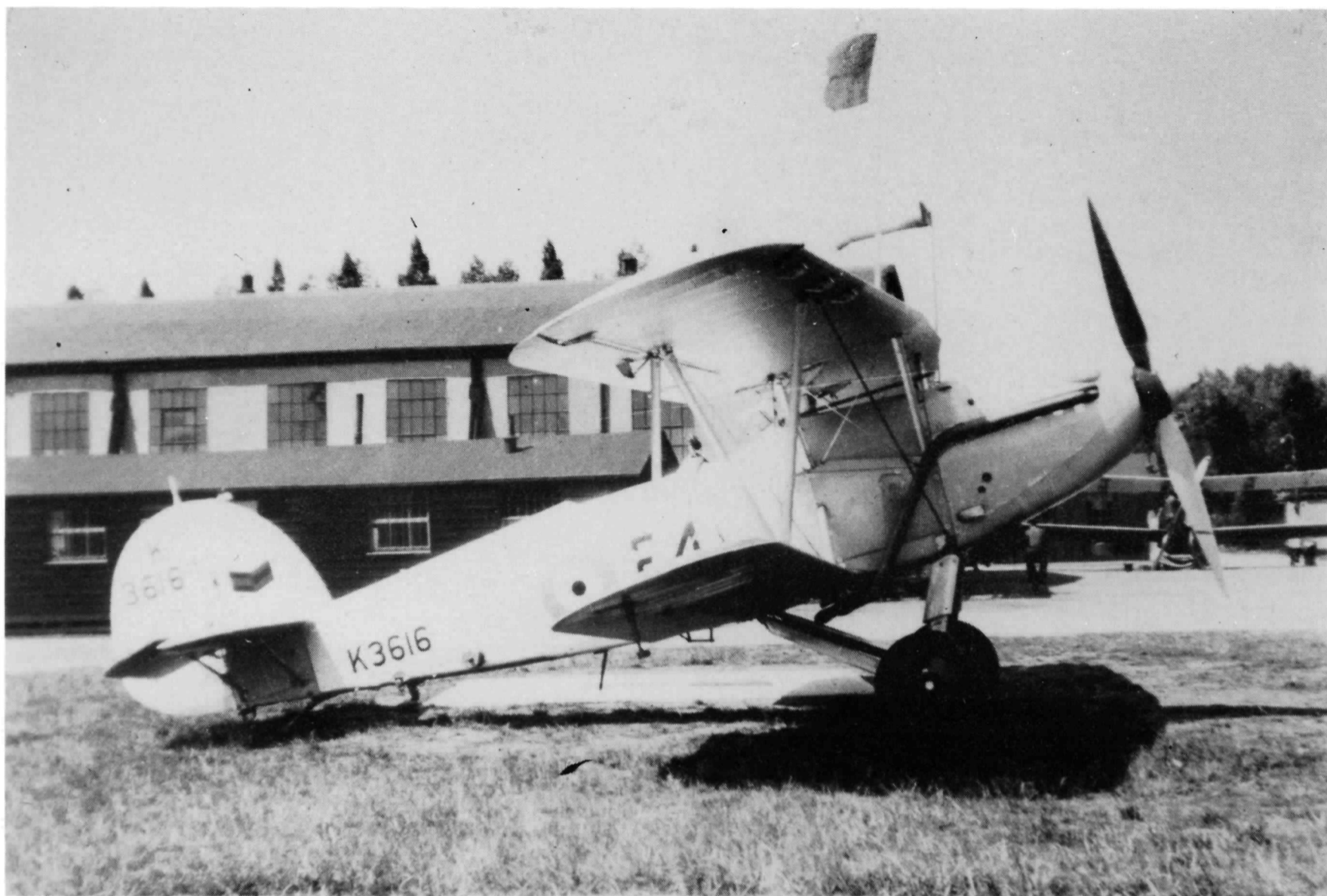
The undercarriage was jettisonable to improve performance and help with ditching, for which purpose there was a buoyancy tank in the forward fuselage. The cockpit, mounted right forward in the nose, was also water-tight and the W.B.IV could remain afloat for at least six hours.

The armament consisted of one Vickers gun mounted on the port side of the cockpit from which the pilot had an excellent view. In front of him was a tripod mounting for a Lewis gun which could be fired upwards, presumably mainly for attacks on airships.

The under-fuselage was designed for landing on the water without the aircraft flipping over, a fate that was later prevented by the fitment of hydrovanes on the undercarriage of Pups and Camels that flew from platforms aboard battleships and cruisers. Pick-up points were provided for hoisting in the aircraft after a flight.

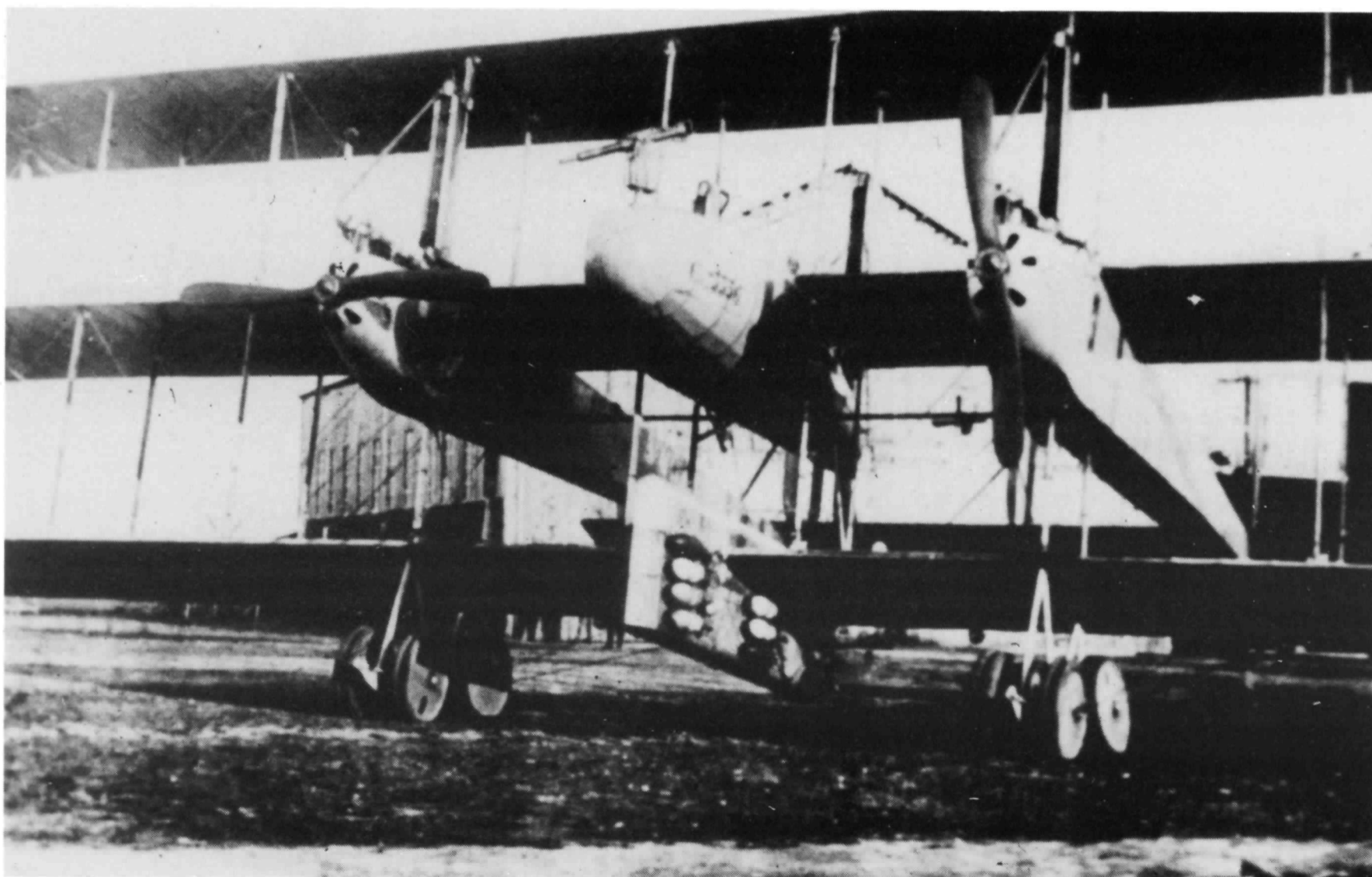
Right: Seafox K4303 during water stability tests at Felixstowe at 6,100 lb AUW, April 1938

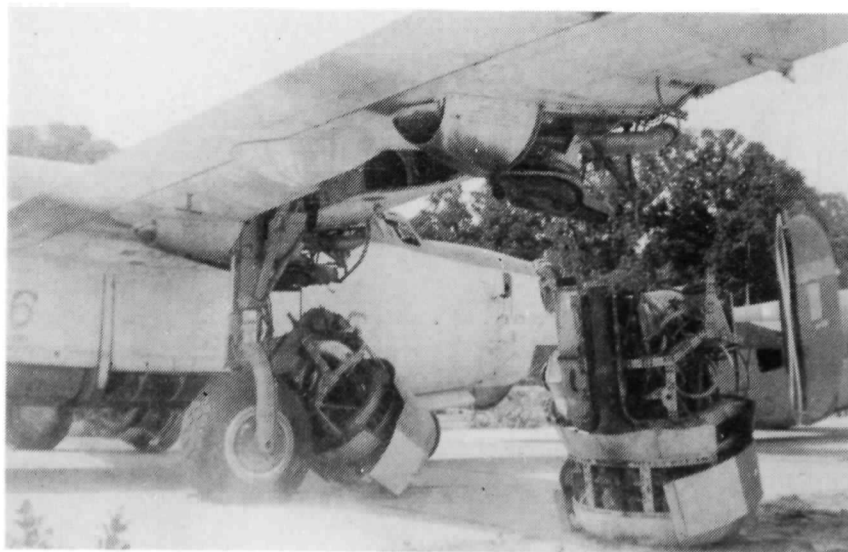




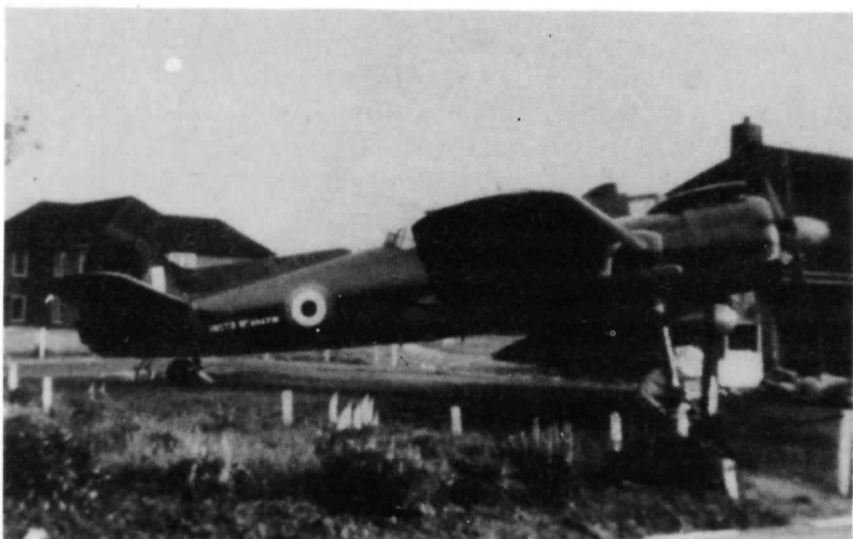
An unusual type for a communications unit, No.24 Squadron's Osprey III K3616 at Castle Bromwich (F Bentley)

The Caproni Ca.4 had an usual bomb bay. The bombs were attached to a streamlined container (via Don Neate)





Liberators being broken up at Cawnpore/Chakeri (now Kanpur) in 1946 (Clive Berry)



Beaufighter SR became No.16 MU Stafford's gate guardian.  
Note the uncommon legend "INSTR No. 6947M"  
(N.D. Welch)

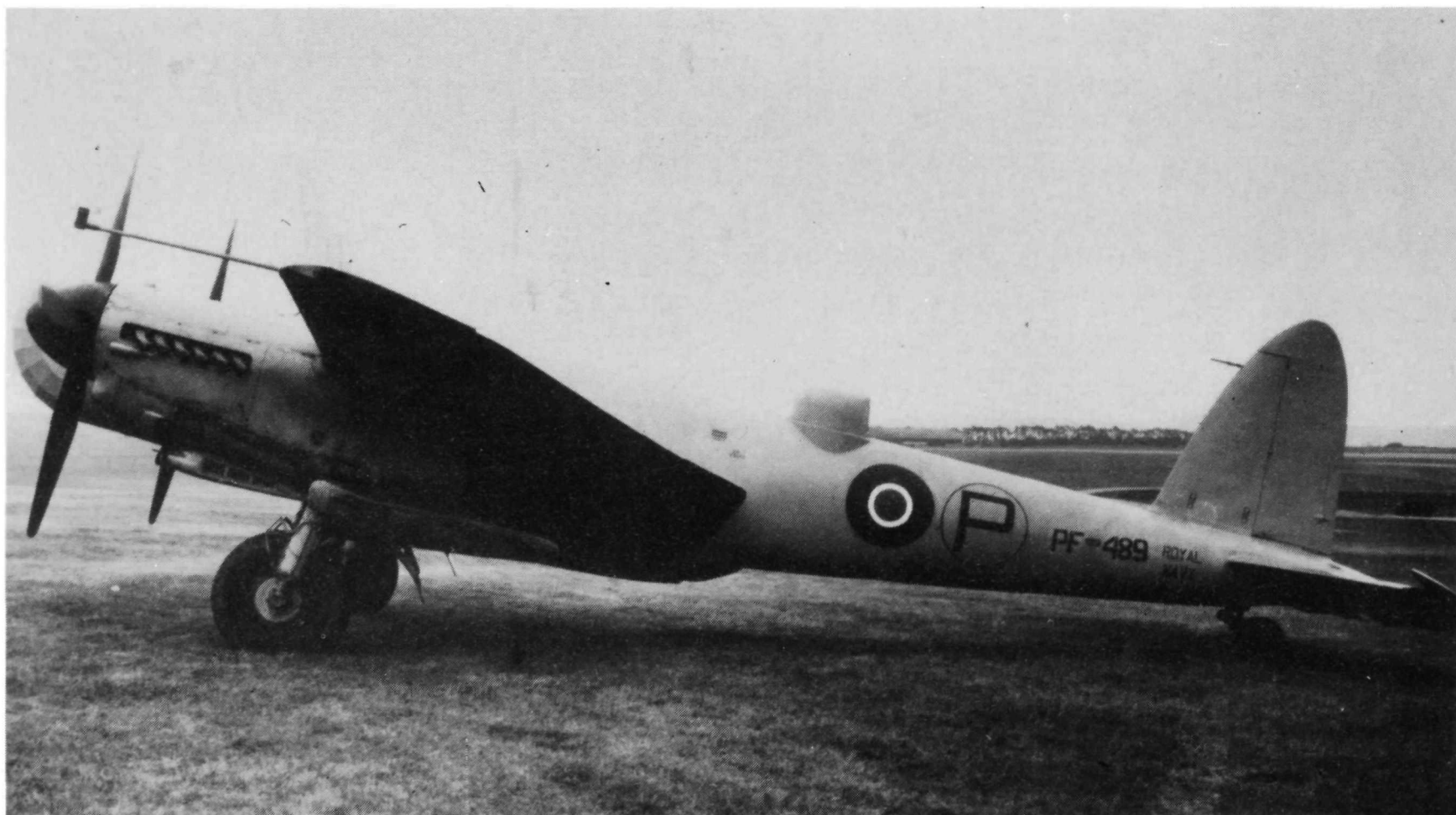


Presentation Spitfire II P8529 was named *Borough of Colwyn Bay* and served with Nos.118 and 132 Squadrons and No.58 Operational Training Unit (C.Berry)

A Rolls-Royce armoured car tows in a force-landed Martinsyde Elephant. There appears to be a gun mounting on the centre-section. As usual, someone has got his head in the way of the serial!







How could de Havillands produce a Mosquito looking like the TT.MK.39? The probable answer is that they could not bear to, so sub-contracted the job to General Aircraft at Hanworth.

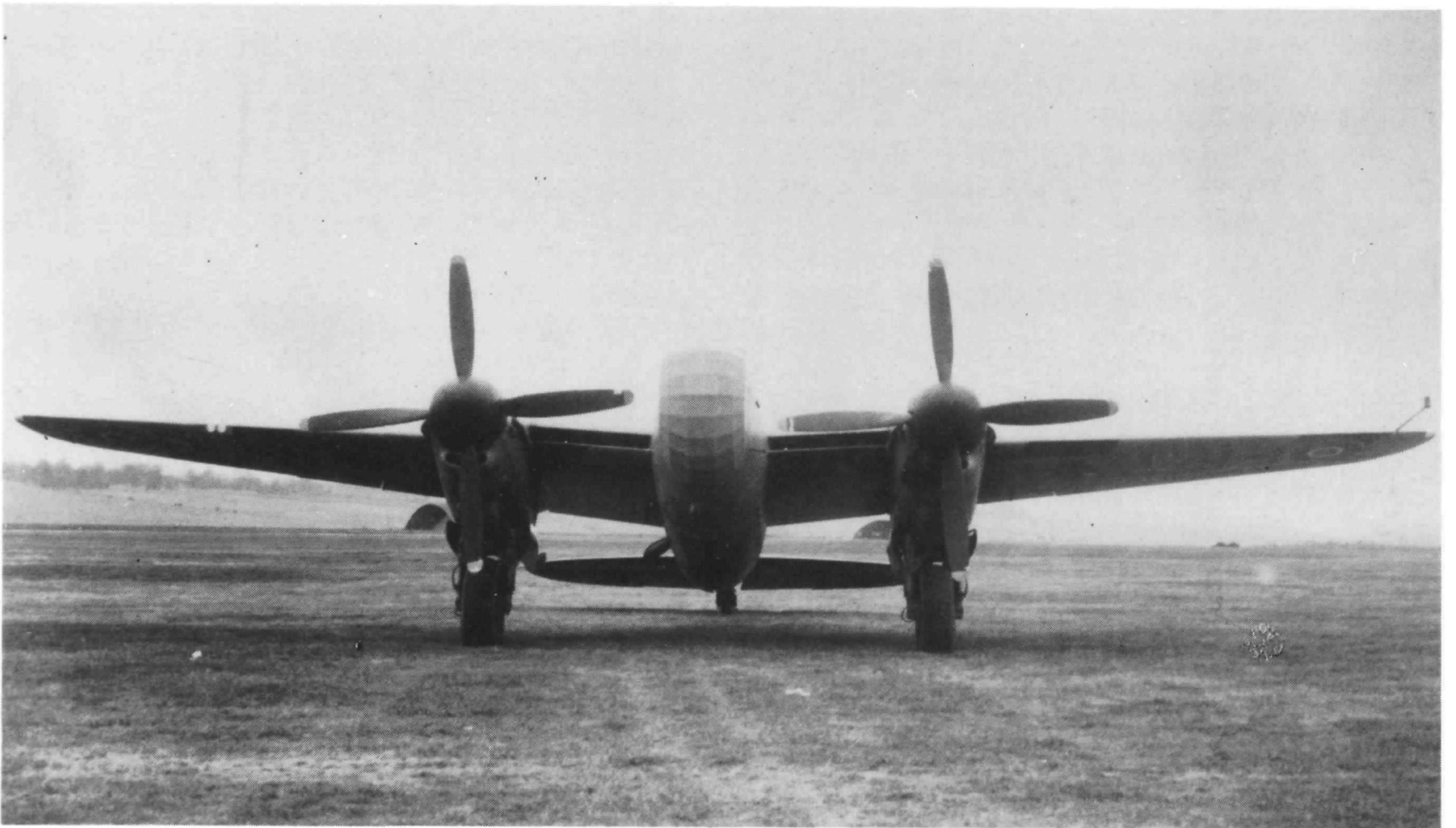
Specification Q.19/45 called for an aircraft to provide a fast target tug, primarily for naval use. The conditions in the Pacific had concentrated the Navy's minds firmly on anti-aircraft gunnery as never before.

General Aircraft drew up their G.A.L.39 proposal which extended the nose to provide a glazed nose for a camera operator. One wonders if the Mosquito was supposed to push the target. A cupola was installed in the aft fuselage for the winch operator who had an electrically-driven winch in the bomb bay.

By the time the design was firm, Japan had surrendered so the needs of the Navy were less urgent. GAL converted B.XVIs and PF489 was sent for testing at A&AEE. It had a pair of Rolls-Royce Merlin 72/73s and despite its odd nose, it was found that handling was not impaired to any great extent.

The 32-ft and 16-ft standard towed targets could be handled without difficulty as could the drogue target. As the Miles Monitor it was intended to replace had been phased out of production after only a few had been delivered, there was not a great need for the TT.39. No.728 Squadron between March 1949 and May 1952 and No.771 Squadron between December 1948 and July 1949 used the Sea Mosquito TT.39 but they were soon replaced by Mosquito TT.35s.





## FEEDBACK

### Iraqi Gladiators

The photo of an Iraqi-marked Gladiator in Issue 1/94 brought forth a number of letters, all but one apparently confident that there were no pre-war Iraqi Gladiators. Hence, the one shown was specially painted as a sales pitch to try and sell the type to Iraq.

However, John Havers, our Middle East specialist, has written to say that fifteen Gladiators were purchased by Iraq in 1937, the first six of them arriving by the end of the year and the final example by 30 March 1938. Serials 80 to 94 were allotted.

Of these, No.85 crashed at Falluja around 27 January 1940, the pilot, Shawkat Ibn Haj Rizougi being killed. It was SOC on 30 May 1940. No.86 crashed at Kirkuk around February 1940. Nos. 80, 90 and 91 crashed in August 1940. No.87 was lost between November 1940 and February 1941.

The RIAF order of battle for 15 February 1941 showed there to be seven with No.4 Squadron at Kirkuk and four unserviceable at the Aircraft Depot at Hinaidi, of which three, due to lack of spares, could not be repaired.

Following the Habbaniya affair, when one was claimed by the RAF, only five were listed at Kirkuk.

On 10 September 1942, the RAF agreed to take seven repairable D.H.60 Moths and a Percival Q-6 in exchange for five Gladiators, probably K8005, K7901 and N5857 plus two others from X Flight, Abadan, K7928 and K7989, which were made serviceable by No.134 MU.

Five more were delivered by July 1943, giving a strength of 12 Gladiators plus six u/s aircraft. In September 1943, five more were offered by the RAF from 134 MU at a nominal £500 each, giving a strength of 16 aircraft plus four in reserve. In December 1943, six more were sold for spares for £200 each.

In May 1944 eight more came from Egypt in a poor state to keep the remaining 17 flying, divided between 12 with No.4 Squadron and five with No.5 Squadron. In March 1946, five were lost when inundated in a major flood at Raschid.

Numbers were reduced by March 1949 to five with No.4 Squadron (two at Mafraq and three at Kirkuk) and one with the Training Squadron at Raschid. Some remained in service until 1951.

RAF serials involved, apart from those listed above, included K6140, K6147, K7907, K7919, K7928, K7961, K7983, K8006, K8007, N5780, N5825, N5827, N5828 and N5830.

### That Lightning Again

The correspondence on the P-38 marked DPA that has appeared in recent issues does not seem to have completely died down. The identities of two P-38s in the last issue were given as 42-3517 and 42-4300 but Frans Auwerda points out that neither is a true P-38 serial!

Some checking around shows that 3517 was a B-17F and 4300 was a P-39K. However, if the original serials were removed during overhaul prior to transfer, could they be constructor's numbers which would equate with 43-28502 and 44-23296?

In *En nooit was het stil* by Gerry Zwanenburg, it is recorded that the good results of an attack on Gilze-Rijen on 15 August 1944 by 103 Lancasters were due to a good master bomber, in the shape of Guy Gibson in a P-38. But Gibson's log book shows this op on the 18th but the 15th is confirmed by the Bomber Command Raid Sheet for that day.

### Royal Navy Aircraft 1919 to 1945

Ray Sturtivant is now beavering away on another book on British naval aviation. Much on the lines of *Royal Navy Aircraft Serials and Units 1911 to 1919*, the subject of this new major work is the individual histories of all aircraft flown by the Fleet Air Arm during the Second World War, around 20,000 in all. It will fill many of the gaps in the serial coverage of the existing RAF serial monographs. Relevant dates will be given, and also codes where known.

Unlike the Air Ministry, the Admiralty did not maintain a system of aircraft history cards. Naval aircraft tended to be treated as pieces of equipment and as such the relevant records were regarded as ephemeral. Consequently no official history documentation survives for any naval aircraft which went out of service prior to 1956.

Ray has over many years managed to piece together sufficient material to form the basis of a detailed monograph on individual wartime aircraft, using such relevant documentation as survives in the Public Record Office and various service museums, and also private sources, particularly flying log books. However, he is keen that the new book should be as complete as possible before going into print and seeks readers help accordingly.

Particularly helpful would be wartime FAA flying log books - maybe belonging to a friend, neighbour or relative. Air Transport Auxiliary log books often contain entries relating to naval aircraft, as do those for RAF ferry pilots. If the owner is willing to lend his log book, Ray undertakes to return it within about 10-14 days of receipt. Failing this, photocopies, or a month-by-month listing of serials, with a note of any particular incidents, such as accidents or ferrying details.

Other possible sources include surviving company records, both for manufactures and for firms involved in assembly, conversion or repair work. There are often entries relating to naval aircraft in RAF Operations Record Books at the Public Record Office, and these will not necessarily all have been seen by him.

Wartime records of various local authority services, now usually deposited in county archive or record offices, may contain references to accidents and other incidents involving aircraft. Such services include fire, ambulance, police, air raid precautions etc., and recorded details could be useful in identifying the exact location, and possibly the names of aircrew involved, even if no serial or code was noted at the

time. Royal Observer Corps records might also be useful.

Our older members may still have spotting notes from the late forties, and these could include naval aircraft. A peculiar-looking code which does not fit into the RAF pattern could well relate to the FAA system. The Navy flew many thousands of RAF types, such as Ansons, Beauforts, Bostons, Gladiators, Harvards, Hurricanes, Lysanders, Martinets, Masters, Mosquitoes, Oxfords, Proctors and Spitfires.

Overseas members may know of records which may fill a few gaps. Australia, Canada, Egypt, France, Germany, Iceland, India, Italy, Netherlands, Norway, Russia, Spain, Sri Lanka (formerly Ceylon), Sweden, South Africa and the United States are all possibilities which come to mind, and there are probably others.

Virtually any item relating to contemporary naval aircraft is likely to be of use, however small. The jigsaw will never be complete, but a surprising amount has already been pieced together, and there must be other sources as yet untapped.

Anyone who can help in any way should write direct to Ray at 26 Monks Horton Way, St. Albans, Herts AL1 4HA.

#### Answers required

On 19 October 1932, Vickers Vellore K2133 arrived at Farnborough from Martlesham Heath for a series of flights in connection with the Cabot mail pick-up system, returning the following day. On 28 June 1933, it returned for the same purpose and remained at the RAE until 14 August. Tiger Moth K2567, normally used for instrument trials, was also used for the Cabot system in 1933.

Presumably, this was a heavy-duty variant of the army co-operation squadrons' message pick-up system. Since mail trains picked up and dropped off mail en route, perhaps the same idea was suggested for aircraft. Vellore K2133 had started life as a mail carrier and would have been G-ABKC. If the type had been a Victoria, one could imagine the cabin lined with desks while Post Office staff sorted the mail picked up, preparatory to dropping bags off en route, just like the mail trains!

Another odd experiment was allotted to Hart K1436. In May 1933, it was recorded as being used for cathode ray direction finding equipment. This sounds like a pre-historic ASV or H2S. Fairey IIF K1698 was also involved in this experiment during July 1933. Any clues?

Tiger Moth K5055 presents some problems. It was recorded in the contracts register as a Gipsy Major Moth, in the deliveries register as a Tiger Moth but elsewhere as a Queen Bee. Since it ended up in India, one can presumably ignore the final one - unless it was used for radio control trials prior to shipment. The Putnam on D.H. lists it as Queen Bee c/n 5116, completed as a Moth Major for the Indian Air Force. If so, when was it shipped and what did they do with it until it crashed in January 1941? Was it in fact the Indian Air Force or the Indian Government that was the customer. If the latter, this could be an explanation for its failure to appear in RAF India records.

#### Egyptian Ansons

John Havers has also been digging around in *The Anson File* and has made the following comments.

#### Egyptian Civil Anson I/Avro XIX:

LT283 was packed on 17.8.43 and shipped on 25.9.43 and seems likely to have become SU-ACX. It was DBR by Stirling PJ947 at Lydda on 27.10.45 (Pilot P/O Owen). Possibly named *Suez*.

LT285 was also packed and shipped as above. Likely to have been SU-ACY. Grounded due to glue failure of the box spar of Ansons in Egypt on 4.1.46. Returned to RAF 22.8.46 as part of a deal to replace with Avro XIXs and re-purchased for £7,700.

LT251 shipped from UK approx 13.10.43. Likely to have become SU-ADB. Crashed on landing, Baghdad, 28.12.45; pilot Koffer.

DG523?, LT160. Offered to Misr ex-UK in Jan 1945 but following two ex-Middle East stocks taken instead.

DG770, DJ283 became SU-ADH and SU-ADI but order not confirmed. Fate as for LT285/SU-ACY.

SU-ADI leased from UK, signed 11.8.45; Believed flown as PH8-06 9.1.46. PH806 (1285) was at Avro and available for collection and left Croydon 23.2.46 flown by BOAC crew. (PRO ref BT217/1902)

4.5.46: G-AHKC, HKD and HKE (1327 - 1329) accepted by Airwork and left on delivery 7.5.46 (BT217/1902).

SU-ADN leased from UK. Damaged 10.1.47 at Almaza when BOAC Lodestar G-AGBR taxied into it. New port wing was needed to complete repair. Insurance value of £10,000 paid out and so lease charges to Misr waived. A replacement was offered from ex-BEAC G-AHIB, G-AHIE or G-AHII but not taken up. Aircraft later disposed of in error as it was owned by the insurance company - see SU-ADO for full story.

SU-ADO leased from UK and handed over at Cairo 16.5.46. Due to Misr deciding that they were unsatisfactory, lease terminated 19.5.47 and aircraft stored. Registration cancelled 7.5.48. It was then intended that BOAC Cairo should prepare it for return to Ringway and it was re-registered G-AHKE (marks not painted on). UK registration cancelled 31.5.48 as it was decided to dispose of it locally through the British Stores Disposal Mission. Sold about 18.11.48 with SU-ADN (damaged - see above), SU-ADP and SU-ADQ for £E1,400 for the lot to an Egyptian customer. Some possibility that they were taken on by the REAF which had been interested in purchasing them in Feb 1948.

SU-ADP made a wheels-up landing an Ferdum airfield, Ismailia on 16.7.46, following the explosion of an air bottle just forward of the pilot while en route Beirut - Almaza. Fate as SU-ADU.

SU-ADQ as for SU-ADO.

## Contracts (Part 2)

J8428	Siskin IIIA	1	A Whitworth	716958/26		
J8429 - J8458	Fighter III DC	30	Bristol	733811/26	30/26	
J8459	Partridge	1	Boulton & Paul	693450/26	9/26	
J8460 - J8482	D.H.9A DC	23	Westland	730775/26		
J8483 - J8494	D.H.9A DC	12	Parnall	730980/26		
J8495	Wapiti	1	Westland	720155/26	26/27	Prototype
J8496 - J8595	Avro 504N	100	Avro	741256/26(1)	3/27	
J8596	Witch	1	Westland	716899/26	23/25	
J8597 - J8621	Horsley II	25	Hawker	737401/26 & 842148/28		
J8622 - J8622	Hare	2	Handley Page	716900/26	23/25	
J8623 - J8672	Siskin IIIA	50	A Whitworth	751234/27		
J8673	Goral	1	Gloster	734014/26	26/27	
J8674	Goring	1	Gloster	781802/26	23/25	
J8675	Atlas	1	A Whitworth	735668/26	3/27	Rebuilt ex G-EBLK
J8676 - J8775	Avro 504N	100	Avro	741256/26 (2)		3/27
J8776	Hawfinch	1	Hawker	755752/27	9/26	
J8777 - J8801	Atlas I AC	25	A Whitworth	750052/27		
J8802 - J8803	Ajax	2	A Whitworth	743656/27		
J8804	Gamecock II	1	Gloster	735063/26		
J8805 - J8815	Hyderabad	11	Handley Page	763672/27	15/27	
J8816 - J8821	D.H.60X	6	D.H.	761449/27		
J8822 - J8863	Siskin IIIA	41	Bristol	772528/27		
J8864 - J8905	Siskin IIIA	42	Blackburn	772529/27		
J8906	Vellore	1	Vickers	612095/25	34/24	
J8907 - J8914	Virginia IX	8	Vickers	748566/27		
J8915 - J8929	Victoria IIIA	15	Vickers	765521/27		
J8930	Cierva C-8L	1	Avro	698109/26	11/26	
J8931	Cierva C-9	1	Avro	698108/26	4/26	
J8932	Horsley	1	Hawker	707158/26		All metal prototype
J8933 - J8974	Siskin IIIA	42	Gloster	785955/27		
J8975 - J9024	Avro 504N	50	Avro	741256/26(3)	3/27	
J9025 - J9028	Fox I	4	Fairey	713440/26 & 765522/27		Deld as Mk IA
J9029	Vickers Type 127	1	Vickers	786338/27		Wibault 12C2
J9030	Hinaidi	1	Handley Page	786340/27		
J9031 - J9036	Hyderabad	6	Handley Page	790318/27		J9033 deld as Hinaidi
J9037	Aries	1	A Whitworth	725892/26	20/25	
J9038	Cierva C.10	1	Parnall	642578/25	4/26	
J9039 - J9050	Atlas I AC	12	A Whitworth	750052/27		
J9051	Bullpup	1	Bristol	754492/27	F.20/27	
J9052	Hart	1	Hawker	762629/27	12/26	Hart prototype
J9053 - J9077	Fairey IIIIF	15	Fairey	794752/27	27/27	Blt as Mk.IVC
J9078 - J9102	Wapiti I	25	Westland	790464/27		
J9103 - J9121	D.H.60	19	D.H.	806527/27		Cirrus Moths
J9122	Vickers Type 151	1	Vickers	813868/27	F.20/27	Also c/n 881544/28
J9123	Hawker F.20/27	1	Hawker	813870/27	F.20/27	
J9124	Westland F.20/27	1	Westland	813869/27	F.20/27	
J9125	Gloster F.20/27	1	Gloster	787177/27	F.20/27	
J9126	Clive I	1	Handley Page	786340/27	30/27	
J9127	Hound	1	D.H.	819298/28		
J9128	Ajax II	1	A Whitworth	807413/27	20/25	
J9129	Atlas GP	1	A Whitworth	821309/28		
J9130	H.P.38	1	Handley Page	790320/27	B.19/27	Repl by c/n 819857/28
J9131	Vickers Type 150	1	Vickers	819856/28	B.19/27	
J9132 - J9174	Fairey IIIIF	43	Fairey	809923/27	27/27	Mk.IVC/IVM (last 20)
J9175	Avro 504R	1	Avro	787175/27		
J9176 - J9181	Sidstrand II	6	Boulton & Paul	789943/27 (1)		
J9182	Avian III	1	Avro	787176/27		
J9183	Antelope	1	Avro	762628/27	12/26	
J9184	Canberra	1	D.H.	791878/27	B.22/27	Assembled by Gloster
J9185 - J9189	Sidstrand II	5	Boulton & Paul	789943/27 (2)		Blt as Mk.III
J9190 - J9236	Siskin IIIDC	47	A Whitworth	823022/28	1/28	

J9237 - J9246	Wapiti II	10	Westland	813644/27		
J9247	Wapiti IIA	1	Westland	805331/27		
J9248	Gamecock	1	Gloster	827757/28		Orion testbed
J9249	Avro 613	1	Avro	841675/28	B.19/27	Not built
J9250	Victoria IV	1	Vickers	752716/27		
J9251	Pterodactyl IA	1	Westland	730449/27	23/26	
J9252	Wizard I	1	Westland	841676/28		PV to F.20/27
J9253 - J9290	Avro 504N	40	Avro	837618/28		
J9293 - J9303	Hyderabad	11	Handley Page	790318/27		Last 6 blt as Hinaidi
J9304 - J9330	Siskin IIIA	27	Bristol	855125/28		
J9331 - J9352	Siskin IIIA	22	Gloster	855126/28		
J9353 - J9379	Siskin IIIA	27	Vickers	855124/28		
J9380 - J9414	Wapiti IIA	35	Westland	834731/28		
J9415 - J9434	Avro 504N	20	Avro	837618/28		
J9435 - J9477	Atlas TM	43	A Whitworth	837620/28		
J9478	Hinaidi II	1	Handley Page	831687/28	14/28	Prototype Mk.III
J9479	Fairey Postal	1	Fairey	826964/28	33/27	Long Range Monoplane
J9480	Bulldog II	1	Bristol	872437/28		Mk.II prototype
J9481 - J9514	Wapiti IIA	34	Westland	880023/28 (1)		
J9515	Fox I	1	Fairey	831686/28		
J9516 - J9564	Atlas I AC	49	A Whitworth	837619/28		
J9565	Westland F.29/37	1	Westland	881545/28	F.29/27	
J9566	Vickers Type 161	1	Vickers	881544/28	F.29/27	
J9567 - J9591	Bulldog II	25	Bristol	878476/28	17/28	
J9592 - J9636	Wapiti IIA	45	Westland	880023/28 (2)		
J9637 - J9681	Fairey III F Mk IV	45	Fairey	897418/29	27/27	
J9682	Hornet	1	Hawker	887063/28	F.20/27	
J9683 - J9707	Avro 504N	25	Avro	890992/28		
J9708 - J9759	Wapiti IIA	52	Westland	915859/29		Last blt 35 as Mk. V
J9760 - J9766	Victoria V	7	Handley Page	921962/29	7/29	
J9767 - J9770	Sidestrans III	4	Boulton & Paul	921961/29	10/29	
J9771	D.H. 77	1	D.H.	870979/28	F.20/27	
J9772	Tomtit	1	Hawker	878972/28		Prototype
J9773 - J9782	Tomtit	10	Hawker	910623/29		
J9783	Avian IVM	1	Avro	924141/29		
J9784 - J9831	Fairey III F	48	Fairey	933798/29	27/27	
J9832	Gloster T.C.33	1	Gloster	935509/29	C.16/28	
J9833	H.P.43	1	Handley Page	935510/29	C.16/28	
J9833	H.P.51	1	Handley Page	259448/33	C.26/31	Rebuilt H.P.43
J9834	Fox IIM	1	Fairey	878071/29		
J9835 - J9871	Wapiti IIA	37	Westland	933774/29		
J9872 - J9896	Siskin IIIA	25	Vickers	937776/29		
J9897 - J9911	Siskin IIIA	15	A Whitworth	937777/29		Deld as airframes
J9912 - J9921	Siskin IIIA	10	Gloster	937778/29		
J9922 - J9932	D.H. 60M	11	D.H.	912850/29	4/29	
J9933 - J9947	Hart	15	Hawker	922931/29	9/29	
J9948 - J9949	Clive II	2	Handley Page	911523/29	3/29	
J9950	P.32	1	Boulton & Paul	796097/27	B.22/37	
J9951 - K1037	Atlas I AC	87	A Whitworth	933799/29		
N9450 - N9499	Fairey III D	50	Fairey	21223/20	DofR 10	
N9500 - N9536	Walrus	36	Westland	354667/20		
N9536 - N9541	Dart	6	Blackburn	194764/21	3/20	
N9542 - N9561	Dart	20	Blackburn	352621/22	6/20	
N9562 - N9566	Seagull II	5	Supermarine	357965/22	20/21	
N9567 - N9578	Fairey III D	12	Fairey	375547/22		
N9579 - N9590	Blackburn	12	Blackburn	405109/23		
N9591 - N9602	Bison	12	Avro	402281/23	16/23	
N9603 - N9607	Seagull I	5	Supermarine	402282/23	13/23	
N9608 - N9610	Plover	3	Parnall	369337/22	7/21	
N9611 - N9613	Flycatcher	3	Fairey	369338/22		
N9614 - N9619	Flycatcher	6	Fairey	405108/23		
N9620 - N9629	Dart	10	Blackburn	452228/23	3/20	
N9630 - N9635	Fairey III D	6	Fairey	426355/23		Lion engines
N9636 - N9641	Fairey III D	6	Fairey	426357/23		Eagle VIII engines
N9642 - N9654	Seagull III	13	Supermarine	425115/23	13/23	

## BOOKSHELF

**Military Aviation in Malta 1915 - 1993**  
by John F Hamlin - GMS Enterprises - £19.95

Malta's central position in the Mediterranean has been a mixed blessing. It has brought trade and prosperity and, inevitably, invaders who coveted the island's availability to intercept the trade routes.

The final lot of invaders arrived during the Napoleonic Wars and remained for the next century-and-a-half. The Royal Navy found Grand Harbour to be an ideal base for the Mediterranean Fleet and until 1940 the Maltese enjoyed security as well as a thriving economy catering for the Fleet and the attendant regiments that manned the defences of the island. This unlikely combination bred a lasting and mutual loyalty which can still be found to this day.

When the RNAS looked at Malta during World War One, it decided on a flying boat base at Calafra. Malta was not airfield country and there were few successful forced landings there unless the aircraft was within gliding distance of an airfield. At first, Mosta racecourse served but a permanent RAF base was built at Hal Far, not far from Calafra, and opened in January 1923.

Malta-based flying boats helped escort shipping in the Central Mediterranean and some F.3 were built in the naval dockyard. With the end of the war, Malta remained the main base for the Mediterranean Fleet and disembarked FAA aircraft were common while Calafra, which eventually acquired its initial K, was home to No.202 (Flying Boat) Squadron, which for many years had seaplanes instead of flying boats.

The Abyssinian crisis brought RAF squadrons to Malta with Demons and Vildebeests but these departed again and on the outbreak of war, Malta was virtually undefended in the air. The entry of Italy found an enemy coastline 60 miles away but fighters began to arrive in small numbers, reinforcing the famous Sea Gladiators that had been found in packing cases as FAA reserves.

The overall history of Malta during World War Two is well-known and its defence against all the odds was an epic of what a determined population could do when it refused to admit defeat.

Luqa airfield had been opened just in time and the civil field at Takali, finally built to keep Italian civil aircraft out of Hal Far, was also available. All that was needed were aircraft and these remained in short supply due to the long and dangerous lines of communication and the constant attacks of the Italian air force, soon boosted by the Luftwaffe.

It was not until the final defeat of the Axis armies at El Alamein that the Libyan coast was cleared and supplies could be delivered in safety. Later Malta was an essential base for aircraft covering the landings in Sicily and the RAF and Royal Navy remained until March 1979.

John Hamlin's book is an excellent account of the years in which British aircraft flew from Malta. Each airfield and station, seven of them, gets a chapter to itself. In its 254 pages, there are numerous photographs of airfields and aircraft; even Luqa's notorious quarry into which aircraft fell with depressing regularity gets its photograph displayed.

A well-produced volume which is a valuable addition to the bookshelf.

**Bomber Command Losses, 1941** by W R Chorley  
Midland Counties £12.95

The second volume in Bill Chorley's catalogue of lost Bomber Command aircraft covers 1941, listing 1,515 items in date order. It is a valuable addition to the reference material on that period.

As in the previous volume, each loss is detailed by type, serial, unit, code letters and target. There then follows details of the crew and a brief record of what occurred. Oddly, those that are shown as "lost without trace" are in a relatively small minority, dedicated research by historians both in the official records and on the ground both in the UK and on the Continent having pinned down the final resting places of a large number of aircraft. Most of those that remain missing probably ended up in the North Sea without being able to send out a SOS.

Few can contemplate the amount of work that has to go into such a compilation. There are basic, and original, sources but these are just the starting point. Ask anyone who has compiled an Air-Britain File!

**World Encyclopaedia of Aircraft Manufacturers**  
by Bill Gunston - PSL - £19.99

Encyclopaedias of Aviation tend to have a bad name since as soon as one wants to find something out, it fails to appear! Some are, to say the least, thin on information and seem to redefine the term "encyclopaedia".

We had a photograph of a Keystone Puffer on page 20 of the last issue of *Aeromilitaria* which we failed to find under Keystone in various places. If this volume had been available at that time, we would have found that prior to 8 March 1927, Keystone was called Huff-Daland and they produced the Puffer prior to the change of name.

With 3,000 manufacturers listed, it becomes clear why nobody can remember them all. Getting them all into a handy size of book means that the information in each entry has to be basic but it is enough to put the reader on the right track. Next to Huff-Daland is Huffer, which built five prototypes between 1923 and 1928 - and we cannot remember any of them....

To break up the text, there are around 300 photographs of aircraft, not all them household words. We had all but forgotten the Kaiser-Fleetwings XBTK-1 (a rival to the Skyraider) and found our favourite Magni Vale of 1937 which appeared to have been designed for indoor air shows, such was its beautiful finish. It was too nice to be taken out on to dirty airfields.

Someone will be sure to claim some manufacturer is missing but we will settle for this as a valuable source of reference until something more comprehensive comes along - which is unlikely.

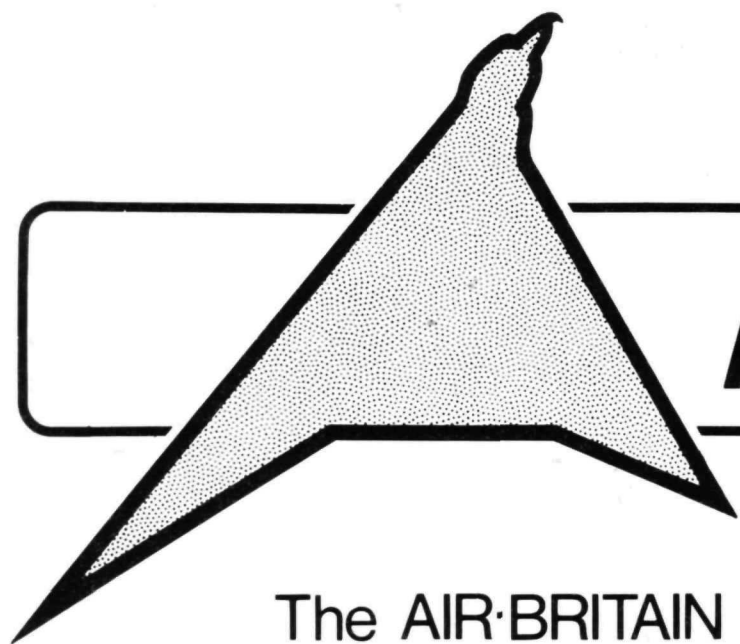
**First Things First**, by Eric Smith  
Ian Henry Productions - £15.95

This is a history of Hornchurch from its opening as Suttons Farm in 1915 to the airfield's closure in 1962. Although *Raiders Approach* in 1956 was a detailed account, many years of research have passed since then so this is a welcome addition.

The 186 pages are in a soft cover and the ninety photographs could have been reproduced better. The use of two different sizes of type on one page is rather disconcerting; one feels a lot of scissoring and paste went into the production but it is a good read.







# AEROMILITARIA

The AIR·BRITAIN Military Aviation Historical Quarterly



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Edited by James J Halley and Ray Sturtivant

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As this issue is closed for press, we can confirm that *Scorpions Sting* is now available from the Sales Dept. This is a 160-page hardback history of No.84 Squadron (with 160 photographs) relating the story of one of the RAF's elite units. After going overseas in 1917, No.84 has never returned but has seen constant service in France, the Middle East, Greece, the Far East and currently in Cyprus.

We enjoyed meeting a number of our readers at the Fly-In at Wellesbourne Mountford, a wartime Wellington OTU. It is now reduced to one runway and industry has encroached on its domestic sites.

The Annual General Meeting is on 24 September 1994 at the Royal Air Force Museum. There is a free entry ticket on the Annual Accounts which went out with the summer issue of *Air-Britain Digest*. Although, by law, it has to be a formal meeting of our Company, it is also a chance for members to ask questions about our Association and meet your elected Councillors.

### In this Issue

The Blackburn Firebrand was not one of Britain's most successful aircraft, despite going into service in one of the toughest environments that aircraft face, operating from the deck of a carrier in all weathers.

Like all naval aircraft, the surviving records leave a lot to be desired and much of the information has been pieced together from a wide variety of sources, not least the log-books of naval aviators. Doubtless there is a lot more to be found, given the odd century of study, so any additions that readers can make would be greatly appreciated.

The Firebrand has taken so much room that we have had to miss out our Picture Pages but have squeezed in another page of Contracts, showing what was ordered under each.

### Cover Photographs

Since the Firebrand is the main subject of this issue, we have picked two more photos of the type to grace our front and back covers.

Both are Blackburn's own photographs of EK601 which was the first production Firebrand IV and it is shown flying from the Blackburn factory prior to delivery for trials

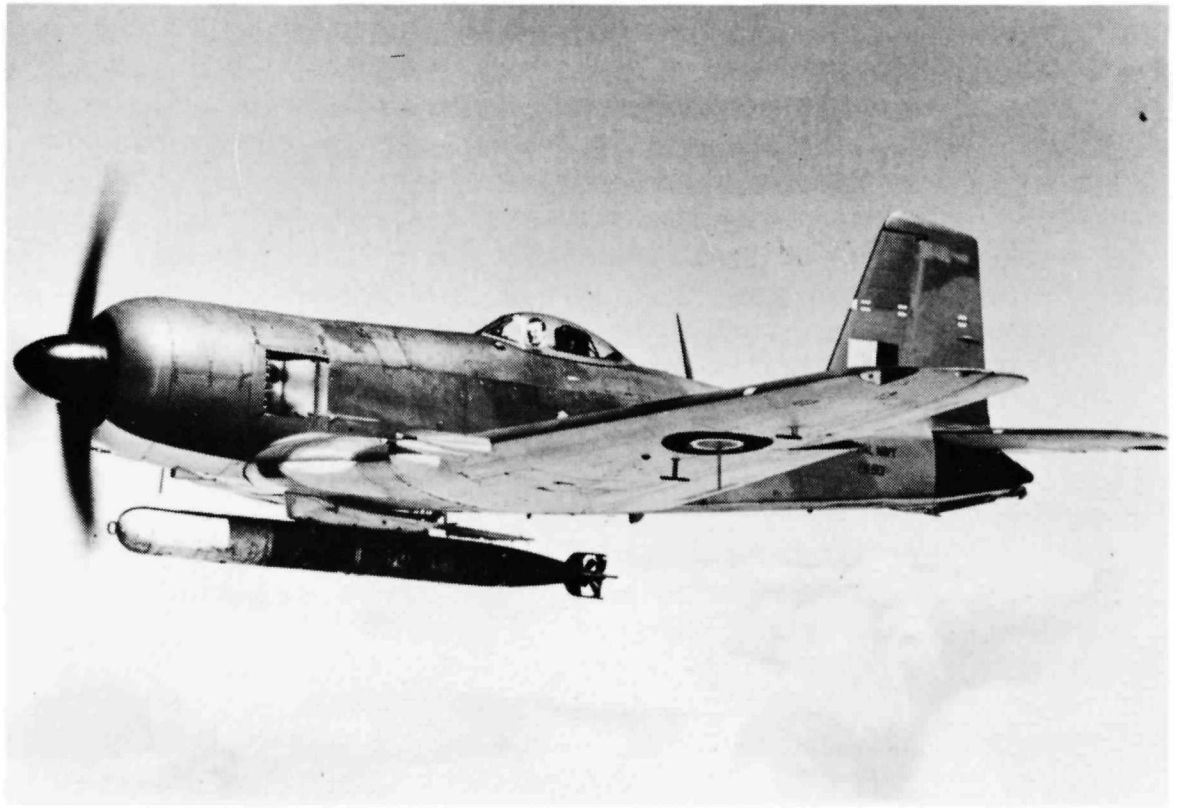
### Puzzle Pic

Last issue's airfield was something of a deception. It was Oakington, the same as in the previous issue. Admittedly, it has been turned upside-down but it does illustrate the major changes that took place within a few years on many grass RAF airfields. Although the perimeter remains recognisable, runways and dispersal pans have overlaid the field.



## BLACKBURN

## FIREBRAND



*EK601, the first prototype Firebrand TF.IV*

In July 1939, Specification N.8/39 was issued for a two-seat fleet fighter to replace the Skua and Fulmar. To conform with Admiralty doctrine at this time, an observer was required to handle the navigation and communications tasks. However, still involved in the Skua/Roc combination, the Admiralty wanted a four-gun turret version and N.9/39 covered this requirement.

With hindsight, what the Navy really needed was a Hurricane with a hook but this was not thought necessary. The Navy placed great reliance on ship's guns and confidently expected any intruding aircraft to be blown out of the sky as soon as it appeared. Fighters were for escorting strike aircraft and searching for reconnaissance aircraft before they could sight and identify the fleet. In the event of an attack on a carrier, her fighters would be struck down to the hangars in case of damage from splinters!

A speed of 275 knots was envisaged with a flight endurance of six hours. Eight Browning machine guns or four 20 mm cannon was the alternative armament but the turret version was of the classic Defiant/Roc lay-out, with only the four guns in the turret as offensive armament.

Both specifications were later superseded but the Firefly was derived from N.9/39 when it was re-issued as N.5/40. N.8/39 was re-issued as N.11/40, by which time the Norwegian campaign had caused a rapid re-think of the role of fighters aboard carriers.

The ineffective use of the Skua as a combined dive-bomber and fighter had become evident. A top speed of 225 mph was not going to catch anything but a flying boat and German bombers that were encountered had an unfortunate habit of opening their throttles and leaving the "fighters" far behind. A small number of Gladiators with hooks made little more impression. The Rocs proved completely useless as fighters.

When N.11/40 appeared, the requirement had become one for a single-seat fighter with a 400 mph top speed and a four-hour duration. Four 20 mm cannon would be fitted. Hawker submitted its P.1009 design but Blackburn was awarded a contract for three B-37 prototypes. These would be powered by a new Napier Sabre, itself not without teething problems.

Contract 156337/40 called for three prototypes, with serials DD804, DD810 and DD815. The Blackburn design team began work on what was to be a large single-seat fighter and DD804 first flew on 27 February 1942. It was fitted with 2,305 hp Sabre III engine driving a three-blade metal variable-pitch propeller.

In appearance, the Firebrand (officially named on 11 July 1941) was a handsome aircraft and showed promise. Only the pilot's head revealed that this was a heavyweight fighter and not really suitable for dog-fighting. Nevertheless, its speed and range would make it useful for intercepting enemy aircraft well away from its carrier, especially now that the Admirals were coming round to using radar and fighter direction to home aircraft on to their targets. Previously, they had been reluctant to switch on anything that might be picked up by the enemy and thus reveal the fleet's position.

The wings were folded manually outboard of the widely-spaced undercarriage legs. Its 20 mm cannon had 200 rounds apiece.

Initial test flights were soon followed by delivery of the prototype to Boscombe Down on 24 March 1942. Trials at the A & AEE were detailed in *Aeromilitaria* 2/87 and do not need repetition here. Suffice it to say that the top speed was found to be 344 mph at 20,000 feet.

The second prototype, DD810, flew on 15 July 1942, being the first with full armament, and was used for naval trials. It made the type's first deck landing on *Illustrious* in February 1943. The third prototype, DD815, was assigned to armament trials.

In September 1942, everything changed. The Seafire was in service and doing most of what the Firebrand was intended for, although it was short on range. But it could successfully take on shore-based enemy fighters which nobody believed the Firebrand could do. The obvious answer was to scrap the whole programme but the Admiralty had a better idea.

In essence, it was not a bad notion. The sturdy airframe would be fitted with an 18-inch torpedo which could be delivered more safely than with the lumbering Barracuda. It could also be fitted with bombs and rocket rails and was very similar in concept to the post-war Skyraider which had such wide success as a strike aircraft.



*DD804, the first prototype Firebrand*

At this point, the Ministry of Aircraft Production allotted Sabre production to Typhoons and the Firebrand had to find another power plant. DD810 was adapted to take a torpedo and was renumbered NV636. It flew in this form on 31 March 1943 as the Firebrand II.

The first batch of production aircraft, DK363 to DK371, were all F.Mk.Is and the first flew on 29 July 1943. They were all used for development flying since the Sabre-engined Firebrand was at the end of its development life.

Specification S.8/43 was issued to cover the re-engining of the Firebrand and DK372 and DK373 were fitted with 2,400 hp Bristol Centaurus VII radials driving four-blade Rotol propellers. They were designated TF Mk.III's under Blackburn's Type No. B-45. Various improvements found during the trials of the earlier aircraft were incorporated. DK372 first flew with a Centaurus on 21 December 1943.

*DD810, the second prototype*



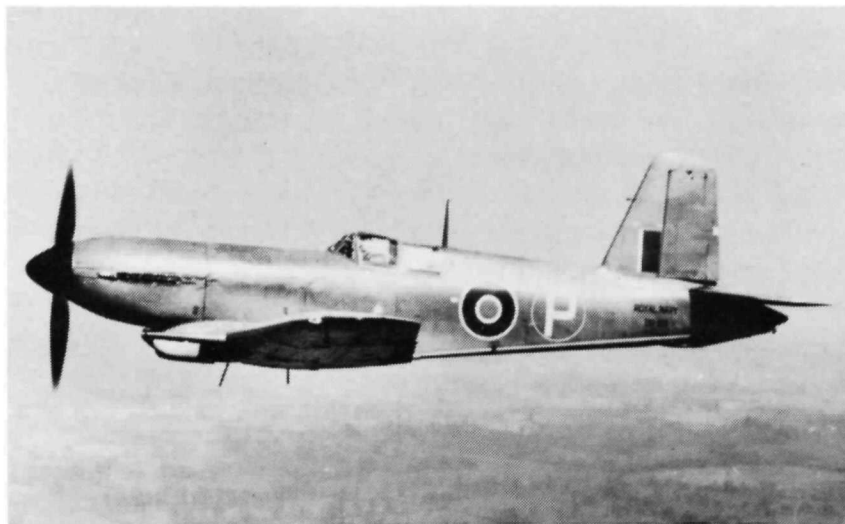
Handling trials once more found that the Firebrand would not be safe to operate from carrier decks since it swung mightily on opening up from a baulked approach and much work was done in remedying this defect.

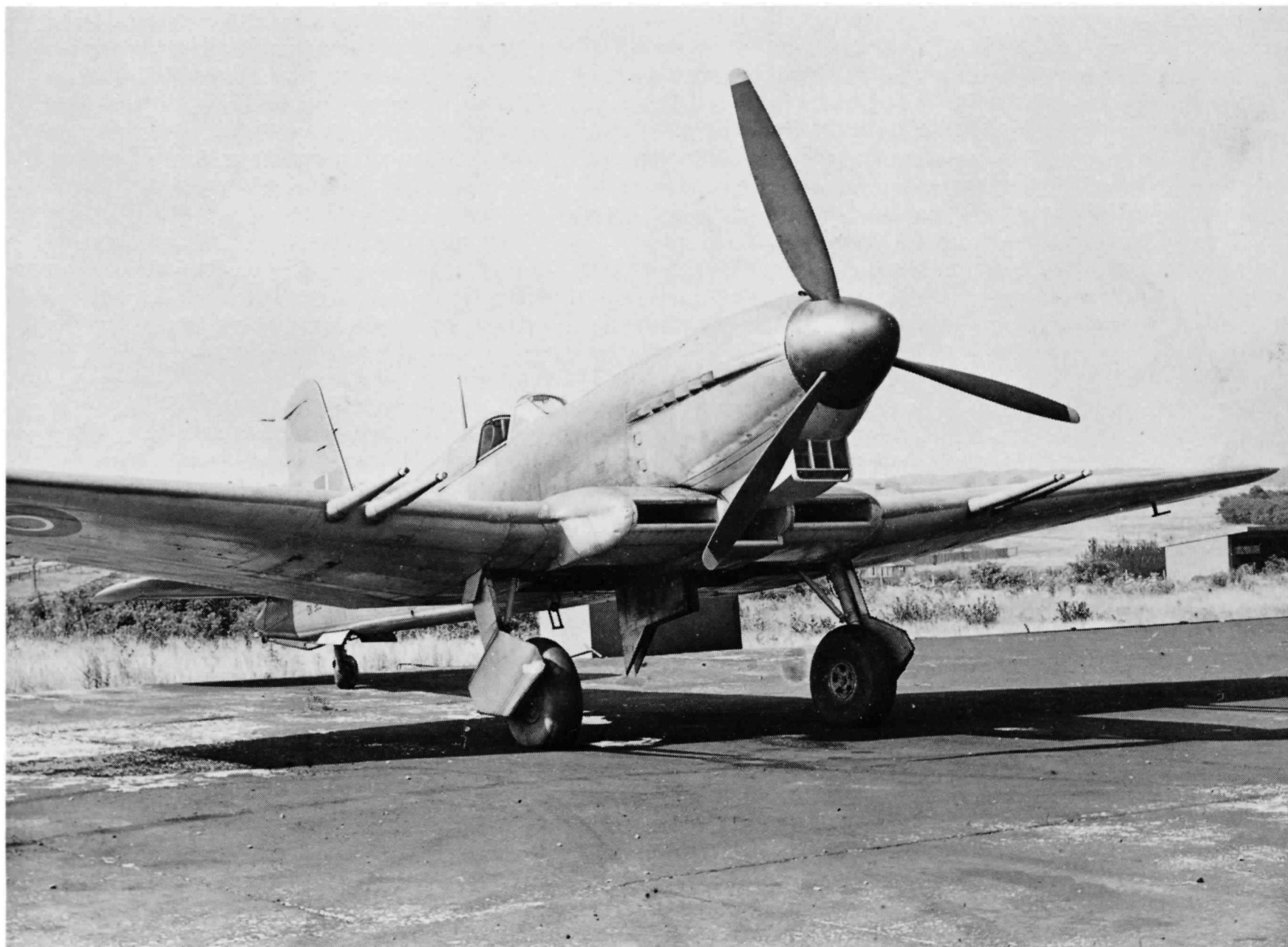
A production batch of 27 TF.III's, DK386 to DK412, began to appear in November 1944 fitted with Centaurus IX's and were used for trials purposes, none going into unit service.

The B-46 incorporated many modifications and became the TF.IV. It had a larger fin to cope with the type's tendency to swing on take-off, offset 3 degrees to port. It could carry an 18-inch torpedo, or two 2,000-lb bombs or sixteen 60-pounder rockets. One welcome development was the fitment of a teardrop canopy which gave an excellent field of view.

EK601, the first production TF.IV, flew on 17 May 1945 and on 1 September 1945, No.813 squadron reformed at Ford with an establishment of 15 Firebrands. Service trials had been carried out by No.708 Squadron at Lee-on-Solent.

*DD815, the third prototype Firebrand*





*A production Firebrand TF.I, believed to be DK365, displays its purposeful lines*

The Firebrands did not go aboard a carrier before No.813 was disbanded on 30 September 1946. Reformed on 1 May 1947, No.813 finally managed to put to sea in *Illustrious* for deck-landing training in September 1947 and a few weeks later became part of *Implacable's* complement.

By then, the TF.5 had appeared with some improvements. Fitted with hydraulically-boosted aileron controls, it became the TF.5A.

In May 1953, No.813 began to re-equip with Wyverns, the Firebrand being finally replaced in August. In the meantime, No.827 Squadron had reformed at Ford on 13 December 1950 and flew from *Illustrious* and *Eagle* before disbanding on 3 December 1952.

By the time Firebrands were embarked in carriers, the torpedo had declined as an anti-shipping weapon. Increasingly, strike aircraft adopted the rocket projectile and the bomb as their main offensive armament. However, both Firebrand squadrons continued to train with torpedoes while the Air Torpedo Development Unit pressed on with torpedo development.

There was no opportunity for the Firebrand to become involved in actual operations. Although Royal Navy carriers were active off Korea, Fireflies, Sea Furies and Seafires saw all the action. For most of their career, Firebrands operated from shore bases.

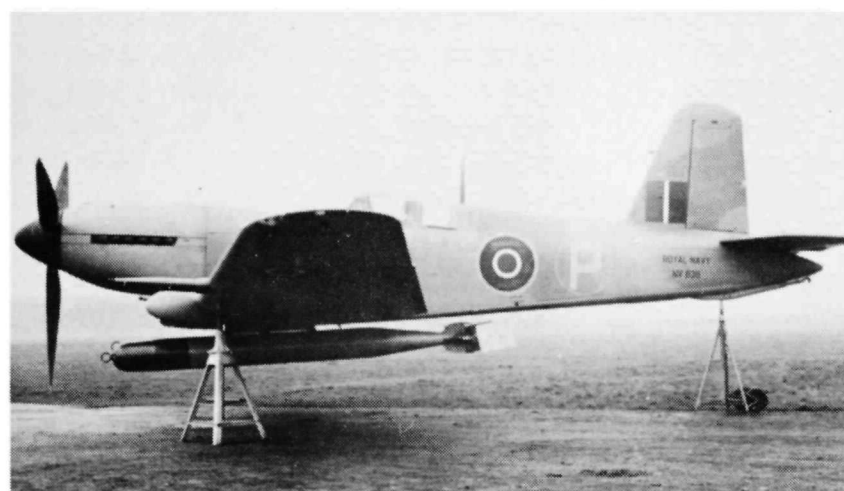
The Firebrand had a very long gestation period due to changes in policy and equipment. It was never cherished by its pilots and by the end of its thirteen-year period of design, experimentation and service, had barely reached a satisfactory standard of carrier operation. It was a handful and replacement by Wyverns was a relief to all concerned.

Then they flew the Wyvern and it all began again.....

*DK367 testing rocket projectiles at A&AEE*



*NV636, the TF.II prototype, with torpedo in place*





*Firebrand TF.5 EK745 of 827 Squadron hits the barrier aboard Eagle on 30 October 1952*

### Specification

Engines: 2,305 hp Napier Sabre III (Mks I, II)  
 2,400 hp Bristol Centaurus VII (early Mk III)  
 2,520 hp Bristol Centaurus IX (early Mks.IV and early Mk.V)  
 2,520 hp Bristol Centaurus 57 (later Mk.T and 5A)

Span: 50 ft (Mk.I); 51 ft 3½ in (other marks)

Span folded: 13 ft 6 in (Mks I, II, III)  
 16 ft 10 in (Mks 4, 5, 5A)

Length: 38 ft 2 in (Mk.I, II)  
 37 ft 7 in (Mk.III)  
 38 ft 9 in (Mks.4, 5, 5A)

Height: 13 ft 4 in (Mks.I, II)  
 12 ft 10 in (Mk.III)  
 13 ft 3 in (Mks.4, 5, 5A)

Empty weight: 11,100 lb (Mks I, II)  
 11,375 lb (Mk.III)  
 11,089 lb (Mk.4)  
 11,835 lb (Mk.5, 5A)

All-up weight: 13,643 lb (Mk.I)  
 15,048 lb (Mk.II)  
 15,753 lb (Mk.III)  
 15,671 lb (Mk.4)  
 17,500 lb (Mk.5)  
 16,700 lb (Mk.5A)

Max speed: 353 mph (Mk.I)  
 355 mph (Mk.II)  
 319 mph (Mk.III)  
 342 mph (Mk.4)  
 340 mph (Mk.5)  
 335 mph (Mk.5A)

Service ceiling: 32,500 ft (Mk.I)  
 29,400 ft (Mk.III)  
 34,000 ft (Mk.4)  
 28,500 ft (Mk.5)  
 31,000 ft (Mk.5A)

Range: 805 miles (Mk.I)  
 770 miles (Mk.II)  
 530 miles (Mk.III)  
 745 miles (Mk.4, 5A)  
 740 miles (Mk.5)

The above are performances found during trials at the Aeroplane & Armament Experimental Establishment, Boscombe Down. In service, performance was degraded by the wear and tear inevitable in carrier operations. Modifications to armament could also entail additional drag as did deformation of cowlings, etc. during normal servicing or through minor accidents

Our thanks to Mike Hooks and Richard Riding for their help in illustrating this article.



*Firebrands of No. 827 Squadron aboard Eagle in October 1952*

**Three Blackburn B.37 Firebrand F.I prototypes built under Contract No 156337/40/C.20b to Spec N.11/40**

- DD804 FF Leconfield 27.2.42 by F/Lt A Thompson; AAEE 23.6.42 for performance testing; flown at Boscombe Down on a visit from *Argus* in the Clyde 25/26.6.42; Blackburn, Brough 28.7.42; AAEE 29.11.42; to RAE 18.1.43; AAEE 21.1.43; Napier, Luton 20.5.43 for engine installation tests
- DD810 FF 15.7.42; Blackburn, Brough 31.7.42 - 5.10.42; RN for DLT 11.10.42; hit wire cable on approach; forcedlanded just short of airfield circa 10.42 - 11.42 (before 6.11.42); DLT on *Illustrious*, based at Machrihanish 2.43; Engine failed due to fractured oil pipe; forcedlanded near Brough [date?]; rebuilt as TF.II prototype NV636
- DD815 Deld AAEE 15.9.42 for armament trials; Blackburn, Brough by 31.12.42; test flight by 778 Sqn Arbroath 3.2.43; landed on *Illustrious* 9-10.2.43; to AAEE 5.43 - 5.44 for armament trials as TF.II prototype by 5.44; SOC 26.6.45; scrapped at Sherburn-in-Elmet

**One Blackburn B.37 Firebrand TF.II prototype rebuilt from DD810 and numbered NV636**

- NV636 FF 31.3.43; FF with torpedo 2.4.43; SOC 26.6.45 and deld to Sherburn for makers trials

**50 Blackburn B.37 Firebrands laid down as TF.I to Spec N.11/40 under Contract No CttS/Acft/981. DK372 and DK373 completed as TF.III (B.45), DK374 to DK385 as TF.II and DK386 to DK412 as TF.III (B.45)**

- DK387, 393, 396-401, 403-405, 407-412 2,520-hp Centaurus XI, remainder 2,500-hp Centaurus VII

- DK363 FF 7.42; deld 28.6.43; to Napier, Luton 29.7.43 for power plant trials; Napier 4.44 for tropical intake trials and in 7.44 for air cleaner tests

- DK364 Retained Blackburn, Brough 24.8.43 for trials under Contract No Acft/2406; E&R Flt RAE 29.2.44 - @4.44 for AYD tests; retd Brough 11.9.44
- DK365 Deld AAEE 29.7.43 for intensive flying trials; had partial engine failure at 24,000 ft and complete engine failure at 100 ft; forcedlanded successfully on airfield surrounded by oil, 23.9.43
- DK366 Deld AAEE 13.8.43; RAE 4.5.44; while testing arrestor gear, hook broke away and tail oleo broke off, 3.10.44
- DK367 Deld AAEE 30.8.43 for air firing trials and underwing rockets; accidentally touched lever taxiing and u/c collapsed, 7.11.43; damaged in ground test of RPs, Shrewton, 29.1.44; port u/c collapsed taxiing at Boscombe Down, 7.3.44
- DK368 To Spec N.11/40P.1. Retained by Blackburn, Brough, 21.4.44; deld 20.5.44
- DK369 To Spec N.11/40P.1. Loaned to AAEE 22.3.44; deld RN 31.10.44; 708 Sqn Lee-on-Solent 4.11.44; belly-landed just N of airfield, 15.11.44 by CO; Blackburn, Sherburn 1.12.44; SOC 22.8.45 and scrapped, Sherburn
- DK370 Deld Lee-on-Solent 18.9.44 for RN evaluation; AAEE Boscombe Down to 708 Sqn Lee-on-Solent 30.9.44 - @2.11.44
- DK371 Deld AAEE 12.9.44; 708 Sqn Lee-on-Solent 23.10.44 - @25.11.44
- DK372 Completed as first prototype TF.III; FF 21.12.43; AAEE to RAE 20.3.44; AAEE 23.3.44; Rotol, Staverton 12.3.45 or 10.3.45 for prop vibration and CSU development
- DK373 Completed as 2nd prototype TF.III. Hatfield to RAE 20.3.44; Blackburn, Brough, 23.3.44; AAEE by 8.44; throttle jammed in closed position; forced landed on airfield, 16.9.44; Blackburn for repair?; deld AAEE 28.12.44; 708 Sqn Gosport 16.3.45 (probably on MAP charge); 778 Sqn Arbroath 3.4.45; Rotol, Staverton 16.4.45; Boscombe Down to RAE 2.6.45; Blackburn, Brough 2.8.45 and scrapped



*Firebrands of No.813 Squadron aboard Implacable in February 1950*

**Completed as TF.II from here.**

- DK374 Deld ATDU Gosport 2.2.44 for torpedo trial; bellylanded, Gosport, 22.4.44
- DK375 Deld Leuchars (ATDU?) 20.6.44 for familiarisation; ATDU Gosport; on cross-country, had hydraulic failure and bellylanded, Brough, 9.8.44; Blackburn, Brough to 708 Sqn Lee-on-Solent ('OK') 4.11.44; 708 Sqn moved to Gosport ('OK') 15.1.45 - @13.7.45
- DK376 Retained by Blackburn, Brough, 21.7.44; became ground instructional airframe at Bramcote by 3.48 - 4.48
- DK377 Deld AAEE 6.9.44 - @2.45
- DK378 Deld Lee-on-Solent 16.9.44 - @23.4.45
- DK379 (Fitted Sabre IIIA) AW/CN 31.7.44 (at Mkrs?); deld ATDU Gosport 9.9.44 for torpedo trials; during test dive with torpedo, air tank of torpedo broke off and damaged tailplane; aircraft became uncontrollable and pilot baled out; crashed map ref 0122 586590, Wilts., 27.2.45
- DK380 AW/CN 31.7.44; deld 708 Sqn Lee-on-Solent 20.9.44; 708 Sqn moved to Gosport 15.1.45; ground looped after landing, 1.8.45
- DK381 AW/CN 31.7.44; deld 708 Sqn Lee-on-Solent 21.9.44; 708 Sqn to Gosport 15.1.45; pilot selected u/c up instead of flaps, 11.7.45
- DK382 Deld 708 Sqn Lee-on-Solent ('OF?') 3.10.44; 708 Sqn moved to Gosport 15.1.45 - @13.3.45
- DK383 Deld 708 Sqn Lee-on-Solent ('OC') 7.10.44; 708 Sqn moved to Gosport 15.1.45 - @18.8.45
- DK384 Deld 708 Sqn Lee-on-Solent 3.10.44; 708 Sqn moved to Gosport 15.1.45; Engine failed during test flight, 30.8.45
- DK385 Deld 708 Sqn Lee-on-Solent 3.10.44; 708 Sqn moved to Gosport 15.1.45; 708 Sqn moved to Ford 6.9.45; Cowling partly detached in flight, Lee-on-Solent, 23.2.45; landed without flaps 7.9.45

**TF.III from here**

- DK386 (Centaurus VII) Retained at Blackburn, Brough 27.11.44 under Contract No Acft/3962. Rear fuselage broke up in dive; crashed near Brough, 16.3.45 (fatal)
- DK387 Deld A Flt RAE 3.5.45 for RATOG, arrester gear and torpedo buffeting trials
- DK388 Retained Blackburn, Sherburn 12.1.45; Bristol, Filton by 4.45 as engine testbed; 1 RDU Anthorn; during gale a Hawker Tempest blown into it, 29.1.46
- DK389 Deld Brough to RAE 1.2.45 for arrester gear trials at Henstridge; Blackburn, Brough 23.4.45; HMS *Glory*; crashed on DL trials, 6.5.45
- DK390 Deld Blackburn, Sherburn 2.1.45; 1 RDU Anthorn by 12.45; left peritrack and nosed over in soft ground, 6.2.46
- DK391 Retained Blackburn 28.2.45; SME Flt RAE by 12.45 for vibration tests
- DK392 Deld Blackburn, Sherburn 28.2.45 (later retd Brough); C Sqn AAEE 8.6.45 for CO contamination trials; swung on landing; tyre cover burst and struck prop, 27.7.45; Blackburn, Brough 8.3.46
- DK393 Blackburn, Brough by 4.45; deld Blackburn, Sherburn 22.6.45 (later retd Brough); C Sqn AAEE 23.6.45 for dive brake trials; during dive brake tests, engine failed at 2,500 ft; forced landed downwind, overshoot and struck hedge; overturned, Christchurch, 7.9.45; dismantled Christchurch 10.45; collected by 49 MU from Christchurch
- DK394 Retained Blackburn, Brough 26.3.45; Blackburn, Sherburn 23.6.45; Brough to C Sqn AAEE 29.6.45 for drop tank trials; Blackburn, Brough 26.7.46
- DK395 Retained Blackburn, Sherburn 20.3.45; AAEE 7.4.45; retd Arbroath 6.5.45; DL trials as Mk.IV with DK389 & EK602 in *Glory* 6.5.45 - 4.6.45; tested at Henstridge





*Firebrand TF.5s of No.827 Squadron at Ford, March 1951*

- then arresting trials *Pretoria Castle* 31.5.45 and 1.6.45; 778 Sqn Gosport, tested 11.9.45; intensive deck landing trials in *Pretoria Castle* 17-19.9.45; sank fast, bounced over all wires and barrier and finished on nose forward of lift, 19.9.45; Blackburn, Sherburn-in-Elmet by 10.45
- DK396 Deld AAEE 7.4.45 - @5.45; 700 Sqn Middle Wallop by 2.46 - @3.46
- DK397 Deld Blackburn, Sherburn 30.4.45; ATA White Waltham to Ford 17.9.45; 708 Sqn by 1.45; 717 Sqn Rattray to Lee-on-Solent 18.2.46 (arr 19.2.46)
- DK398 Deld Blackburn, Sherburn 30.4.45; 7 FP ATA Sherburn; on ferry flight, tailwheel collapsed on landing, Anthorn; swung to port, 20.6.45; presumed rebuilt; 708 Sqn Ford; engine failed; forced landed, 13.11.45
- DK399 Deld Blackburn, Sherburn 30.4.45; Inst Flt RAE by 11.45; ran into Auster NJ631 which had landed in front, 28.11.45; C Sqn AAEE 18.12.45 for air position indicator trials; Ford (uncoded) 27.2.46 - @8.46; mod to TF.IV standard
- DK400 Deld Blackburn, Sherburn 30.4.45; C Sqn AAEE to Blackburn, Brough 1.6.45; C Sqn AAEE by 29.6.45; RAE 11.7.45; took off on experimental flight with rudder spring tab locked in centre position; swung and undercarriage collapsed, 2.8.45
- DK401 Deld Blackburn, Sherburn 30.4.45; to Brough for mods 4.9.46 as TF.IV; left 28.11.46
- DK402 Deld Blackburn, Sherburn 30.4.45; 1 RDU Anthorn by 2.46
- DK403 Deld Blackburn, Sherburn 30.4.45; at Inskip display (uncoded) by 10.45
- DK404 Deld Rotol, Staverton 16.4.45 for prop vibration and CSU development; 708 Sqn Ford by 11.45; 717 Sqn Rattray from 2.46; coded '3F-1' later 'FD-Z' (with 708 Sqn?); became ground instructional airframe at HMS *Ariel*, Culcheth by 4.47 - 4.48 (still 'FD-Z')
- DK405 AW/CN 5.5.45; deld 1 RDU Anthorn 1.6.45; 708 Sqn Gosport from/by 6.8.45; Undercarriage damaged in heavy landing, 7.8.45
- DK406 AW/CN 23.6.45; deld 1 RDU Anthorn 29.6.45; 708 Sqn Ford by 11.45
- DK407 AW/CN 30.5.45; deld 1 RDU Anthorn 31.5.45; 703 Sqn Thorney Island ('L') by 9.45 - @3.46
- DK408 AW/CN 30.5.45; deld 1 RDU Anthorn 31.5.45; Blackburn, Brough [mod to TF.IV standard?] to C Sqn AAEE 16.6.45 for full armament trials; Lee-on-Solent 7.5.46
- DK409 Deld 1 RDU Anthorn 31.5.45; 708 Sqn Gosport 8.8.45 - @23.8.45; 703 Sqn (uncoded) by 9.45 - @3.46
- DK410 Deld 1 RDU Anthorn 31.5.45 - @7.45 [mod to TF.IV standard]; in dump on Gosport-Lee road, June 1949
- DK411 Deld 1 RDU Anthorn 1.6.45
- DK412 Deld 1 RDU Anthorn 17.5.45 - @8.45; 700 Sqn Middle Wallop; panel detached and damaged tailplane and elevator, 15.2.46
- 102 Blackburn B.46 Firebrand TF.IV built under Contract No CttS/Acft/931 EK694 & EK719 to EK741 2,520-hp Centaurus XI unless otherwise stated**
- EK601 FF 17.5.45; deld 1 RDU Anthorn 30.5.45; Blackburn, Sherburn; 778 Sqn Gosport for intensive DL trials in *Pretoria Castle* 17-19.9.45; floated over wires into barrier, 19.9.45
- EK602 Deld 1 RDU Anthorn 18.5.45; tested, Henstridge, then DL trials in *Pretoria Castle* 31.5.45 & 1.6.45; ret'd Blackburn, Brough 4.6.45; C Sqn AAEE 16.6.45 for clearance of TF.IV; 1 RDU Anthorn 11.10.46
- EK603 Deld 1 RDU Anthorn 4.6.45 - @9.45; 813 Sqn by 1.45
- EK604 Deld 1 RDU Anthorn 7.6.45; 813 Sqn by 10.45; taxied into stationary motorcycle, Ford, 5.11.45; during ADDLs, selected undercarriage up before obtaining flying speed, Ford, 7.12.45
- EK605 C Sqn AAEE; tested 10.6.45 BUT deld 9.6.45; CRD at Brush 28.6.45 to fit RP installation; CRD at Brough 29.7.45; C Sqn AAEE 31.7.45 for RP trials; stbd tyre deflated and came off after landing; ground-looped,



*Servicing a Firebrand on the stern of Implacable at Gibraltar*

- Boscombe Down, 26.11.45; Culdrose 8.9.47 for collection by NASU Worthy Down for use as ground instructional airframe; Yeovilton by 7.50
- EK606 AW/CN 15.6.45; deld 1 RDU Anthorn 22.6.45; panel detached in flight; damaged flap and undercarriage; bellylanded, 25.8.45
- EK607 AW/CN 15.6.45; deld 1 RDU Anthorn 22.6.45; 813 Sqn from 9.45
- EK608 AW/CN 14.6.45; Rotol, Staverton 23.6.45 for prop windmill, dive brake, large CSU trials; prop vibration tests, etc; 813 Sqn by 11.45; became ground instructional airframe as A2097
- EK609 AW/CN 15.6.45; deld 1 RDU Anthorn 22.6.45; Blackburn 1945 for mods; 1 RDU Anthorn 19.9.45; 2 RDU Culham by 1.49; Blackburn 7.3.49 and convtd to TF.5; completed 30.12.49; 767/799 Sqn Yeovilton by 3.50 - @7.50; RNARY Donibristle by 1.51; RNAY Belfast 3.7.51; Left 28.7.51; 813 Sqn ('100/A') by 9.51 - @7.52; SOC 20.11.52
- EK610 (Centaurus IX); AW/CN 16.6.45; deld 1 RDU Anthorn 22.6.45; Appeared to spin in with full throttle, Priestside Flow, Hurkledale, near Cummertrees, Dumfriesshire, 18.9.45 (fatal)
- EK611 AW/CN 26.6.45; deld 1 RDU Anthorn 29.6.45; 813 Sqn from 9.45 - @12.45
- EK612 Deld 1 RDU Anthorn 22.6.45; 813 Sqn from 9.45 - @10.45
- EK613 AW/CN 27.6.45; deld 1 RDU Anthorn 4.7.45; 813 Sqn ('M' later 'FD1H') by 8.45 - @8.46
- EK614 AW/CN 2.7.45; to CRD charge at Blackburn, Brough 4.7.45; Blackburn from 16.12.48 and convtd to TF.5; completed 30.12.49; AHU Abbotsinch by 7.50 - @7.51; Ford by 1.52; 813 Sqn ('103') from 13.3.52 - @6.53; SOC 12.6.53
- EK615 AW/CN 3.7.45; deld RDU Stretton 6.7.45; 813 Sqn by 11.45; 813 Sqn Ford; partial engine failure on test flight, 5.10.46
- EK616 AW/CN 4.7.45; deld RDU Stretton 6.7.45; Ford to C Sqn AAEE 19.12.45 for handling tests with torpedo; 813 Sqn Ford ('D') 28.12.45
- EK617 AW/CN 6.7.45; deld AHU Stretton 12.7.45; Blackburn, Brough 17.1.46 for mods; left 7.1.47; 2 RDU Culham by 1.49; Blackburn 7.2.49 and convtd to TF.5; completed 23.12.49; AHU Abbotsinch by 7.50 - @1.51; Hal Far by 1.51; 827 Sqn ('128?') from 1.51; unable to lower undercarriage; landed wheels-up, Ford, 14.1.52; SOC 28.2.52
- EK618 AW/CN 6.7.45; deld RDU Stretton 12.7.45; 1 RDU Anthorn by 9.458; 813 Sqn by 10.45
- EK619 AW/CN 14.7.45; deld RDU Stretton 19.7.45; 813 Sqn Ford from 9.45; engine failed; forcelanded, 26.9.45; RAE 1946 (experimental fitment of Sabre)
- EK620 AW/CN 9.7.45; deld RDU Stretton 12.7.45; 813 Sqn by 2.46
- EK621 AW/CN 14.7.45; deld RDU Stretton 19.7.45; Blackburn, Brough; mods completed 29.5.47, then taken in hand for further mods, completed 12.12.47; Blackburn from 10.11.48 and convtd to TF.5; completed 29.7.49; participated Elmdon Air Races (racing number 81) 31.7.49; RNARY Donibristle by 1.50; SOC 1.50
- EK622 Mkrs; Engine failed on approach; bellylanded in field near Brough village, 18.7.45 (fatal)
- EK623 AW/CN 14.7.45; deld RDU Stretton 19.7.45; Blackburn, Brough from 6.3.46 for mods; out 19.9.46; Blackburn, Brough from 29.10.48 and convtd to TF.5; out 31.1.50; RNAY Belfast storage 13.2.50; SOC 31.8.53
- EK624 AW/CN 21.7.45; deld RDU Stretton 27.7.45; Blackburn for mods; out 28.8.46; 813 Sqn ('FD1P') (at Blackburn, Brough for mods 5.47); AHU Stretton to RNAY Belfast 29.9.47; Blackburn from 31.10.48 and convtd to TF.5; completed 26.9.49; RNAY Belfast by 1.50; Lee-on-Solent 30.5.51; Istres 31.5.51 (en route Malta); 827 Sqn Hal Far by 6.51 - @8.51; Ford by 7.52; AHU Abbotsinch by 1.53; SOC 29.8.53; TOC 10.9.53; remains at Abbotsinch 7.56



*EK691 on approach with everything out and down - except the hook*

- EK625 AW/CN 23.7.45; deld RDU Stretton 25.7.45; 1 RDU Anthorn by 12.45; Blackburn for mods; out 19.9.46; 2 RDU Culham by 1.49; Blackburn 15.2.49 and convtd to TF.5; completed 31.1.50; RNAY Belfast 13.2.50; AHU Stretton 8.5.50; 813 Sqn by 6.50 - @7.50; RNARY Donibristle by 7.50; 813 Sqn ('110/C') by 9.50; crashed 10.51; SOC 8.10.51
- EK626 AW/CN 20.7.45; deld RDU Stretton 24.7.45; Blackburn, Brough for mods; out 14.2.46; Blackburn, Brough by 5.47 for mods; Blackburn from 30.10.48 and convtd to TF.5; completed 29.8.49; 1 RDU Anthorn to RNAY Belfast 5.9.49; 813 Sqn Arbroath ('113/A') 22.5.51; port oleo collapsed landing on *Indomitable* 26.5.51; port undercarriage leg collapsed on landing, *Indomitable*, 9.7.51; SOC 20.3.52
- EK627 813 Sqn Lee-on-Solent; overran runway and hit perimeter fence, 4.7.52
- EK627 AW/CN 23.7.45; deld RDU Stretton 24.7.45; Blackburn, Brough to 7.1.47 for mods; RNAY Belfast 6.9.49 and convtd to TF.5 10.49) - @7.51; 813 Sqn 14.11.51 - @7.52; Ford by 7.53; SOC 20.7.53
- EK628 AW/CN 20.7.45; deld 1 RDU Anthorn 22.8.45; Blackburn for mods; out 28.5.46; 813 Sqn ('FD1N'); Blackburn by 5.48 for mods; 1 RDU Anthorn by 1.49; Blackburn 14.1.49 and convtd to TF.5; 1 RDU Anthorn 28.2.50; RNAY Belfast 13.3.50; 703 Sqn Ford 21.9.50 - @1.51; 813 Sqn ('102/A' later '112/A') by 7.51; stbd side panels detached during dive and damaged elevator, Lee-on-Solent, 9.2.52; swung off runway on circuits and bumps; ran into east gate guardroom, Lee-on-Solent, 31.10.52; taxied into EK736 at marshalling point during night flying, 25.11.52; SOC 6.11.52
- EK629 Deld Bristol, Filton 10.8.45 (arr ex-ATA Whitchurch 20.8.45) - @1.46 for engine development
- EK630 To CRD charge at Blackburn, Brough 10.8.45; trial installation of power plant No.3; Centaurus VII at one time; Engine trouble; landed safely, Holme-on-Spalding-Moor, 26.4.46; C Sqn AAEE 21.8.46 for power plant trials; accident at 15 MU Wroughton, 23.10.47; ret'd Boscombe Down 31.10.47; to ground instructional airframe at Bramcote 13.1.48
- EK631 Deld ATDU Gosport 10.8.45 - @6.46
- EK632 AW/CN 20.8.45; deld 1 RDU Anthorn 22.8.45; Blackburn for mods; out 19.9.46; Blackburn, Brough by 5.47 (mods); 813 Sqn ('100/C'); 2 RDU Culham by 1.49; Blackburn 9.2.49 and convtd to TF.5; AHU Abbotsinch 23.3.50; SOC 20.3.53
- EK633 AW/CN 7.8.45; to CRD charge at Blackburn, Brough 14.8.45; ATDU Gosport 20.8.45; 813 Sqn by 11.45 - @12.45; Blackburn, Brough to 813 Sqn ('F') 21.5.46 - @8.46; Blackburn from 3.11.48 and convtd to TF.5; 1 RDU Anthorn 26.1.50; RNAY Belfast 13.3.50; AHU Abbotsinch by 7.50; to 827 Sqn ('129' late '125/J') 1.51 - @7.52; AHU Abbotsinch by 1.53; SOC 29.8.53
- EK634 738 Sqn Culdrose; tail oleo broke on landing, 27.7.51
- EK634 AW/CN 20.8.45; deld 1 RDU Anthorn 22.8.45; Blackburn for mods; out 28.5.46; Blackburn, Brough by 5.47 for mods; Blackburn from 31.10.48 and convtd to TF.5; 1 RDU Anthorn 14.9.49; RNAY Belfast 19.9.49; 738 Sqn Culdrose 10.7.51; DLT, tail oleo extension broke on landing, *Triumph*, 27.7.51; to 759 Sqn Culdrose 10.51; undercarriage retracted after landing, 14.3.52; RNARY Donibristle by 7.52; SOC 29.8.53
- EK635 AW/CN 29.8.45; deld 1 RDU Anthorn 30.8.45; 7 FP ferry, climbed to 200-300 ft, tail down; stalled and dived into ground and caught fire, Brough, 30.8.45; DBF (fatal)
- EK636 AW/CN 22.8.45; deld Handling Sqn, Hullavington, 31.8.45; TOC Dunino store 15.11.45; Blackburn, Brough for mods; out 12.9.46; 2 RDU Culham by 1.49; Blackburn 26.2.49 and convtd to TF.5; AHU Abbotsinch 19.1.51 - @7.51; Renfrew to RNAY Belfast 25.9.51; 703 Sqn Ford ('082/FD') 17.1.52; 813 Sqn ('113/A') 2.3.52; taxied into EK736 during night flying, Lee-on-Solent, 25.11.52; SOC Gosport 12.6.53



DK373, flown as the second prototype Firebrand III

- EK637 AW/CN 25.9.45; deld 1 RDU Anthorn 26.9.45; Blackburn for mods; out 6.3.46; Blackburn, Brough by 5.47 for mods; Blackburn from 30.10.48 and convtd to TF.5; AHU Stretton 7.10.49; RNAY Belfast 13.10.49; 813 Sqn 28.7.50; caught wire, bounced, and stbd wing hit pom-pom stanchion, *Indomitable*, 5.2.51; SOC 18.4.52
- EK638 AW/CN 24.8.45; deld RD Anthorn 25.8.45; 813 Sqn by 12.45 - @1.46; Blackburn, Brough by 5.47 for mods; Blackburn, Brough for mods; out 22.5.48; Blackburn from 4.11.48 and convtd to TF.5; 1 RDU Anthorn 30.9.49; RNAY Belfast 24.10.49; SOC 31.8.53
- EK653 AW/CN 29.8.45; deld 47 MU 30.8.45 for packing trials
- EK654 AW/CN 8.9.45; deld 1 RDU Anthorn 12.9.45; Blackburn, Brough from 28.3.46; out 7.1.47; 1 RDU Anthorn by 1.49; Blackburn 20.2.49 and convtd to TF.5; AHU Abbotsinch 11.11.49; to 827 Sqn ('126?') Ford 1.51; Hydraulic failure; wheels-up landing, 24.4.52; SOC 23.5.52
- EK655 AW/CN 30.8.45; deld 1 RDU Anthorn 30.8.45; 813 Sqn by 1.46; Blackburn, Brough for mods; out 21.5.46; Blackburn from 16.12.48 and convtd to TF.5; AHU Abbotsinch 19.1.50; C Sqn AAEE 28.3.51 for flight clearance of mod to 'G' ASR equipment; AHU Abbotsinch 21.5.51; RNAY Belfast 6.2.52; 813 Sqn 7.11.52; SOC at Ford 19.6.53
- EK656 AW/CN 1.9.45; deld 1 RDU Anthorn 5.9.45; 2 RDU Culham 13.9.45; Blackburn for mods; out 7.1.47; 2 RDU Culham by 1.49; Blackburn and convtd to TF.5; completed 31.1.50; RNAY Belfast 13.2.50; SOC 31.8.53
- EK657 AW/CN 1.9.45; deld ATDU Gosport 5.9.45; Sherburn by 10.45; 778B Flt; intensive deck landing trials in *Pretoria Castle* 17-19.9.45; damaged when ship pitched violently, 18.9.45
- EK658 AW/CN 14.9.45; deld 1 RDU Anthorn 17.9.45; Blackburn for mods; out 6.3.46; Blackburn, Brough by 5.47 for mods; Blackburn, Brough from 6.11.48 and convtd to TF.5; RNAY Belfast 11.10.49 - @7.51; 813 Sqn by 30.10.51; taxied into by EK846, Lee-on-Solent, 23.5.52; 827 Sqn by 7.52; caught late wire and ran into barrier, *Eagle*, 27.10.52; AHU Abbotsinch by 1.53; SOC 29.8.53
- EK659 AW/CN 4.9.45; deld 1 RDU Anthorn 5.9.45; 2 RDU Culham 13.9.45; catapult dummy; Blackburn, Brough for mods; out 19.9.46; Blackburn, Brough by 5.47 for mods; Blackburn from 3.11.48 and convtd to TF.5; RDU Stretton 24.10.49; RNAY Belfast 27.10.49; SOC 31.8.53
- EK660 AW/CN 13.9.45; deld 1 RDU Anthorn 19.9.45; Blackburn, Brough from 19.9.46 for mods; out 5.12.46; Blackburn, Brough by 5.47 for mods; Blackburn, Brough from 3.1.48 and convtd to TF.5; 1 RDU Anthorn 21.10.49; RNAY Belfast 24.10.49; Aldergrove 30.10.52; RNAY Belfast 11.11.52; SOC as catapult dummy 31.8.53
- EK661 AW/CN 15.9.45; deld 1 RDU Anthorn 17.9.45; Blackburn, Brough for mods; out 5.9.46; 2 RDU Culham to Blackburn, Brough 9.1.49 and convtd to TF.5; AHU Abbotsinch 22.2.50 - @1.51; ferried Istres to Rome 2.6.51; 827 Sqn ('121/J') by 6.51 - @7.52; Tail oleo broke on landing, *Eagle*, 7.3.52; struck by following Firebrand, Ford, 2.5.52; AHU Abbotsinch by 1.53; SOC 29.8.53]
- EK662 AW/CN 18.9.45; deld 1 RDU Anthorn 20.9.45; 708 Sqn Rattray by 31.1.46; Blackburn, Brough 6.2.46 for mods; out 7.1.47; 2 RDU Culham to Blackburn 28.1.49 and convtd to TF.5; AHU Abbotsinch 20.2.50 - @1.51; 813 Sqn ('121/A') by 7.51; ran into barrier, *Implacable*, 11.9.51; repaired; 813 Sqn Lee-on-Solent; engine cut; ditched about 80 yds from coast off Browdown, Hants., 14.2.52; SOC 25.2.52
- EK663 AW/CN 15.9.45; deld 1 RDU Anthorn 18.9.45; 813 Sqn by 4.46; Blackburn, Brough 15.6.46 for mods; out 19.5.47; 2 RDU Culham by 1.49; Blackburn, Brough 27.2.49 and convtd to TF.5; RNAY Belfast 28.2.50; 703 Sqn Ford 21.9.50 - @1.51; 827 Sqn ('121') by 7.51; Unable to lower undercarriage; wheels-up landing, Hal Far, 14.8.51; SOC 26.3.52
- EK664 AW/CN; deld 1 RDU Anthorn 21.9.45; Blackburn, Brough for mods; out 12.9.46; 2 RDU Culham by 1.40; Blackburn 7.3.49 and convtd to TF.5; AHU Abbotsinch 20.2.50 - @7.52; 813 Sqn ('122') by 1.53 - @7.53; landed with windscreen covered in oil, Ford, 22.1.53; SOC 1.9.53
- EK665 AW/CN 22.9.45; CRU at Blackburn 24.9.45 and convtd to TF.IV (mods); out 28.11.45; 813 Sqn ('FD1L') by 4.46; 1 RDU Anthorn by 1.49; Blackburn 14.1.49 and convtd to TF.5; 1 RDU Anthorn 28.2.50; RNAY Belfast 13.3.50; Gosport 16.10.50 - @1.51; Culdrose by 7.51; RNARY Donibristle by 7.52; 813 Sqn ('121') by 12.52 - @1.53; Gosport by 7.53; SOC 20.7.53



*EK672, 125/J of No. 827 Squadron, misses the wires and loses a wingtip while landing on Intrepid, 21. 10. 51*



- EK666 Deld 1 RDU Anthorn 21.9.45; Blackburn and convtd to TF.IV (mods); out 28.11.45
- EK667 Deld RNARY Donibristle store 28.9.45; Blackburn for mods; out 30.11.45; Ford by 12.45 (813 Sqn?); 703 Sqn (uncoded) by 3.46; Blackburn from 16.12.48 and convtd to TF.5; 1 RDU Anthorn 19.5.50; RNAY Belfast 24.5.50; SOC 31.8.53
- EK668 TO at Blackburn 28.9.45; to CRD charge at Blackburn 29.10.45 for mods; out 13.11.45; Blackburn from 16.12.48 and convtd to TF.5; AHU Abbotsinch 17.3.50 - @1.7.50; 1 RDU Anthorn to RNAY Belfast 5.9.50; 827 Sqn Ford ('131') 26.1.51 - @6.51 (in error for EK688; it should have gone to Lossiemouth for 813 Sqn to replace EK625); Hal Far by 7.51; RNARY Donibristle by 7.52; AHU Abbotsinch by 1.53; SOC 12.6.53
- EK669 To CRD charge at Blackburn 1.10.45 for mods; out 22.11.45; 1 RDU Anthorn by 1.49; Blackburn 19.1.49 and convtd to TF.5; AHU Abbotsinch 17.3.50; RNAY Belfast (via Anthorn) 19.7.50; Lee-on-Solent 13.11.50; 827 Sqn ('121' also '127') 13.12.50; Wheels up landing, Hal Far, 8.51; engine failed at 1,500ft; ditched, 22.1.52; SOC 21.2.52
- EK670 To CRD charge at Blackburn 28.9.45 for mods; out 17.11.45; to CS(A) charge at Blackburn 4.10.46 for TI of repositioned aerial Type 147; RAE 29.10.46 for test of new VHF aerial; Blackburn, Brough 4.4.47 for preparation of VHF aerial mods; 2 RDU Culham storage 16.6.47; Blackburn 7.11.48 and convtd to TF.5; 1 RDU Anthorn 28.10.49; RNAY Belfast 1.11.49 - @1.51
- EK671 To CRD charge at Blackburn 6.10.45 for mods; out 5.12.45; 813 Sqn by 1.46 - @8.46; engine failed, Ford, 22.5.46
- EK672 To CRD charge at Blackburn 6.10.45 for mods; out 6.12.45; 813 Sqn ('FD1C') by 4.46 - @8.46; 1 RDU Anthorn to Blackburn 26.1.49 and convtd to TF.5; AHU Abbotsinch 20.3.50; RNAY Belfast (via Anthorn) 24.7.50; 827 Sqn Ford ('125') 26.1.51; missed wire and ran into barrier, *Illustrious*, 21.10.51
- EK673 To CRD charge at Blackburn 6.10.45 for mods; out 19.12.46; 2 RDU Culham by 1.49; Blackburn 2.2.49 and convtd to TF.5; AHU Abbotsinch 3.3.50 - @1.7.50; 1 RDU Anthorn to RNAY Belfast 25.7.50; Tangmere 16.12.50 (771 Sqn?); to 827 Sqn Ford 1.51 - @10.51; SOC 10.3.52
- EK674 To CRD charge at Blackburn 28.3.46; to CRD charge at Blackburn 15.5.47 for mods; out 11.6.47; 2 RDU Culham to Blackburn 18.2.49 and convtd to TF.5; RNAY Belfast 8.11.49; AHU Abbotsinch by 7.50; SOC 29.8.53
- EK675 To CRD charge at Blackburn 6.10.45 for mods; out 11.12.45; 813 Sqn Ford by 2.46 - @3.46; Blackburn from 4.11.48 and convtd to TF.5; 1 RDU Anthorn 27.10.49; to RNAY Belfast 2.11.49; 813 Sqn Lee-on-Solent 28.7.50 - @1.51; RNARY Donibristle by 7.51; 813 Sqn, Landed to port; tailwheel broke off on gun turret, *Indomitable*, 24.9.51; AHU Stretton by 1.52; RNAY Belfast 17.3.52; SOC 31.8.53 (at Abbotsinch?)
- EK676 To CRD charge at Blackburn 16.10.45 for mods; out 9.2.46; ferried Silloth to Crail 18.2.46; 1 RDU Anthorn to Blackburn 26.1.49; out 20.5.50 (sic); AHU Stretton to RNAY Belfast 24.4.50; RNARY Donibristle 26.8.52; RNAY Belfast by 7.53; SOC 31.8.54
- EK677 To CRD charge at Blackburn 10.10.45 for mods; out 5.12.45; Blackburn from 29.10.48 and convtd to TF.5; RNAY Belfast 27.10.49; SOC 31.8.53
- EK678 Rogue aircraft; to CRD charge at Blackburn for mods 13.1.47; out 16.1.47; Blackburn from 9.11.48 and convtd TF.5; RNAY Belfast 31.10.49; 813 Sqn Lee-on-Solent ('122/A') 7.11.50; caught No.10 wire and hit No.2 barrier, 17.1.51; undercarriage collapsed after normal landing, Lee-on-Solent, 22.1.52; SOC 29.4.52
- EK679 Rogue aircraft; to CRD charge at Blackburn for mods 13.1.47, out 16.1.47; 2 RDU Culham to Blackburn 9.1.49 and convtd to TF.5; RNAY Belfast (via Stretton) 24.4.50; SOC 31.8.53
- EK680 To CRD charge at Blackburn 15.10.45 for mods; 1 RDU Anthorn 28.1.46; ECFS Handling Sqn, Hullavington 28.2.46 - @3.46; Blackburn, Brough from 3.11.48 and convtd to TF.5; RNAY Belfast 31.10.49; AHU Stretton 8.5.50; 813 Sqn ('102/A') by 7.50; bounced into barrier, *Indomitable*, 18.9.51; SOC 21.9.51
- EK681 To CRD charge at Blackburn 28.3.46; ECFS Handling Sqn, Hullavington by 3.46; rogue aircraft; to Blackburn, Brough for mods 13.1.47; out 16.1.47; RDU Culham by 1.49; Blackburn 3.3.49 and convtd to TF.5; 1 RDU Anthorn 28.4.50; RNAY Belfast 5.5.50; SOC 31.8.53
- EK682 Rogue aircraft; to CRD charge at Brough for mods 24.3.46; out 25.3.47; 2 RDU Culham to Blackburn 20.1.49 and convtd TF.5; RNAY Belfast 5.5.50; SOC 31.8.53
- EK683 Rogue aircraft; to CRD charge at Brough for mods 13.1.47; out 16.1.47; 2 RDU Culham by 1.49; Blackburn 7.3.49; RNAY Belfast 5.5.50; SOC 31.8.53
- EK684 To CRD charge at Blackburn 24.10.45; to Blackburn 19.9.46 for mods; out 5.12.46; 2 RDU Culham from 7.6.48; Blackburn 20.1.49 and convtd to TF.5; RNAY Belfast 5.5.50; SOC 31.8.53
- EK685 To CRD charge at Blackburn 21.1.46 for mods; out 24.1.46; RNARY Donibristle; port wing broke off at 500 ft in normal circuit; dived in ½m E of airfield, 26.2.48 (fatal)
- EK686 To CRD charge at Blackburn 29.10.45; Blackburn from 19.9.47 for mods; 2 RDU Culham to Blackburn 5.2.49; RNAY Belfast 2.6.50; SOC 31.8.53
- EK687 To CRD at Blackburn 31.3.47 for mods; out 11.6.47; 2 RDU Culham by 1.49; Blackburn 28.2.49 and convtd to TF.5; RNAY Belfast (via Anthorn) 3.7.50; SOC 31.8.53
- EK688 To CRD at Blackburn 21.11.45; Blackburn from 1.2.46 for mods; out 17.1.46; 703 Sqn (uncoded) by 3.46; 1 RDU Anthorn to Blackburn 19.1.49; RNAY Belfast 24.7.50; 813 Sqn by 5.51 - @7.51; caught No.10 wire and hit No.1 barrier; port wing struck barrier stanchion, *Indomitable*, 3.5.51
- EK689 To CRD charge at Blackburn 21.11.45 for mods; out 9.1.46; 703 Sqn Thorney Island (uncoded) by 3.46; Blackburn by 5.47 (mods); Blackburn from 3.11.48 and cvtd to TF.5; AHU Abbotsinch 23.11.49; SOC 14.3.50
- EK690 To CRD at Blackburn 26.11.45; mods from 31.7.46; out 12.9.46; Blackburn, Brough by 5.47 for mods; 2 RDU Culham by 1.49; Blackburn 20.2.49 and convtd to TF.5; AHU Abbotsinch 26.1.50 - @1.51; flown Istres to Hal Far 6.6.51; 827 Sqn ('122/J' later '123/J') by 7.51 - @3.52; SOC 19.5.52
- EK691 Deld 1 RDU Anthorn 1.1.46; CRD charge at Blackburn, Brough 14.4.47; out 16.5.47; 2 RDU Culham by 1.49; Blackburn 26.2.49 and convtd to TF.5; AHU Abbotsinch 24.11.49; C Sqn AAEE (via Anthorn) 10.3.50 for nav assessments; RNAMY Belfast 9.5.50 (embalmed); 827 Sqn ('123/J') by 2.51; caught No.15 wire and tipped over No.4 barrier, *Eagle*, 12.3.52; RNARY Donibristle by 7.52; SOC 8.8.52
- EK692 To CRD charge at Blackburn, Brough 29.11.45; C Sqn AAEE 15.1.46 for dive brakes and armament trials; Lost panel in test dive with new horn balance; landed safely, 17.1.46; Blackburn, Brough 6.2.46; C Sqn AAEE 24.4.46; Blackburn, Brough 9.9.46 and fitted with long stroke undercarriage; 703 Sqn Ford 1.10.46 for deck trials; ATDU Gosport 5.12.46 for torpedo devt trials; 2 RDU Culham 28.5.47; Blackburn 27.2.49 and convtd to TF.5; out 29.7.49; 813 Sqn *Implacable* by 9.59; Engine failed; ditched alongside *Glory*, 21.3.50; SOC 28.3.50
- EK693 Deld 1 RDU Anthorn 1.1.46; to CRD charge at Blackburn 5.5.47 for mods; out 14.5.47; 2 RDU Culham by 1.49; Blackburn 11.2.49 and convtd to TF.5; AHU Abbotsinch 23.11.49; to 827 Sqn ('125/K') 1.51; lost power during ADDLs; touched down in field short of runway, Ford, 31.5.52; AHU Abbotsinch by 1.53; SOC 3.7.53
- EK694 Deld RNARY Donibristle 30.11.45; Blackburn, Brough 10.7.46 for mods) out 16.1.47; Blackburn, Brough by 5.47 for mods; Blackburn from 7.11.48 and convtd to TF.5; out 24.5.49; Yeovilton by 7.49; 813 Sqn 11.8.49; to RNRY Donibristle 12.49 - @1.51; 813 Sqn ('100/A') by 15.2.51; barrier crash on *Implacable*, 15.2.51; floated over wires into barrier, *Indomitable*, 10.9.51; SOC 15.9.51
- EK719 Deld RDU Anthorn 14.12.45; 813 Sqn Ford ('FD1K') by 2.46; Blackburn, Brough 25.6.46 for mods; out 16.1.47; 2 RDU Culham to RAE 12.5.47 for barrier trials; RNARY Donibristle by road 8.10.47; reduced to spares



*Firebrand TF.5 EK621 with "racing number" at the Air Races at Elmdon, 31 July 1949*

- EK720 Deld 1 RDU Anthorn 14.12.45; 813 Sqn Ford ('FD1F' later '102/C') by 2.46; Blackburn, Brough 10.9.46 for mods; out 7.1.47; Bramcote as ground instructional airframe by 3.48
- EK721 Deld 1 RDU Anthorn 18.12.45; 703 Sqn (uncoded by 3.46); Blackburn, Brough for mods; out 26.9.46; 2 RDU Culham by 1.49; Blackburn, Brough 26.2.49 and convtd to TF.5; out 30.11.49; Gosport by 1.50; AHU Abbotsinch by 7.50; RNAY Belfast (via Anthorn) 31.7.50; 813 Sqn Ford ('122') 13.1.51 - @3.51; 827 Sqn Ford; undercarriage locked up; wheels-up landing, 15.3.51; RNARY Donibristle by 7.51; 813 Sqn ('123/A' & '113') by 1.52 - @9.52; Gosport by 7.53; SOC 20.7.53
- EK722 Deld 1 RDU Anthorn 19.12.45; Blackburn, Brough 10.7.46 for mods; out 16.1.47; 2 RDU Culham to RAE 14.5.47 for barrier trials; to permanent CS(A) charge 29.12.48; SARY Donibristle 13.8.51 to reduce to produce
- EK723 Deld 1 RDU Anthorn 22.12.45; RAE 31.1.46; Blackburn, Brough 26.6.47 for mods; out 7.1.47; C Sqn AAEE by 11.47 - @1.48 for power assisted aileron tests; 2 RDU Culham by 1.49; Blackburn 26.1.49 and convtd to TF.5; AHU Abbotsinch 23.11.49; 813 Sqn ('103/GN' later '121/C') by 4.5.50; hit DLC platform, *Indomitable*, 6.2.51; SOC 8.3.51
- EK724 To CRD charge at Blackburn 28.1.45 for TI and flight trials of API Mk.I 10 ATMV Type 3; Blackburn, Brough from 7.1.47 for ASV mods; out 16.5.47; 2 RDU Culham by 1.49; Blackburn 15.2.49 and convtd to TF.5; AHU Abbotsinch 2.12.49; RNAY Belfast 6.3.50; To 813 Sqn 5.50 - @6.50; 738 Sqn Culdrose by 7.50; during DLT, caught No.1 wire and tailwheel hit round-down and snapped off, *Vengeance*, 7.2.51; RNARY Donibristle by 7.51; 827 Sqn Ford; engine failed; ditched 5m SE of Brighton, 18.4.52
- EK725 Deld ATDU Gosport 24.12.45; part of cowling broke away in dive; landed OK, 10.7.46; Blackburn, Brough 8.10.46 for mods; out 7.1.47; 2 RDU Culham by 1.49; Blackburn 10.3.49 and convtd to TF.5; AHU Abbotsinch 30.11.49 - @1.50; 813 Sqn by 7.50; RNAY Belfast to 1 RDU Anthorn 7.6.50; AHU Abbotsinch by 7.50 - @1.51; 813 Sqn ('121/A'); hit barrier on *Implacable*, 29.5.51; SOC 6.6.51
- EK726 Convtd to TF.5; TOC CRD at Blackburn 31.1.47; TOC Blackburn 31.1.47 and convtd to TF.5A; out 10.6.48; 1 RDU Anthorn by 1.49; SOC 29.3.50
- EK727 Deld 1 RDU Anthorn 31.12.45; Blackburn, Brough 16.6.46 for mods; out 5.9.46; Blackburn, Brough by 5.47 for mods; 2 RDU Culham by 1.49; Blackburn 9.2.49 and convtd to TF.5; AHU Abbotsinch 30.11.49 - @1.50; 813 Sqn ('120/C') by 4.50; tail oleo collapsed in heavy landing, *Indomitable*, 1.5.51; broke tail oleo in heavy landing, *Indomitable*, 19.9.51; tail oleo collapsed in heavy landing, *Indomitable*, 18.10.51; landed in strong cross-wind, overran runway and hit perimeter hedge, Lee-on-Solent, 4.7.52; to RNARY Donibristle by 7.52; AHU Abbotsinch by 1.53; SOC 12.6.53
- EK728 To CRD at Blackburn 31.1.47 and convtd to TF.5A; 1 RDU Anthorn by 1.49; SOC 6.4.50 as ground instructional airframe
- EK729 Deld 1 RDU Anthorn 31.12.45; 813 Sqn Ford ('FD1A' & 'FD1N'); Blackburn, Brough 25.6.47 for mods; out 16.1.47; AHU Arbroath to 2 RDU Culham 16.5.47; Blackburn 14.11.49 and convtd to TF.5; AHU Abbotsinch 23.1.49 - @7.51; 827 Sqn Ford ('125/J') by 1.52; landed wheels-up, Ford, 8.1.52; hit barrier, *Eagle*, 3.52; RNARY Donibristle by 7.52; SOC 13.8.52
- EK730 To CRD charge at Blackburn 1.2.46; convtd to TF.5A 31.1.47; out 10.6.48; 1 RDU Anthorn by 1.49; SOC 12.8.50
- EK731 Deld 1 RDU Anthorn 9.1.46; Blackburn, Brough 23.1.46 for mods; out 28.11.46; Blackburn, Brough by 5.47 for mods; 2 RDU Culham by 1.49; Blackburn 27.2.49 and convtd to TF.5; out 24.8.49; RNARY Donibristle by 1.50; reported as '151/CW' at Culdrose display 1950; 813 Sqn by 8.50; RNARY Donibristle by 1.51; 827 Sqn Ford; lost hydraulic fluid; landed with undercarriage retracted, 24.4.51; 813 Sqn ('103/A') by 7.51; floated over wires into No.2 barrier, *Indomitable*, 10.9.51; SOC 15.9.51
- EK732 Deld CRD at Blackburn, Brough 31.1.47; convtd to TF.5A 31.1.47; to CS(A) charge 4.7.47 for TI of power assisted ailerons; AAEE 19.1.47 for trials of power assisted ailerons and intensive flying; Blackburn, Brough 19.4.48; IFD Sqn AAEE 30.4.48 for intensive flying trials; engine failed; forced landed, 25.10.48; Blackburn, Brough 5.5.49 to fit essential mods prior to service



*Firebrands of No. 827 Squadron at Ford*

- trials; 703 Sqn Lee-on-Solent 27.9.49 - @1.50; 1 RDU Anthorn by 7.50; SOC 12.8.50
- EK733 TOC at Blackburn 8.5.46; to CRD charge at Blackburn and convtd to TF.5A; out 10.6.48; 1 RDU Anthorn by 1.49; SOC 6.4.50; to ground instructional airframe as A2231 at Bramcote
- EK734 Deld 1 RDU Anthorn 16.1.46; 703 Sqn Lee-on-Solent ('J') by 3.46; Blackburn, Brough from 3.6.46 for mods; Finished 7.1.47; 1 RDU Anthorn 29.1.47; Blackburn 31.12.48 and convtd to TF.5; 1 RDU Anthorn 29.6.49 - @1.50; 813 Sqn ('101/C') by 2.50 - @3.50; RNARY Donibristle by 7.50 - @7.51; 813 Sqn ('110/A') by 2.52 - @12.52; SOC 10.6.53
- EK735 To CRD charge at Blackburn 18.7.46; convtd to TF.5A 31.1.47; completed 10.6.48; 1 RDU Anthorn by 1.49; SOC 6.4.50; to ground instructional airframe at Bramcote as A2232
- EK736 To CRD charge at Blackburn 15.3.46; C Sqn AAEE 18.7.46 for CO tests & cockpit ventilation trials; Blackburn, Brough 13.8.46; mods from 23.11.46; 2 RDU Culham 28.11.48; Blackburn 7.3.49 and convtd to TF.5; 813 Sqn ('101/C' late '101/A'); hit barrier on *Implacable*, 26.9.51; taxied into by EK636 at marshalling point during night flying, Lee-on-Solent, 25.11.52; SOC 18.2.53
- EK737 Deld 1 RDU Anthorn 19.1.46; to CS(A) charge at Blackburn, Brough 18.8.46 for mods then TI & flight trials of 45-gallon drop tank 22.10.46; 1 RDU Anthorn 16.6.47 for storage; 813 Sqn by 8.47; 2 RDU Culham by 1.49; Blackburn 3.3.49 and convtd to TF.5; AHU Abbotsinch 2.12.49; 813 Sqn by 2.50 - @3.50; AHU Abbotsinch by 7.50; To 827 Sqn ('124') 12.50 - @4.51; Stn Flt Ford by 7.51; 827 Sqn; missed all wires and floated into barriers; No.2 barrier removed undercarriage, *Eagle*, 27.6.52; RNARY Donibristle by 7.52; SOC 29.8.52
- EK738 Deld 1 RDU Anthorn 23.1.46; 703 Sqn Lee-on-Solent ('O') by 3.46; Blackburn, Brough 3.6.46; 813 Sqn; 2 RDU Culham by 1.49; Blackburn 20.1.49 and convtd to TF.5; out 23.12.49; 738 Sqn Culdrose by 7.50 - @7.52; precautionary landing, when temp gauge u/s, 12.1.51; SOC 1.6.53
- EK739 To CRD charge at Blackburn 31.1.46; to permanent C(A) charge 1.49
- EK740 To CRD charge at Blackburn 16.2.46 to fit RATOG mods; RAE 16.3.46 for trials of RATOG jettisoning & tail-down launching; Blackburn 4.6.46 for trials of RATOG jettisoning; slight damage to rear fuselage on landing; 778 Sqn Ford 10.7.46 for pilot's familiarisation prior to deck trials; engine trouble; retd Ford, 14.10.46; Blackburn, Brough 3.5.47 for flight trials of power-assisted elevators; mods 30.7.47; completed 23.10.47; to permanent CS(A) charge 29.1.48; to naval charge 25.6.49; Blackburn 13.10.49 and convtd to TF.5; RNAY Belfast 2.6.50; SOC 31.8.53
- EK741 To CRD charge at Blackburn 31.1.46; RAE by 6.46; Blackburn, Brough 11.12.46 for mods; 2 RDU Culham 14.5.47; RAE (via Lee-on-Solent) 24.9.47 for trials of deck hook damper & wire ejector mechanism; to permanent CS(A) charge 8.6.49; 703 Sqn Lee-on-Solent ('031/LP') by 1.50, until 4.50; 813 Sqn ('110/C') by 6.50; RNARY Donibristle 12.8.51 (for breakdown)
- 68 Blackburn B.46 Firebrands completed as TF.IVs, built under Contract No Ctts/Acft/931. Most went into service as TF.Vs after conversion (2,520-hp Centaurus XI)**
- EK742 To CRD charge at Blackburn 31.1.46; to SBAC Show 12.9.46; convtd to TF.5 4.2.47 - 31.3.47; to CS(A) charge at Blackburn 30.4.47 for instrumentation prior to handling trials; Brough for handling trials at increased AUW; to C Sqn AAEE 14.5.47 for cooling & handling trials; RAE 12.9.47; Ford to C Sqn AAEE 5.11.47 for cooling, performance & consumption trials; Blackburn, Brough 21.11.49; to permanent CS(A) charge in exchange for EK745 11.50; D Sqn AAEE 27.7.51 for TT trials; during transit flight, engine failed; wheels-up landing in field, struck treetop, and hit hedge 1½m NW of Sturton, Lincs., 10.11.51; Blackburn, Brough 10.11.51 for repair of undercarriage jack; RNARY Donibristle 26.2.52; SOC 29.3.52
- EK743 To CRD charge at Blackburn 31.1.46; convtd to TF.5 4.2.47 - 31.3.47; to CS(A) charge at Blackburn 31.3.47 for TI of Alt.417, window launcher; 778 Sqn Ford for catapult trials in carrier; Blackburn 4.11.47 for TI of air intake mods; IFD Sqn A&AEE Boscombe Down 21.11.47 for Intensive Flying Development Flight, intensive flying trials; Blackburn, Brough 22.3.48 for





*Firebrand TF.II DK383 with No. 708 Squadron for trials*



*EK609 of No. 813 Squadron (R G Dennison)*



*EK767 of No. 703 visiting Yeovilton (B. Webb)*



*Firebrand TF.5s of No. 813 Squadron (R G Dennison)*



*EK795 of No. 827 Squadron goes into the Barrier, Eagle*



*EK726 converted to TF-5A standard*



*EK770 of No. 738 Squadron, Culdrose*



*EK605 on test by A&AEE; hopefully the tailwheel centred on landing*

- TIs; RAE 24.5.50 for check of Mod.505 polar diagram chart & radio trials; ret'd same day; to permanent CS(A) charge 28.2.53; to Culdrose 20.3.53 for fire fighting competition and reduced to spares & produce
- EK744 To CRD charge at Blackburn, Brough 31.1.46; convtd to TF.5 4.2.47 to 31.3.47; CS(A) charge at ATDU Gosport 24.4.47 for torpedo trials; tyre burst taxiing while fully loaded with torpedo on hard ground, Gosport, 12.7.49; RNARY Donibristle 18.10.50 - 7.51; 813 Sqn Lee-on-Solent by 9.51 - @2.52; RNARY Donibristle by 7.52; AHU Abbotsinch, SOC 29.8.53
- EK745 To CRD charge at Blackburn 9.2.46; convtd to TF.5 4.2.47 - 31.3.47; to CS(A) charge at Blackburn 31.3.47 for TI of Mk.III torpedo carrier; ATDU Gosport on CS(A) charge for trials of 2,000lbs BT carrier Mk.III; RNARY Donibristle for reconditioning 7.1.50 - @7.51; 738 Sqn Culdrose ('183/CW') by 1.52 (sic); to 759 Sqn Culdrose ('183/CU') 10.51 - @7.52; taxied into stationary aircraft after brake failure, 25.4.52; 827 Sqn ('129/J') by 9.52; tail oleo sheared after heavy landing, *Eagle*, 4.9.52; precautionary landing; bounced into barrier, *Eagle*, 30.10.52; dumped over side in Moray Firth; SOC 5.11.52
- EK746 To CRD charge at Blackburn 9.2.46; Farnborough display 28.6.46; convtd to TF.5 by Blackburn 4.2.47 - 31.3.47; RAE by 7.46; 1 RDU Anthorn to Ford 8.5.47; 813 Sqn, engine failed; forcelanded, Ford, 25.9.47; oil leak caused loss of power, Ford, 26.9.47; AAEE by 9.48
- EK747 To CRD charge at Blackburn 14.2.46; 703 Sqn ('T') by 7.47 - @1.49; 813 Sqn ('103/C' also '110/C') by 4.49; tailwheel fractured in heavy landing, *Implacable*, 18.5.49; lost power on take off from Lee-on-Solent; ditched in Poole Harbour, 23.7.49; SOC 23.7.49
- EK748 To CRD charge at Blackburn 27.2.46; to RN charge at Blackburn 1.5.46; convtd to TF.5 4.2.47 to 31.3.47; Arbroath to 1 RDU Anthorn 7.5.47; AAEE by 9.48; 703 Sqn Thorney Island by 18.9.48; 1 RDU Anthorn by 1.49; 813 Sqn ('123/C' later '123/A') by 7.49; hook bounced over wires; hit barrier, *Indomitable*, 28.2.51
- EK764 To CRD charge at Blackburn 26.2.46; to RN charge at Blackburn 1.5.46; convtd to TF.5 5.2.47 to 3.3.47; 813 Sqn ('124/C'); 1 RDU Anthorn by 1.49 - @1.50; 813 Sqn ('111/C' later '111/A') by 2.50; struck by EK795 while stationary, Lee-on-Solent, 17.2.50; 813 Sqn by 4.50; crashed in catwalk, *Implacable*, 30.11.50; SOC 8.12.50
- EK765 To CRD charge at Blackburn 26.2.46; to RN charge at Blackburn 1.5.46; convtd TF.5 5.2.47 - 3.3.47; ATDU Gosport by 7.47; 813 Sqn ('112/C') by 8.47; SOC *Implacable* 14.2.49
- EK766 To CRD charge at Blackburn 26.2.46; to RN charge at Blackburn 1.5.46; convtd to TF.5 5.2.47 - 31.3.47; 813 Sqn ('121/FD' later '121/C' later '111/C') by 7.47; failed to hook wire and hit barrier, *Implacable*, 3.12.47; oil pressure dipped; emergency landing, Anthorn, 17.6.48; during DLT, drifted to stbd and hit pom-pom aft of bridge, *Implacable*, 27.1.49; Culdrose by 1.49; RNARY Donibristle by 7.49 - @1.51; Blackburn by 7.51; SOC 8.10.51
- EK767 To CRD charge at Blackburn 27.1.46; to RN charge at Blackburn 1.5.46; convtd to TF.5 5.2.47 - 31.3.47; *Illustrious* 8.47 [703 Sqn?]; 703 Sqn by 8.47 ('033/LP'); attd 814 Sqn 1.49; 1 RDU Anthorn by 7.49 - @1.50; 813 Sqn Lee-on-Solent; wheels-up landing after electrical failure, Tours, 4.2.50; RNARY Donibristle by 7.50; RNAY Belfast 28.6.51 - @7.51; SOC 10.11.52
- EK768 To CRD charge at Blackburn 28.2.46; to RN charge at Blackburn 1.5.46; convtd TF.5 5.2.47 - 31.3.47; 813 Sqn ('111/C') by 8.47; floated over wires and swung into island, *Implacable*, 22.10.47; crashed on deck and caught fire, *Implacable*, 2.12.47; SOC
- EK769 Convtd to TF.5; to C(A) charge at Blackburn 26.3.46 for TI of power-assisted ailerons; RAE 4.6.46 for test of power-assisted ailerons; TOC RN at Blackburn 22.6.46; RAE Aero Flt Farnborough 30.8.46 [and/or 24.1.47?]; served as TF.5A prototype; mods at Blackburn, Brough 30.7.47 to 23.10.47; Blackburn, Brough from 21.8.48; to permanent CS(A) charge 29.12.48; sold to Blackburn & General 3.5.49
- EK770 To CRD charge at Blackburn 1.4.46 for flight trials of low inertia tabs; TOC RN at Blackburn 22.6.46; on CS(A) charge at Brough 28.5.47 to 10.7.47 to incorporate ASV mods; Culdrose by 1.49; convtd TF.5 at Brough 7.2.49 to 11.7.49; 813 Sqn Lee-on-Solent by 1.50; Gosport by 7.50; tested Gosport 11.12.50; RNAY Belfast 13.1.51; deld out 14.3.51; 738 Sqn Culdrose ('180'); hydraulics failed; made flapless landing with torpedo boom dropped and tail of torpedo trailing on runway, 23.7.51; taxied into stationary Sea Fury, 31.10.51?; to 759 Sqn Culdrose 10.51; forcelanded due to lack of fuel, 12.2.53; SOC
- EK771 To CRD charge at Blackburn 15.3.46; TOC RN at Blackburn 22.6.46; convtd to TF.5 5.2.47 to 31.3.47; 1 RDU Anthorn by 1.49; 813 Sqn ('121/C') by 7.49; SOC *Implacable* 7.7.50
- EK772 To CRD charge at Blackburn 19.3.46; TOC RN at Blackburn 1.5.46; convtd to TF.5 5.2.47 to 31.3.47; 813 Sqn ('122/C') 1947; 1 RDU Anthorn to 813 Sqn Culdrose 1.49; Panel detached from port side in dive on ALT, 13.1.49; 813 Sqn Lee-on-Solent; lost formation in cloud; missing in English Channel SE of Isle of Wight, 28.4.49 (fatal); SOC 29.4.49
- EK773 To RN charge at Blackburn 22.2.47; to CRD charge at Blackburn 28.3.46; convtd to TF.5 5.2.47 to 31.3.47; 1 RDU Anthorn by 1.49; 799 Sqn Yeovilton; stbd aileron fouled port wing of parked Firefly while taxiing, 1.2.49; 1 RDU Anthorn by 7.49; engine cutting on test flight due to fuel starvation, 22.7.49; 767/799 Sqn Yeovilton 12.9.49 - @7.50; DLT *Illustrious* 8-9.3.50; 738 Sqn Culdrose by 8.50 - @7.51; landed to stbd and wing struck crane, *Vengeance*, 6.2.51; 813 Sqn ('112/A') by 1.52 - @7.52; Ford by 7.53; SOC 20.7.53
- EK774 To CRD charge at Blackburn 5.2.47; to RN charge at Blackburn 22.2.47; convtd to TF.5 10.2.47 to 31.3.47; 1 RDU Anthorn by 1.49; 813 Sqn by 5.49; 813 Sqn Lee-on-Solent; engine failed; ditched in rough sea, North Sea, 51°24'N 02°10'E 1.10.50 (fatal); SOC 26.10.50
- EK775 To CRD charge at Blackburn 5.2.47; convtd to TF.5 10.2.47 to 31.3.47; to RN charge at Blackburn 22.2.47; 703 Sqn by 1.49 - @3.49; RNARY Donibristle by 7.49 - @1.50; Blackburn, Brough by 7.50; RNAY Brough 29.8.51; SOC 10.11.52
- EK776 To CRD charge at Blackburn 5.2.47; convtd to TF.5 10.2.47 to 31.3.47; to RN charge at Blackburn 22.2.47; 1 RDU Anthorn by 1.49 - @7.49; 813 Sqn by 8.49; SOC 4.10.49
- EK777 To CRD charge at Blackburn 5.2.47; convtd to TF.5 10.2.47 to 31.3.47; to RN charge at Blackburn 22.2.47; 1 RDU Anthorn by 1.49; 799 Sqn Yeovilton (-/VL) 4.7.49; used for Air Race practice; engine cut, bellylanded on airfield, 16.2.50 (pilot unhurt); RNARY Donibristle by 7.50 - @7.51; 813 Sqn ('120/A') by 10.51 - @9.52; caught No.10 wire and hit No.2 barrier, *Indomitable*, 4.10.51; SOC 12.6.53
- EK778 Deld CRD charge at Blackburn 5.2.47; convtd to TF.5, completed 31.3.47; to RN charge at Blackburn 22.2.47; 1 RDU Anthorn by 1.49; 813 Sqn by 3.49 - @7.49; stbd undercarriage damaged in heavy landing, *Implacable*, 3.3.49; RNARY Donibristle by 1.50; 813 Sqn by 3.50; RNARY Donibristle by 7.50 - @1.51; Blackburn by 7.51 - @1.52; SAMY Belfast to C Sqn AAEE 22.8.52 for clearance of mines & parachute attachment; AHU Abbotsinch 29.1.53; SOC 29.8.53
- EK779 To CRD charge at Blackburn 5.2.47; convtd to TF.5; completed 31.3.47; to RN charge at Blackburn 1.3.47; Ships Flt *Implacable* ('911/C'); 1 RDU Anthorn by 1.49 - @7.49; SOC 14.10.49; to ground instructional airframe
- EK780 To CRD charge at Blackburn 5.2.47; convtd to TF.5; completed 31.3.47; to RN charge at Blackburn 1.3.47; ran off taxiway and tipped up, damaging prop tips, Anthorn, 14.5.47; 813 Sqn Ford ('101/FD'); torpedo air tail detached in flight and hit aircraft, 18.8.47; Blackburn, Brough to 1 RDU Anthorn 20.4.48; RNAY Belfast 3.4.50; Ford 23.11.50; to 827 Sqn Ford ('121/FD') 1.51; Lost hydraulic fluid; landed with undercarriage retracted, 16.5.51; SOC 2.8.51
- EK781 To CRD charge at Blackburn 5.2.47; convtd to TF.5; completed 18.4.47; to RN charge at Blackburn 1.3.47; 813 Sqn by 8.47; Undercarriage jammed; bellylanded, Culdrose, 6.3.48; Blackburn by 1.49; 1 RDU Anthorn to 813 Sqn Lee-on-Solent ('101' later '103/C' & '110')

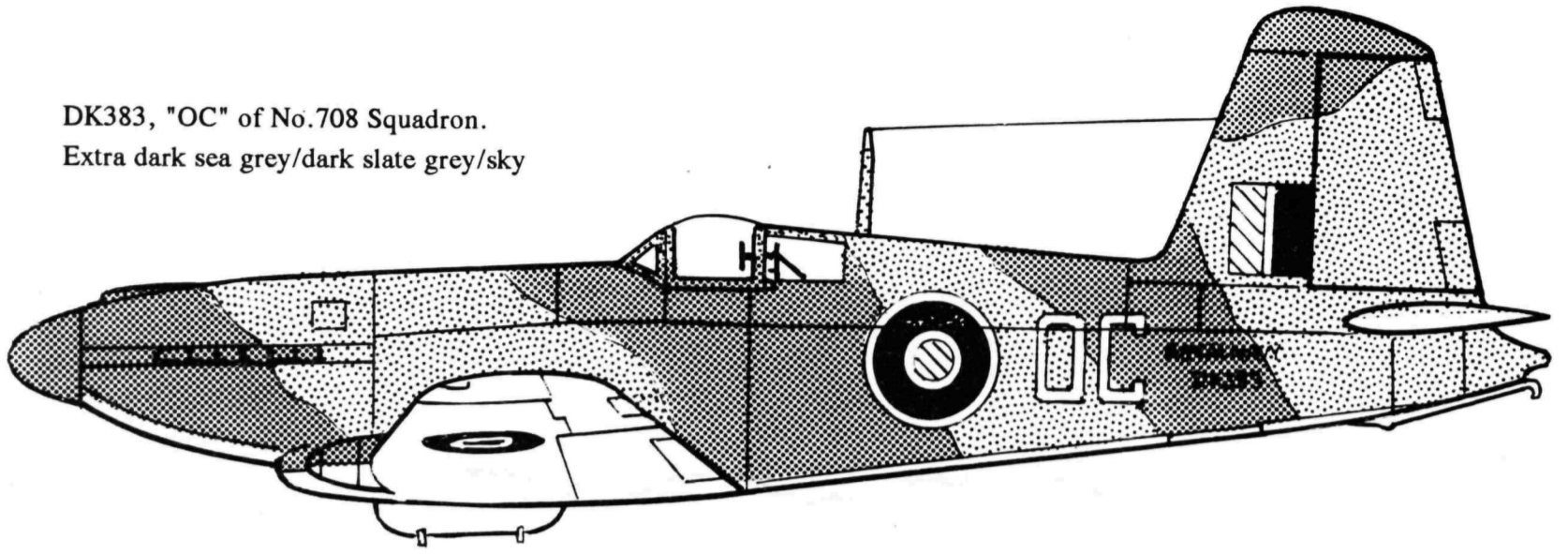


*EK844 at Sherburn-in-Elmet, 22 July 1950, with racing number "59"*

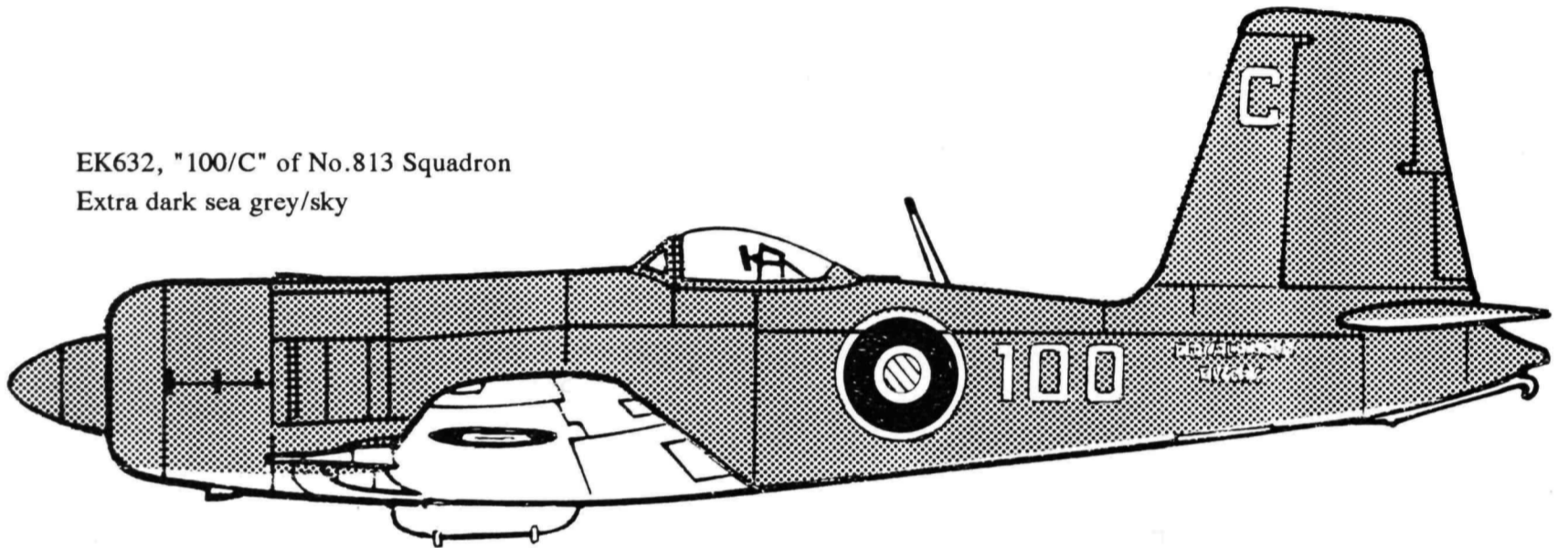
- 5.7.49; hook torn out; hit barrier, *Implacable*, 3.7.50; Blackburn, Brough by 1.51; RNAY Belfast 23.4.51; 827 Sqn Lee-on-Solent 30.6.52 - @7.52; AHU Abbotsinch by 1.53; SOC 20.7.53
- EK782 To CRD charge at Blackburn 5.2.47; convtd to TF.5; completed 31.3.47; 813 Sqn ('100') by 8.47; wingtip hit by blade of EK784, 22.10.47; swung into island, *Implacable*, 12.47; SOC
- EK783 To CRD charge at Blackburn 5.2.47; convtd to TF.5; completed 18.4.47; to RN charge at Blackburn 1.3.47; 813 Sqn ('113/FD') 1946; 1 RDU Anthorn by 1.49; to ground instructional airframe at Gosport 22.3.50
- EK784 To CRD charge at Blackburn 5.2.47; convtd to TF.5; completed 31.3.47; to RN charge at Blackburn 1.3.47; 813 Sqn ('103') by 10.47; prop blades hit wingtip of EK782, *Implacable*, 22.10.47; ran out of fuel; force-landed in field, Anthorn, 26.8.48 SOC
- EK785 To CRD charge at Blackburn 5.2.47; convtd to TF.5; completed 28.4.47; to RN charge at Blackburn 1.3.47; 813 Sqn Ford; crashed, Manor Way, Lee-on-Solent, in low level aerobatics during air display 25.6.47 (fatal)
- EK786 To CRD charge at Blackburn 4.2.47; convtd to TF.5; completed 28.4.47; 813 Sqn ('112/FD' later '112/C') by 8.47; spun into sea from 5,000 ft, *Implacable*, Moray Firth, 4.2.49 (fatal)
- EK787 To CRD charge at Blackburn 4.2.47; convtd to TF.5; completed 28.4.47; 700 Sqn Yeovilton by 11.47 - @2.48; AHU Stretton by 8.48; RNARY Donibristle by 1.49 - @7.49; 813 Sqn by 1.50; RNARY Donibristle by 7.50; RNARY Belfast 12.4.51; 813 Sqn 12.2.52 - @4.52; 827 Sqn Ford by 7.52; SOC 13.10.52
- EK788 To CRD charge at Blackburn 4.2.47; convtd to TF.5; completed 30.4.47; 1 RDU Anthorn by 1.49 - 7.49; SOC 21.12.49; to ground instructional airframe as A2210, at Bramcote by 1951
- EK789 To CRD charge at Blackburn 5.2.47; convtd to TF.5; completed 29.4.47; 1 RDU Anthorn by 1.49; on landing from ferry flight, tail wheel lifted and prop struck ground, 9.4.49; 813 Sqn by 7.49 - @12.49; undercarriage collapsed in heavy emergency landing, *Implacable*, 10.11.49; SOC Donibristle 23.1.50
- EK790 To CRD charge at Blackburn 4.2.47; convtd to TF.5 5.2.47 - 29.4.47; 813 Sqn ('112' later '102/C' & '102/FD') by 5.48; 813 Sqn ('102/FD') by 6.49; to RNARY Donibristle 6.50; Blackburn, Brough by 1.51; RNAY Belfast 29.8.51; SOC 10.11.52; used by Shorts Fire Service up to 1963
- EK791 To CRD charge at Blackburn 4.2.47; convtd to TF.5 5.2.47 - 30.4.47; 1 RDU Anthorn by 1.49 - @7.49; 813 Sqn ('112/C' later '112/A') by 11.49 - @9.51; loose cowling following failure of attachment, Andover, 19.9.50; SOC 23.4.52
- EK792 To CRD charge at Blackburn 4.2.47; convtd to TF.5 5.2.47 - 21.4.47; 787 Sqn 2.4.47; 1 RDU Anthorn 22.7.47 for mods; 787 Sqn 10.9.47; 1 RDU Anthorn 20.10.47 - @1.49; grill detached in test flight, 24.1.48; SOC 14.6.49
- EK793 To CRD charge at Blackburn 6.2.47 and convtd to TF.5; completed 30.3.47; 1 RDU Anthorn, flown 21.7.47; 813 Sqn ('113/FD') by 8.47 - @9.47; 703 Sqn by 10.47 - @2.48; 813 Sqn Lee-on-Solent by 1.49; Lost power and ditched in Plymouth Harbour from *Implacable*, 24.3.49; SOC
- EK794 To CRD charge at Blackburn 6.2.47 and convtd to TF.5, completed 30.3.47; 1 RDU Anthorn by 1.49 - @1.50; RNARY Donibristle by 7.50; RNAY Belfast 9.2.51; Stretton 6.2.52; 813 Sqn by 3.52 - @5.52; 827 Sqn ('128/J?') by 7.52; floated over wires and stopped on prop boss in No.6 barrier, *Eagle*, 17.11.52; SOC 8.12.52
- EK795 To CRD charge at Blackburn 6.2.47 and convtd to TF.5; completed 30.3.47; 1 RDU Anthorn by 1.49 - @1.50; 813 Sqn by 2.50; hit port aileron of stationary EK764, Lee-on-Solent, 17.2.50; to 1 RDU Anthorn 6.50; 813 Sqn ('122/C') by 6.50 - @1.51; heavy landing on DLT; broke tail oleo, *Indomitable*, 23.11.50; struck gun director landing on *Indomitable*, 1.12.50; RNARY Donibristle by 7.51; 827 Sqn *Eagle* by 7.52; wheels-up landing, Lossiemouth, 17.10.52; AHU Abbotsinch by 1.53; SOC 29.8.53
- EK796 To CRD charge at Blackburn 6.2.47 and convtd to TF.5; completed 30.3.47; 1 RDU Anthorn by 1.49 - @7.49; RNARY Donibristle by 1.50; 813 Sqn by 3.50; RNARY Donibristle by 7.50 - 1.51; 827 Sqn by 5.51; prop pecked deck during DLT, *Eagle*, 7.3.52; engine failed; ditched ½m off coast near Bognor, Sussex, 7.5.52; SOC
- EK797 To CRD charge at Blackburn 6.2.47 and convtd to TF.5; completed 30.3.47; Brough to 1 RDU Anthorn 12.5.47;

- 1 RDU Anthorn by 1.49 - @7.49; 813 Sqn by 12.49; throttle linkage parted; ditched off Portland, 25.4.50; picked up by HMS *Headingham Castle*; SOC
- EK798 To CRD charge at Blackburn 6.2.47 and convtd to TF.5; completed 30.3.47; AHU Arbroath to 1 RDU Anthorn 13.5.47 - @7.49; 799 Sqn (uncoded) by 1.50 - @5.50; RNARY Donibristle by 7.50; Blackburn, Brough by 1.51; RNAY Belfast 29.8.51; SOC 10.11.52
- EK799 To CRD charge at Blackburn 6.2.47 and convtd to TF.5; completed 30.3.47; 1 RDU Anthorn by 1.49; RNAY Belfast 3.4.50; 813 Sqn Lee-on-Solent ('111/A') 25.10.50 - @9.51; SOC 19.5.52
- EK827 To CRD at Blackburn 12.2.47; convtd to TF.5; completed 30.4.47; AHU Arbroath to 1 RDU Anthorn 15.5.47- @7.49; SOC 21.12.49; to ground instructional airframe as A2211 at Bramcote
- EK828 To CRD at Blackburn 12.2.47; convtd to TF.5; completed 15.5.47; 813 Sqn by 1.48; struck edge of flight deck and hook pulled out; skidded into barrier, *Implacable*, 8.2.49; RNARY Donibristle by 7.49 - @7.51; 827 Sqn by 4.52; caught wire, bounced & prop pecked deck, *Eagle*, 5.6.52; approached slightly high and overshot turn-in; floated over wires, stalled on to deck and hook engaged No.2 barrier which was not raised; ran into No.4 barrier, *Eagle*, 24.6.52; SOC 29.12.52
- EK829 To CRD at Blackburn 12.2.47; convtd to TF.5; completed 30.4.47; 813 Sqn by 9.47; Blackburn by 1.49; 1 RDU Anthorn by 7.49; 799 Sqn Yeovilton by 7.49; 813 Sqn ('102/C') by 8.49; crashed into barrier, *Implacable*, 16.10.49; undercarriage collapsed in heavy landing, *Vengeance*, 28.1.50; RNARY Donibristle by 7.50; 813 Sqn ('110/C') by 9.50 - @12.50; Blackburn, Brough by 1.51; RNAY Belfast 18.5.51; 827 Sqn Lee-on-Solent 30.5.51 - @9.51; SOC 14.3.52
- EK830 To CRD at Blackburn 12.2.47; convtd to TF.5; completed 30.4.47; 1 RDU Anthorn by 1.49; SOC 27.4.50; on Gosport dump 7-8.55 coded '915'
- EK831 To CRD at Blackburn 12.2.47; convtd to TF.5; completed 30.4.47; 1 RDU Anthorn by 1.49 - @7.49; 813 Sqn ('113/C') by 11.49; failed to pick up wire and hit barrier, *Implacable*, 7.2.50; RNARY Donibristle by 1.51 - @7.51; 827 Sqn Ford by 1.52; Undercarriage would not lower; bellylanded, Lee-on-Solent, 29.1.52; 827 *Eagle* by 7.52; SOC 18.10.52
- EK832 To CRD at Blackburn 12.2.47; convtd to TF.5; completed 16.5.47; AHU Arbroath to 1 RDU Anthorn 15.5.47; 813 Sqn by 5.48; Culdrose by 1.49; RNARY Donibristle by 7.49; RNAY Belfast 24.7.50; 813 Sqn ('110/A') by 5.51 - @1.52; hit barrier, *Implacable*, 10.5.51; repaired; RNARY Donibristle by 7.52; 813 Sqn by 11.52; Ford to Brawdy for fire fighting practice 13.7.53; SOC 20.7.53
- EK833 To CRD at Blackburn 12.2.47; convtd to TF.5; completed 16.5.47; 813 Sqn Culdrose ('122/C'); crashed in field, Lands End, Cornwall, 12.11.48 SOC
- EK834 To CRD charge at Blackburn 14.2.57 and convtd to TF.5; completed 16.5.47; 1 RDU Anthorn by 1.49; 813 Sqn ('112/C') by 4.49; hook hit round-down and fractured; hit barrier, *Implacable*, 23.6.49; SOC 24.6.49
- EK835 To CRD charge at Blackburn 14.2.57 and convtd to TF.5; completed 20.5.47; AHU Arbroath to 1 RDU Anthorn 20.5.47; RNARY Donibristle by 1.49 - @1.50; 1 RDU Anthorn to RNAY Belfast store 15.9.50; SOC 31.8.53
- EK836 To CRD charge at Blackburn 14.2.57 and convtd to TF.5; completed 16.5.47; AHU Arbroath by 5.47 (to Anthorn?); 1 RDU Anthorn by 1.49; 813 Sqn by 4.49; lost sight of batman in sun; heavy landing, *Implacable*, 27.9.49; RNARY Donibristle by 1.50; RNAY Belfast 1.9.51; RNARY Donibristle 15.11.52; AHU Abbotsinch by 1.53; SOC 29.8.53
- EK837 To CRD charge at Blackburn 14.2.57 and convtd to TF.5; completed 20.5.47; 1 RDU Anthorn by 1.49; SOC 8.3.50
- EK838 To CRD charge at Blackburn 14.2.57 and convtd to TF.5; completed 20.5.47; 813 Sqn ('111') by 9.47; engine failed; ditched, *Implacable*, 9.12.47; RNARY Donibristle by 7.49; SOC 19.3.51
- EK839 To CRD charge at Blackburn 14.2.57 and convtd to TF.5; completed 30.5.47; 703 Sqn Thorney Island by 11.47 - @2.48; SOC 19.3.51
- EK840 To CRD charge at Blackburn 14.2.57 and convtd to TF.5; completed 20.5.47; Culdrose by 1.49; 1 RDU Anthorn by 7.40 - @1.50; Ships Flt *Implacable* ('913/C'); SOC 13.3.50 as ground instructional airframe A2218 at Bramcote 1953/4
- EK841 To CRD charge at Blackburn 21.2.57 and convtd to TF.5; completed 30.5.47; 813 Sqn ('113/C'); 827 Sqn ('120/FD') by 3.51; unable to lower undercarriage; wheels-up landing, Hal Far, 30.7.51; SOC in Med 14.9.51
- EK842 To CRD charge at Blackburn 19.2.57 and convtd to TF.5; completed 30.5.47; AHU Arbroath 2.5.47; 813 Sqn by 10.47; 1 RDU Anthorn to Yeovilton 11.1.49; 703 Sqn by 1.49; 813 Sqn by 1.49; 1 RDU Anthorn by 7.49; 813 Sqn by 7.49 - @9.49; RNARY Donibristle by 1.50; SOC 20.2.50
- EK843 827 Sqn, Missed all wires, *Eagle*, 2.12.52
- EK843 To CRD charge at Blackburn 19.2.57 and convtd to TF.5; completed 30.5.47; 813 Sqn ('120/C') by 10.47 - @8.49; RNARY Donibristle by 1.50 - @1.51; 827 Sqn ('127/J') by 4.52; engine cutting; landed Worthy Down, 30.4.52; stopped at checkpoint and struck by following Firebrand, 2.5.52; AHU Abbotsinch by 1.53; SOC 8.6.53
- EK844 To CRD charge at Blackburn 19.2.47 and convtd to TF.5; completed 21.5.47; AHU Stretton, engine cut after take-off; made wheels-down landing, 30.9.47; at SBAC Show 9.48; CS(A) charge at Blackburn, Brough; C Sqn AAEE 27.6.49 for dive brake/flap trials; Blackburn, Brough 8.7.49; C Sqn AAEE 1.10.49 for recheck of dive brake/flap interconnection; Blackburn, Brough 22.11.49; racing No.59 at Sherburn-in-Elmet race 22.7.50; RNARY Donibristle by 1.51; Undercarriage jammed; bellylanded on grass, 31.8.51; 759 Sqn Culdrose ('182/CW') by 12.51 - @7.52; hit by another aircraft while stationary 25.4.52; AHU Abbotsinch by 1.53; SOC 8.6.53; Burnt at Bramcote display 6.53, coded '120'
- EK845 To CRD charge at Blackburn 19.2.57 and convtd to TF.5; completed 30.5.47; AHU Arbroath 30.5.47; 1 RDU Anthorn 5.47(?); 813 Sqn ('111/C') by 1.48; ran off taxi track; port wheel bogged down and prop damaged, Culdrose, 26.1.48; SOC 23.5.49
- EK846 To CRD charge at Blackburn 24.3.57 and convtd to TF.5; completed 30.5.47; AHU Arbroath 24.7.47; RNARY Donibristle by 1.49 - @1.50; 813 Sqn ('103/C' later '103/A') by 7.50 - @10.52; caught No.10 wire and hit barrier, *Indomitable*, 25.1.51; caught No.9 wire and hit No.2 barrier, *Indomitable*, 11.5.51; hit barrier, *Implacable*, 18.9.51; taxied into EK658, Lee-on-Solent, 23.5.52; SOC 18.2.53
- EK847 To CRD charge at Blackburn 24.3.57 and convtd to TF.5; completed 30.5.47; AHU Arbroath 24.7.47; 813 Sqn ('122/C') by 11.47; heavy landing, Culdrose, 6.11.48; RNARY Donibristle by 1.49; SOC 8.4.49
- EK848 To CRD charge at Blackburn 24.2.57 and convtd to TF.5; completed 30.5.47; AHU Arbroath 24.7.47; CS(A) charge at Blackburn 5.7.47 for exptl flight tests of intake mods; retd Blackburn 21.7.47 to complete TF.5 conversion; EFS Handling Sqn Hullavington 15.9.47 to check trials of ejected gun links (?) & radio trials, also check handling at max AUW of 17,500 lb; C Sqn AAEE 5.1.48 for gun & radio trials; 1 RDU Anthorn 4.6.48 - @1.49; 813 Sqn by 4.49; SOC on *Implacable* 29.6.49
- EK849 To CRD charge at Blackburn 24.3.57 and convtd to TF.5; completed 30.5.47; AHU Arbroath 25.7.47; 813 Sqn ('101/C') by 11.47 - @1.50; RNARY Donibristle by 7.50; Blackburn by 1.51 - @7.51; SOC 10.11.52
- EK850 To CRD charge at Blackburn 24.3.57 and convtd to TF.5; completed 30.5.47; AHU Arbroath 25.7.47; 813 Sqn ('110/C'); undercarriage failed to lower, Culdrose, 5.1.49; RNARY Donibristle by 7.49; AHU Abbotsinch 2.2.51; 813 Sqn ('113/A') by 3.51; barrier crash, *Indomitable*, 3.5.51; bounced and floated over wires into Nos.1 & 2 barriers, *Indomitable*, 4.7.51; SOC 1.5.52
- EK851 to EK867  
 EK885 to EK913  
 EK934 to EK967 Cancelled.

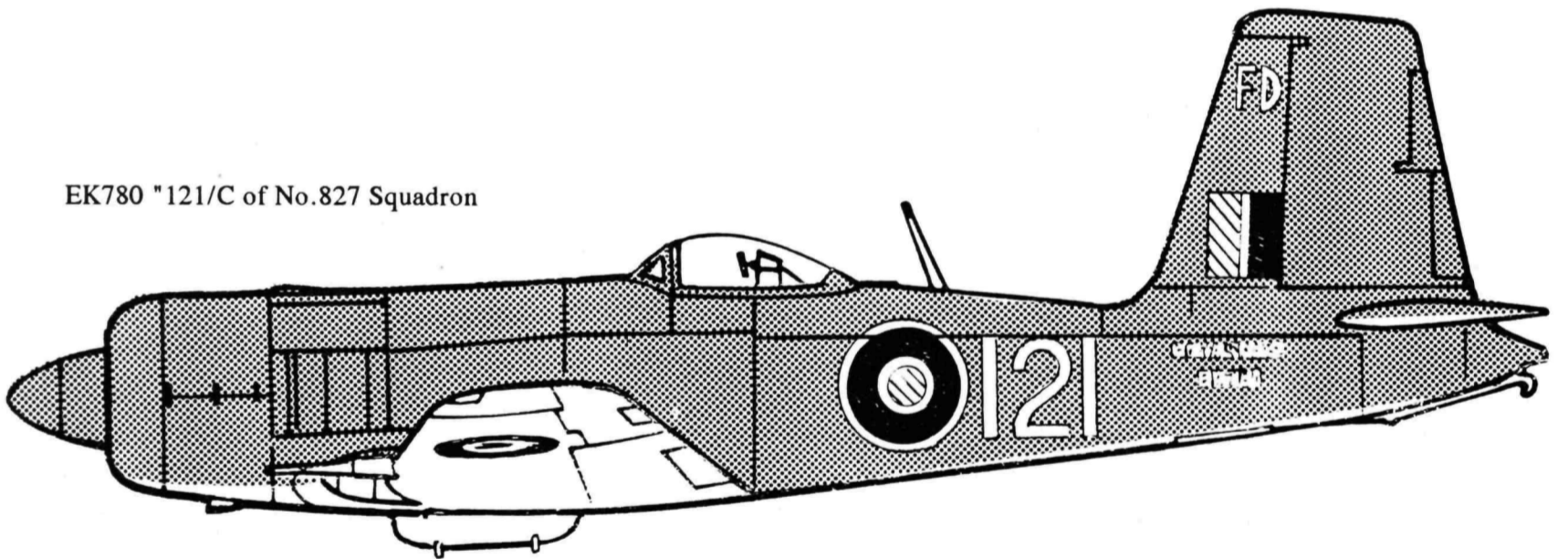
DK383, "OC" of No.708 Squadron.  
Extra dark sea grey/dark slate grey/sky



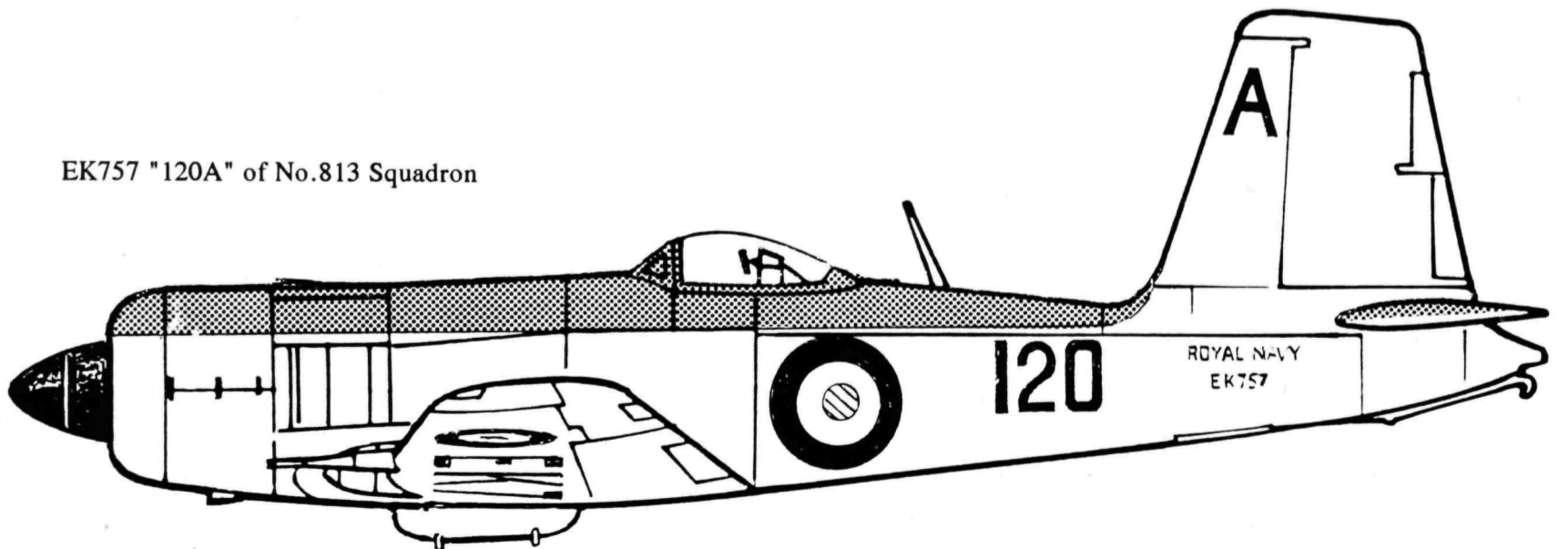
EK632, "100/C" of No.813 Squadron  
Extra dark sea grey/sky

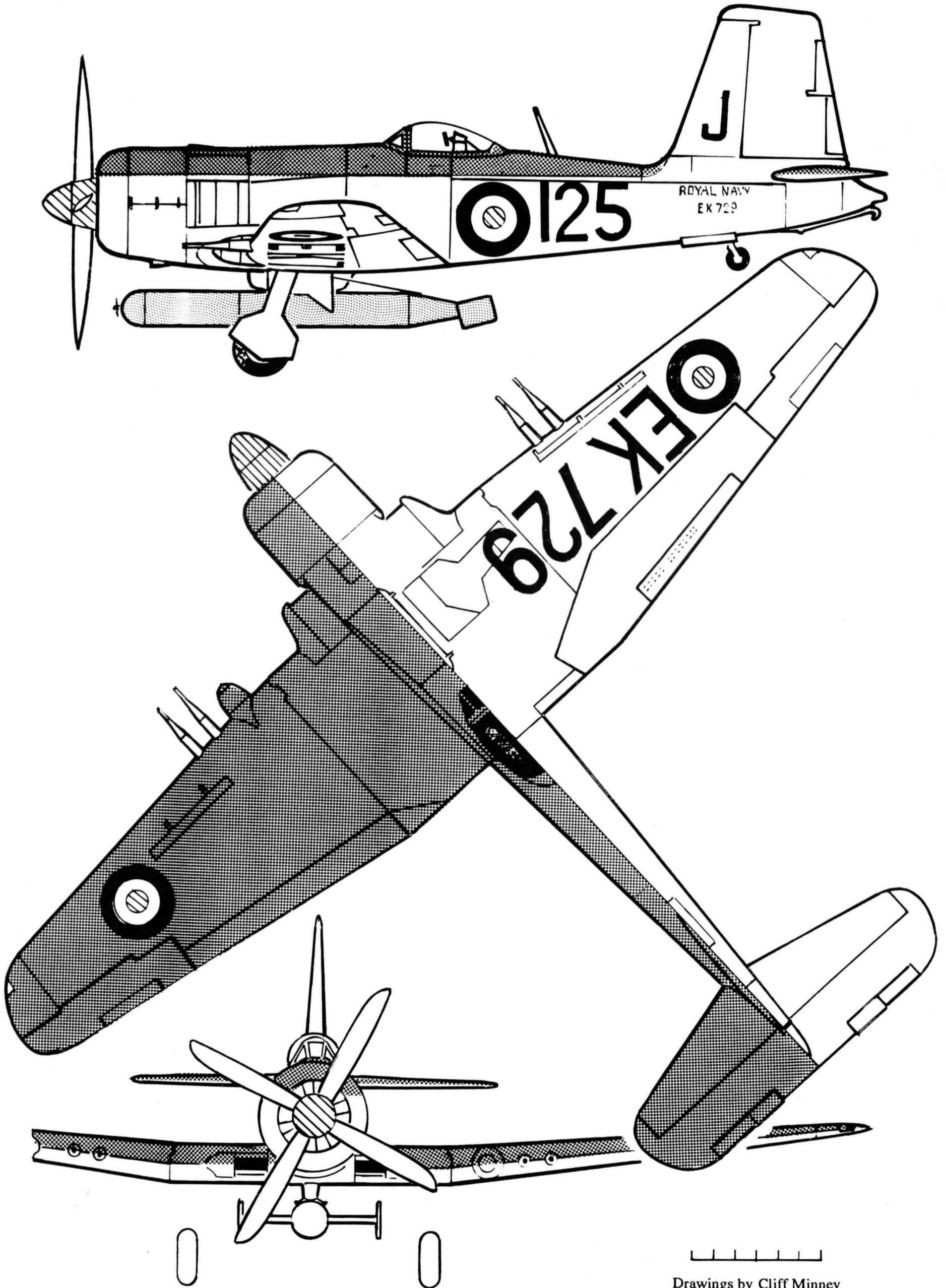


EK780 "121/C of No.827 Squadron



EK757 "120A" of No.813 Squadron





Drawings by Cliff Minney

## FEEDBACK



RAF Cant Z-501

HK976 was an Italian reconnaissance flying boat that saw extensive service for coastal patrol and air-sea rescue with the *Regia Aeronautica*. Following the Italian surrender in September 1943, a number of Italian aircraft came over to the Allied side and this example from 147 *Squadriglia* turned up in Malta. It is believed to have come from Lemnos.

Ron Backhouse has sent in this photograph of 147-11 acquired while he was with an RAF Air-Sea Rescue unit at Kalafrana. One of his friends was refuelling it in Marsaxlokk Bay when a foot went through the wing fabric, necessitating a rapid repair job to get the aircraft away on schedule.

### IRAQI ANSONS

John Havers has provided the following notes which add to the details in *The Anson File*.

Not in 1938 or at any time pre-1944 were Ansons included in Order of Battle.

- 16.5.44 UK recommended RIAF purchase six at £9,500 each; (F0371/40072)
- 29.6.44 RIAF confirmed wish to purchase six (F0371/40072)
- 20.7.44 Six Ansons in process of supply from UK (AIR40/1420)
- 9.9.44 Approval given for purchase of 30 Ansons.
- 10.44 Six Ansons being shipped to Basra for erection by 119 MU. (AIR24/823)
- 10.44 Six Ansons received for check at 134 MU Habbaniya before going to RIAF (AIR29/1051)
- 11.44 To enable training to begin, RAF Middle East supplied 6 Ansons pending arrival of 30 from UK. Of the six, two duals on loan arrived 8.11.44 and the other four were to be sold to the RIAF. (AIR24/823)
- 11.44 Six Ansons serviced at 134 MU for handing over to RIAF
- 24.11.44 First four Ansons delivered
- 25.11.44 RIAF Anson 171 to Amman with ex-Iraqi Prime Minister
- 29.11.44 To speed up delivery, six Ansons were to

be flown out from UK to HQ RAF ME for examination before delivery to RIAF in addition to the 30 shipped to Basra plus the 6 loaned from RAF ME, After selection of the best 30, remaining 6 to go to RAF ME (F0371 /40072)

- 12.44 Warning given to 134 MU Ahwaz that approx 30 Ansons would pass through on delivery to RIAF, also NK151 for the Regent (AIR29/1051)
- 12.44 Four more Ansons arrived at Basra and transferred to 119 MU Shaibah for erection; four others nearing completion. (AIR24/823)
- 1.45 At 119 MU Shaibah, four Ansons, originally intended for RIAF, were assembled during the month, but were diverted to the ME; three had been completed with one delivered to Habbaniya on first stage of its journey; the fourth awaiting test flight (AIR29/1046)
- 1.2.45 RIAF Anson to 134 MU Ahwaz for check. (AIR29/1051)
- 5.2.45 Party from 134 MU Ahwaz sent to Rashid to collect and dismantle Anson AW653 of RIAF; this was one shown at (2) under Iran in last issue. (AIR29/1051)
- 7.2.45 RIAF Anson 170 Lydda to Baghdad with Regent. (AIR24/824)
- 10.2.45 RIAF Anson 169 ex-Amman
- 2.45 11 more left of which 8 had arrived.
- 2.45 3 Ansons delivered from 119 MU to Habbaniya en route to ME
- 3.45 12 more due to leave UK, 26 Ansons now delivered to 134 MU for issue to RIAF. Of the initial delivery one handed over to the RIAF, but was returned as they said it was not new and they were not prepared to pay the agreed purchase price. As a result, aircraft were returned to 134 MU for cleaning off all signs of anti-corrosive treatment, re-doping in silver and the addition of RIAF markings. At the end of the month, five aircraft were ready for hand-over, (AIR24/824)
- 21.3.45 First 4 not new and only on loan from ME; all 30 from UK new (AIR40/1420)
- 4.45 Nine more handed over by 134 MU. Disappointment and resentment by RIAF over condition of aircraft. (AIR24/824, 29/1051)
- 5.45 Two received and six completed; total handed over by 134 MU now 23. (AIR24/824, AIR29/1051)
- 6.45 Six completed and total handed over by 134 MU now 26. (AIR24/824, 29/1051)
- 7.45 Several Ansons found with cracking of main-plane skins and shrinkage of main spar packing blocks. Also insufficient clearance between ailerons and flaps - all due effects of temperature. (AIR24/825)
- 21.8.45 Agreed four RIAF Ansons at a time to 134 MU for repair (AIR24/860)
- 8.45 One Anson received at 134 MU. Now have seven of which six have wood shrinkage. (AIR29/1051)
- 4.9.45 Inspected at Rashid by Mr Taylor of Avros. (AIR24/860)
- 30.9.45 Reported that one burnt out during month after flying into hill side; error by pilot. First four arrived 134 MU for mods (AIR24 /825)

- 26.10.45 AOC suggested to the Iraqi Minister of Defence that RIAF "purchase four turretted Ansons now at Habbaniya and not yet taken over by RIAF to replace original four without turrets". Minister stated they now proposed to return the four without turrets and they preferred to buy rather than pay high hire charges. He stated that they might want to buy two turretted aircraft to replace "2 lost on recent ops", Later decided to wait and buy Avro XIXs with metal wings (AIR24/860)
- 10.45 Flew ops against Mulla Mustapha. Four collected after mods and four more delivered. (AIR24/825, 29/1051)
- 11.45 At this time 12 now repaired and a further four received on 12 Nov; 134 MU requested 12 more carpenters to enable the 30 Ansons to be modified in a reasonable time (AIR24/825, 860)
- 12.12.45 Two RIAF Ansons flew H E The Ambassador, Iraqi Minister of Defence and the CO of the RIAF to Habbaniya to view Anson mods (AIR24/860)
- 12.45 Eight now at 134 MU (AIR24/825)
- 3.46 1 lost in major flood at Rashid (FO371/52388)
- 1.4.46 Order of Battle: 1 (GP Sqn (Mosul), 13 acft; 7 (GP) Sqn (Rashid), 13 aircraft (FO371/52388)
- 16.8.46 AOC discussed withdrawal of RIAF Ansons with W/C Fisher, Inspector RIAF (AIR24/1896)
- 30.9.46 Order of Battle shows 24 acft (FO371/52388)
- 10.46 134 MU returned one Anson to RIAF after repair
- 5.47 One hit by ground fire accepted by RAF as a repayment repair service (AIR24/1892)
- 31.5.48 Order of Battle: 1 (GP) Sqn, 11 acft; 7 (GP) Sqn, 10 acft. Based at Mafraq, Transjordan (AIR24/1897)
- 7.48 Two of 7 Sqn's Ansons crashed, one in Transjordan and one at H.2 (AIR24/1898)
- 10.48 All grounded following accident at Mafraq on 2.10.48 when prop came off in air. All crew killed (AIR24/1898)
- 30.11.48 Order of Battle: 1 Sqn (Rashid), 11 acft. Being withdrawn from ops owing to dilapidated condition. Some in use for light communications work (AIR24/1898)
- 12.48 All still grounded and dispersed around Mafraq airfield (AIR24/1899)
- 1.49 Being returned to RAF. Majority to be dismantled due to condition and returned by road. Work already commenced at Mafraq (AIR24/1899)
- 2.49 Five delivered to Habbaniya by road.
- 3.49 No longer included in Order of Battle

Addendum to Egyptian Ansons; Don Hannah confirms that PH806 was the aircraft flown out to become SU-ADJ.

### Cathode Rays

We inquired about Hart K1436's experiments with cathode ray equipment. Peter Berry has written in to say that this was a form of direction finding equipment which was usually a ground-based D/F aid. It was in use on the North Atlantic with stations in Iceland, Northern Ireland, Britain and the Azores. Aircraft requesting a position would transmit and the receiving CRD/F stations would telegraph their bearings to

Prestwick where they would be plotted and a "triangulation fix" transmitted to the aircraft.

When Peter arrived at ATC Farnborough in April 1948, the first Radar Approach Control was being set up. A Standard Telephones PV.1B CRD/F console from the Royal Navy was acquired. It was set to VHF frequencies and the electronic trace re-arranged to read QDR (magnetic bearing) and QTE (true bearing). The Navy used QDM (magnetic course to steer) presumably because of their homing requirements aboard carriers.

The aid has been in use in the Distress & Diversion cells at West Drayton and Prestwick for many years and airborne CRD/F has been used for SAR in Shackletons and Nimrods.

### Martlets

Peter Pimblett has written in on the Martlet item in the last issue. The temporary registration on the French Grumman G-36A was NXG2. The thirty Martlet IIIs were not ex-Belgian contract but were diverted from a Greek contract. The German invasion came while they were still in transit and most, if not all, were off-loaded at Gibraltar.

### Flying Radio Stations

Anti-Aircraft Co-operations squadrons were not noted for their front-line activities but Eric Myall has kindly supplied a copy of a D-Day supplement to the *Chichester Observer* which mentions that activities of No.287 Squadron, then based at Croydon.

Just before D-Day, some twelve Ansons were ferried to the south-east corner of Ford. Their orders were to provide one aircraft in the air 24 hours a day over mid-Channel. Fitted with special radio, each was crewed by two pilots, one to fly the aircraft and one to receive and relay messages from the beach-head to SHAEF headquarters. Each pilot was provided with a revolver for defensive purposes!

### That Lightning Once Again!

The numbers quoted on page 19 for the two Lightnings, 42-3517 and 42-4300, were queried on page 51 as they related to a B-17F and a P-39K! Fortunately, Jack Meaden has come to the rescue by pointing out that there was a digit missing. The hyphen is in the wrong place as they were "44" prefix numbers, there being a tendency to remove the first number when painting an aircraft. Hence they were 44-23517 and 44-24300, being a P-38J-20 and a P-38L-1 respectively.

### Was this the Terminator?

On page 100 of Issue 4/93 we mentioned an aircraft fitted with thirty Thompson sub-machine guns and queried its identity. Terry Parsons has unearthed the Junkers-Larsen JL-12. Larsens acted as agents for Junkers to evade the embargo on non-US aircraft and put forward the design to the US Army in December 1921 for a ground attack aircraft. The Junkers CL-1 (J-10) was a low-wing all-metal monoplane produced in the closing month of World War One. The JL-12 was probably an extension of this design with a 420 hp Liberty engine. Twenty-eight Thompson .45-calibre guns were fitted to fire downwards and two more were fitted in the cockpit to fire out of each side window. 400 lbs of armour plate was carried. The belly guns were arranged with 12 pointed slightly forward, six directly down and ten pointing to the rear. Half or all the guns could be fired simultaneously.



## BOOKSHELF

**War Prizes** by Phil Butler  
Midland Counties - £29.95

Over the years since the end of World War Two, there have been numerous books and articles on captured enemy aircraft but this one would appear to be the last word on the subject.

Phil Butler's interest in these aircraft will be well known to his fellow-members and he has published several accounts, notably on AIR MIN aircraft. This new book records all aircraft removed to Allied countries or tested by evaluation teams on the spot. The result is a 320-page volume with over 460 photographs which will give great pleasure for a long time of browsing through.

It is also frustrating to consider how many historic aircraft were brought to the UK and then allowed to disappear to the scrap merchants. Preservation was not foremost in the minds of those involved. However, a surprising number survived the philistines, mainly by chance.

One we could not find was Mitsubishi A6M V-173 that we saw at RAAF Richmond in 1988. There is probably a good reason for this but we cannot think of it.

This is unreservedly recommended for anyone with an interest in vintage aircraft, especially WW.2 military.

**African Military Aviation** by Winston Brent  
Available from Air-Britain Sales Dept - £15.00 post free

The author's comprehensive review of military air arms in Africa runs to 287 pages and, as befits Air-Britain's specialist in the subject, covers all the organisations operating military and paramilitary aircraft.

Over 300 photographs, 32 of them in colour, cover a wide variety of types and markings. Individual details of aircraft include serial, type, c/n, taken on charge date and previous identity. Details of known crashes are given where appropriate. Some defunct air forces are included for reference, for example Katanga and Biafra.

This is likely to become a well-thumbed book. It is always useful to be able to look up the details of the 24 aircraft of the *Force Aérienne de Burkina Faso* (of eleven different types) even if one is not quite sure where the country actually resides on the map. One unexplained query; why is Kenya's air arm called "82 Air Force"?

**Foreign Invaders** by Dan Hagedorn and Leif Hellström  
Midland Counties - £22.95

Another of our members has been hard at work again after completing our *Central American & Caribbean Air Forces*. Dan Hagedorn has co-operated with Leif Hellström in producing a handsome volume on Invaders.

The A-26 was a logical development of the A-20 that saw widespread service during World War Two as the Havoc (USAAF), Boston (RAF, SAAF, RAAF), Havoc (as RAF night fighter) and DB-7 (Armée de l'Air in 1940). It was a very different aircraft, only the general lay-out resembling an A-20. Air Ministry orders were suspended at the end of the war after trials at Boscombe Down but numerous A-26s, later redesignated B-26s after the Marauder was out of service, saw service with a variety of air forces.

One of the major users was France and the type saw operational service in French Indo-China, later Vietnam. There is a fully-detailed account of their activities up to the French withdrawal.

Invaders were used in sundry small wars in Central America while others formed the striking power of various clandestine air forces, usually run by the CIA. Details are given of American operations where the established US armed forces were (allegedly) not involved. These took place in Indonesia, Laos, Congo and Vietnam while Invaders had a part to play in the abortive Bay of Pigs invasion of Cuba.

Eighteen different air forces used Invaders and others were involved in experimental and clandestine work. Tables are provided as far as possible of serial, previous identities, dates and fates.

With 200 pages and 293 photos, 28 in colour, this is highly-detailed account of the non-American service of a type that epitomised the light bomber concept at the end of World War Two. Concentrating on "foreign" use is a useful way of avoiding the history of a type being overwhelmed by its domestic use which, inevitably, is usually of greater scope. Exports then tend to be appendages to the main history and, in consequence, lose much of the detail.

In a world where much that is written is regurgitated, it is nice to have what is often a new insight into a type's activities.

**The Gave Me a Seafire** by Cdr Mike Crosley  
Parapress Ltd - £15.95

Special offer to members: £13.00 plus £1 P & P from the author at Old House, Brighthstone, Isle of Wight, PO30 4AJ

The first edition of this book appeared in 1986 and it now available again. Those who missed it when it first appeared will have failed to read one of the most interesting accounts of what it meant to be a wartime Fleet Air Arm pilot.

To say the book starts with a bang is literally true as it opens with *Eagle* being torpedoed by U-73 while the author was supping his soup in the wardroom!

Mike Crosley joined the Royal Navy on 11 November 1940, a propitious date as that same night a gaggle of Swordfish put the Italian fleet out of action at Taranto. After basic training, he went to 24 EFTS at Luton for elementary training on Magisters then on to 1 SFTS at Netheravon on Harts, Audaxes and Battles. Selected as a fighter pilot, he then passed on to HMS *Heron* at Yeovilton for operational training on Hurricanes before being appointed to *Eagle*.

After being told *Eagle* was in China, he was finally directed to Liverpool where she was found - with a pair of Buffaloes in the hangar. This caused some sleepless nights until *Eagle's* squadron was located at Arbroath - or Machrihanish, resulting in some shuttling to and fro across Scotland. No.813F supplied *Eagle* with fighter defence. It had two Hurricanes. The rest of No.813 flew Swordfish as did No.824 Squadron. On 1 January 1942, they landed on *Eagle* in the Clyde.

For the first years of the war, carrier fighters were intended to chase off snoopers, air defence against attack being left to the ships' guns. *Eagle* was used to ferry RAF Spitfires to a point in the Med where they could fly off to Malta. Two more Sea Hurricanes, originally intended for *Ark Royal* before she was lost, were found in crates at Gibraltar and impressed, doubling the carrier's fighter force.

It was June before twelve Sea Hurricanes of No.801 Squadron arrived to reinforce *Eagle's* four as a convoy to Malta was to be sailed and this time there would be a reasonable fighter defence. The AA cruiser *Cairo* had aircraft

direction radar and the spirited fighter activity prevented any serious damage to the convoy. The next Malta convoy in August found 86 fighters embarked in four carriers, including *Furious* which had 40 Spitfires aboard for flying-off to Malta. It was on this operation that *Eagle* was sunk.

The author then joined No.800 Squadron which took its Sea Hurricanes aboard *Biter* to cover the landings in Algeria and then to No.804 before being posted to HMS *Dipper* at Henstridge as instructor. A mix of Spitfires and early Seafires provided conversion for fighter pilots.

After service during the Normandy landings as a gunnery spotter from the pool of FAA, RAF and USN Spitfire units at Lee-on-Solent, the author took command of No.880 Squadron at Hatston. After operations off Norway in *Furious*, No.880 joined *Implacable* and headed for the Pacific. For the remaining months of the war, her Seafires provided air defence for the British Pacific Fleet and also took part in strikes against airfields and other targets in Japan.

One of the valuable features of this book is the detailed background on Fleet Air Arm fighter equipment and tactics. The lack of knowledge of aircraft among the higher-ranking officers of the Royal Navy is well known but is brought out again and again as operations are described. The Seafire suffered its ration of teething troubles, only for pilots to find that later marks were still deficient in flying safety.

The impression given that the Seafires were too short-ranged to do more than provide local fighter protection for the fleet was far from the truth. Much of No.880's work was in ground-attack missions and the carrier's sortie rate per aircraft was the highest in the fleet.

There are some books which we nominate as compulsory reading as they cover whole fields of aviation history and this is one of them.

**Latécoère - Les Avions et Hydravions** by Jean Cuny  
Docavia - £51.00

A welcome addition to the Docavia series of French company histories covers the Latécoère company from Toulouse. Its name may not be a household one to many British readers of post-war vintage but it was a firm which produced a wide range of aircraft.

Although chiefly remembered for its marine aircraft, Latécoère began by building landplanes, initially Salmson 2A2s under licence, followed by Breguet 14A2s. The latter were the basis for the first civil aircraft built, incorporating small cabins or mail compartments.

The company also began to build multi-engined night bombers but without any production orders. One interesting photo shows the Laté 6 geodetic fuselage without covering - in 1924. But it was the Laté 25, 26 and 28 which made Latécoère synonymous with long-range transport flights.

These high-wing monoplanes were used by Aéropostale on the routes through Spain and West Africa to Dakar to meet up with a fast mail steamer for Belem. Then the aircraft took over again for a route down the Brazilian coast to Buenos Aires and then across the Andes to Santiago. As "La Ligne", it passed into French mythology with famous pilots such as Mermoz and Saint-Exupéry becoming household names.

The South Atlantic gap made Latécoère engage in flying boat design to provide a long-range flying boat for the Dakar - Brazil crossing that would cut out the slow boat trip. Most tended to look like Dornier Wals but a company style developed and led to the supply of reconnaissance boats to the French Navy. Four-engined boats, parasol monoplanes with large sponsons and two tractor and two pusher engines, were built in small numbers for both civil and naval purposes.

For the North Atlantic route, the Laté 521 exemplified the firm's ideas. Although appearing to be a deep-hulled, slab-sided flying boat it was based on the company's normal shallow hull with a central superstructure built up to wing height and faired into the tail. Named *Lieutenant de Vaisseau Paris*, the first pioneered the routes across the Atlantic before being overturned by a sudden storm at Pensacola. Rebuilt, it was followed by the Laté 522 and the military Laté 523, a vast double-deck boat mounting a dorsal turret with a 25 mm gun.

Torpedo-bomber seaplanes were another of the company's specialities. The Laté 28 formed the basis for the Laté 290, a high-wing, twin-float seaplane intended for operation from seaplane stations against surface ships. Eighteen were ordered to equip two escadrilles at Cherbourg and Berre. After various prototype models, the Laté 298 appeared. Despite its "29" prefix, it was quite different, being a low-wing monoplane which flew on 8 May 1936. It was ordered in quantity on March 1937. Over 100 had been delivered by June 1940 and 30 more were completed for the Vichy government. During the German invasion, Laté 298s were used for ground-attack missions against German columns in Northern France.

Small numbers of four-engined flying boats continued to be delivered, culminating in the Laté 631, a beautiful six-engined flying boat which first flew as F-BAHG on 4 November 1942 at Marignane, a few days before Germany occupied the remainder of France and took the 631 to Friedrichshafen where the RAF destroyed it. Nine more followed and went into airline service to the French Antilles.

Although many projects were mooted after the war, Latécoère produced no more aircraft. In its time it had been to the forefront of development, always harassed by French politics, and some of its ideas were well before their time. It favoured retractable floats in 1938, designed a folding-wing Spitfire-like carrier fighter in 1938 and a large flying boat powered by four jet engines in 1946.

Considering that France is only 22 miles from Dover, there is a dearth of literature on French aviation up to 1945. This book fills another gap; if you do not read French, tant pis! But the pictures, three-views and sectional drawings are excellent. But expensive for 400 pages by British standards.

**The Source Book of the R.A.F.** by Ken Delve  
Airlife - £39.95

A perennial problem in checking aviation history is to find a reference without an inordinate expenditure of time. As the years go by, more paper accumulates and one can understand why, in the scientific field, it was often found cheaper to run an experiment than to employ someone to find what the results of an earlier one were!

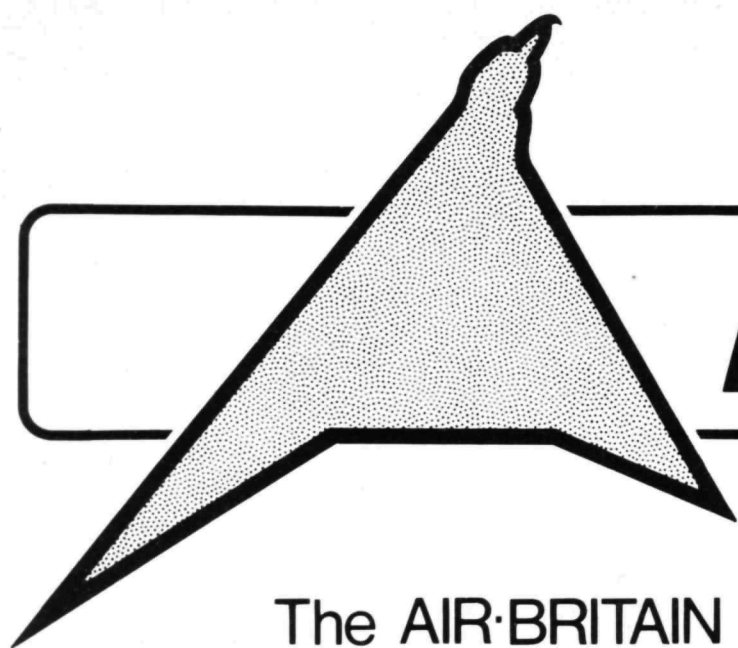
This volume sets out to collate a mass of information relating to the RAF. Among the sections are a chronology (based on the invaluable RAF Briefing Book issued by the D of PR (MoD) in 1973 but restricted in circulation), a list of abbreviations, Orders of Battle for selected dates, Command structure, dates of forming, disbandment and location (but not movements) of Groups and Wings, dates of initial formation and final disbandment of Squadrons and some rather sketchy details of Flights, markings and codes (by types), aircraft performance data, honours and awards, and a number of other subjects.

While most of these details have appeared in print somewhere, it is useful to have them collected together in one volume.

## Contracts (Part 3)

N9655 - N9680	Flycatcher	26	Fairey	421934/23		
N9681 - N9686	Blackburn	6	Blackburn	446452/23		
N9687 - N9696	Dart	10	Blackburn	466343/23	3/20	
N9697 - N9708	Plover	12	Parnall	456483/23	22/23	
N9709 - N9713	Kingston	5	E.E.C.	449553/23		
N9714 - N9723	Dart	10	Blackburn	495127/24	3/20	
N9724 - N9729	Hanley	5	H.P.	452299/23	3/20	Cv to Hendon
N9730 - N9791	Fairey IIIID	62	Fairey	508958/24		First 34 standard; rem fleet rec
N9792 - N9823	Dart	32	Blackburn	508763/24	3/20	
N9824 - N9835	Blackburn	12	Blackburn	509593/24		
N9836 - N9853	Bison	18	Avro	510872/24	16/23	Deld as Mk.II
N9854 - N9895	Flycatcher	42	Fairey	517055/24		
N9896 - N9901	Southampton	6	Supermarine	516531/24	8/24	
N9902 - N9965	Flycatcher	64	Fairey	538271/24		
N9966 - N9977	Bison II	12	Avro	542928/24	11/24	
N9978 - N9989	Blackburn	12	Blackburn	542927/24	10/24	Deld as Mk.II
N9990 - N9999	Dart	10	Blackburn	558352/24	7/25	
S1000 - S1035	Fairey IIIID	36	Fairey	544049/24		Mk II
S1036 - S1044	Southampton	9	Supermarine	601035/25	11/25	
S1045 - S1057	Blackburn	13	Blackburn	609533/25		Deld as Mk.II
S1058 - S1059	Southampton	2	Supermarine	601035/25	11/25	
S1060 - S1073	Flycatcher	14	Fairey	599272/25		
S1074 - S1089	Fairey IIIID	16	Fairey	587606/25		Mk III; General purpose
S1090 - S1108	Fairey IIIID	19	Fairey	587607/25		Mk.III; Fleet reconnaissance
S1109 - S1114	Bison II	6	Avro	599682/25	16/23?	
S1115 - S1120	Dart	6	Blackburn	679206/26	19/26	
S1121 - S1128	Southampton	8	Supermarine	664492/26		
S1129 - S1138	Dart	10	Blackburn	679206/26	19/26	later 707151/26
S1139 - S1148	Fairey IIIIF	10	Fairey	708430/26		Interim type
S1149 - S1152	Southampton	4	Supermarine	719081/26		
S1153 - S1157	Blackburn	5	Blackburn	10974/26		later 709174/26
S1158 - S1162	Southampton	5	Supermarine	718920/26		Deld as Mk.II
S1163 - S1167	Bison	5	Avro	709713/26	16/26	
S1168 - S1207	Fairey IIIIF	40	Fairey	741109/27		to S1182 deld as Mk.I
S1208 - S1227	Fairey IIIIF	20	Fairey	750531/27		Deld as Mk.II
S1228 - S1235	Southampton	8	Supermarine	765929/27		
S1236 - S1247	Horsley	12	Hawker	769876/27	2/27	Deld as Mk.II
S1248 - S1249	Southampton	2	Supermarine	765929/27		
S1250 - S1261	Fairey IIIIF	12	Fairey	784022/27		Deld as Mk.II
S1262	Not allotted					
S1263 - S1264	Iris III	2	Blackburn	812143/27	R.31/27	
S1265 - S1274	Ripon II	8	Blackburn	833137/28		
S1275 - S1297	Flycatcher	25	Fairey	834934/28		
S1298 - S1302	Southampton	5	Supermarine	837553/28		Deld as Mk.II
S1303 - S1356	Fairey IIIIF	54	Fairey	837554/28		Deld as Mk.III
S1357 - S1369	Ripon	13	Blackburn	897808/29	2/29	Deld as Mk.II
S1370 - S1408	Fairey IIIIF	39	Fairey	934177/29		Deld as Mk.IIIM
S1409 - S1418	Flycatcher	10	Fairey	934191/29		
S1419 - S1423	Southampton	5	Supermarine	922543/29		Deld as Mk.II
S1424 - S1432	Ripon II	9	Blackburn	957968/29	2/29	
S1433 - S1435	Rangoon	3	Short	3438/30	R.18/29	
S1436 - S1453	Horsley	18	Hawker	968745/29		Deld as Mk.II
S1454 - S1463	Fairey IIIIF	10	Fairey	965168/29		Deld as Mk.IIIM(DC)
S1464	Southampton	1	Supermarine	38000/30		Deld as Mk.II
S1465 - S1473	Ripon II	9	Blackburn	38676/30	2/29	
S1474 - S1552	Fairey IIIIF	49	Fairey	34792/30		Deld as Mk.IIIB
S1553 - S1574	Ripon II	22	Blackburn	38676/30	2/29	
S1575	Cutty Sark	12	Saro	38398/30		
S1576	Prawn	1	Parnall	723626/30	21/24	
S1577	Nimrod	1	Hawker	54576/30	16/30	Prototype
S1578 - S1588	Nimrod I	11	Hawker	63034/30	16/30	
S1589	Sarafand	1	Short Bros	938153/29	R.6/28	





# AEROMILITARIA

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**1994**

Edited by James J Halley and Ray Sturtivant

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Middlesex TW17 ORW

Two new monographs are on the way as this issue goes to press. *The Squadrons of the Fleet Air Arm* has been revised, updated and issued in A.4 format with new photographs. It should be delivered during November at £24.00 to members (£36.00 to non-members) post free.

It has 480 pages and around 600 photographs, with side view drawings showing FAA aircraft marking. All the tables have been updated and much new information has come to hand for the appendices, particularly on unit markings.

Before the next issue of *Aeromilitaria* appears, we should have in stock *Excellent by Design*. This is a history of Air Ministry specifications and for the first time provides accurate details of all specifications between 1920 and 1949, when the system changed. Using the original Air Ministry files and lists, all the numbers have now been identified and detailed.

With over 400 pages and around 250 photographs, it is a comprehensive work. Included are drawings of many of the designs submitted to specifications which were never built.

At this time, no price is known but it may get into the sales list with winter *Digest*.

### In this Issue

Big flying boats have always fascinated military aviation buffs and they did not come much bigger than the Iris and Perth. Although few in number, they paved the way for the Sunderland that played a major part in keeping the sea lanes open during World War Two.

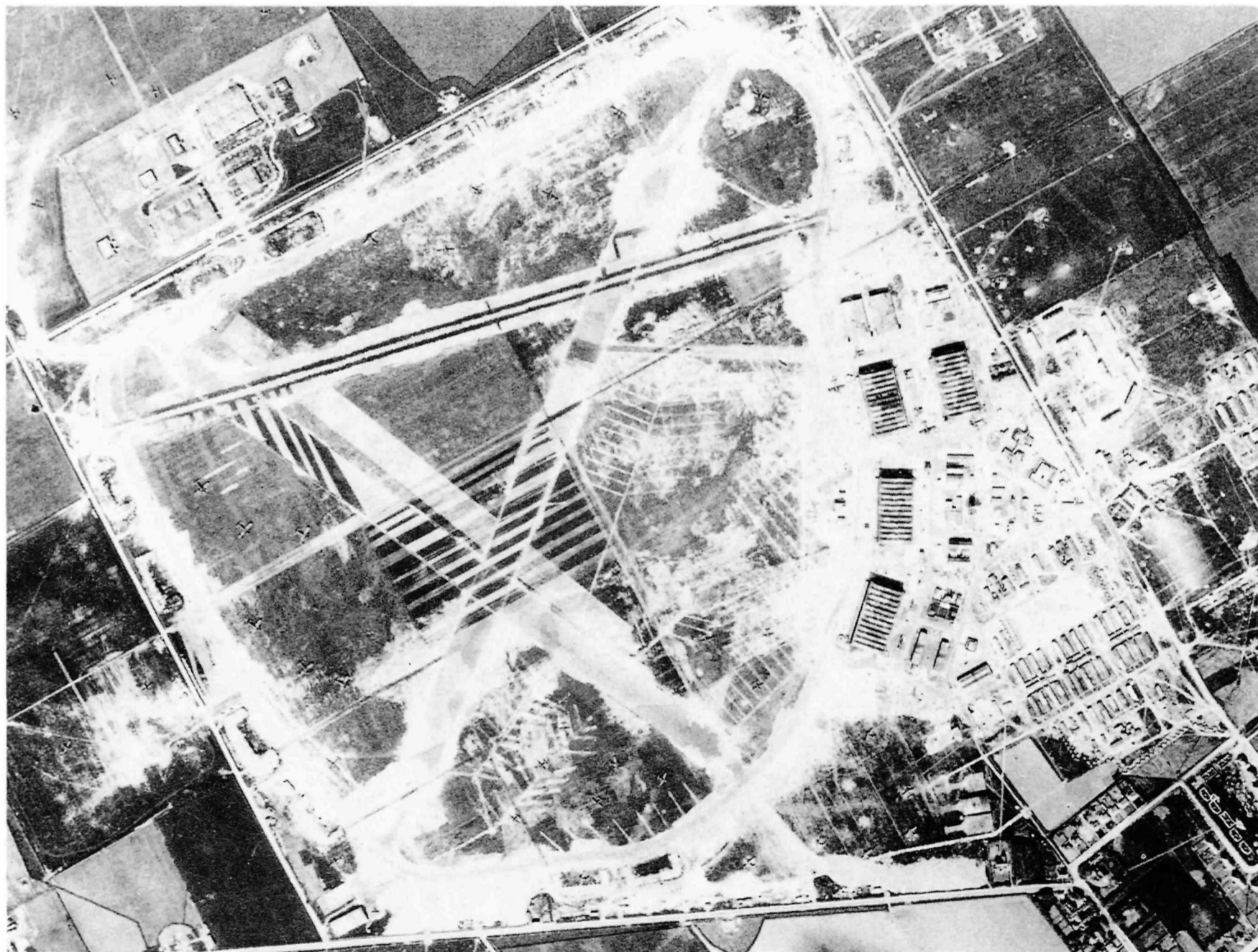
There is a further batch of contract numbers, showing what was ordered at the time they were awarded. This is not necessarily what was delivered.

Twin-towing of gliders was an active task at RAE and AFEE but not much seems to have been written about it so we have included some notes on this subject.

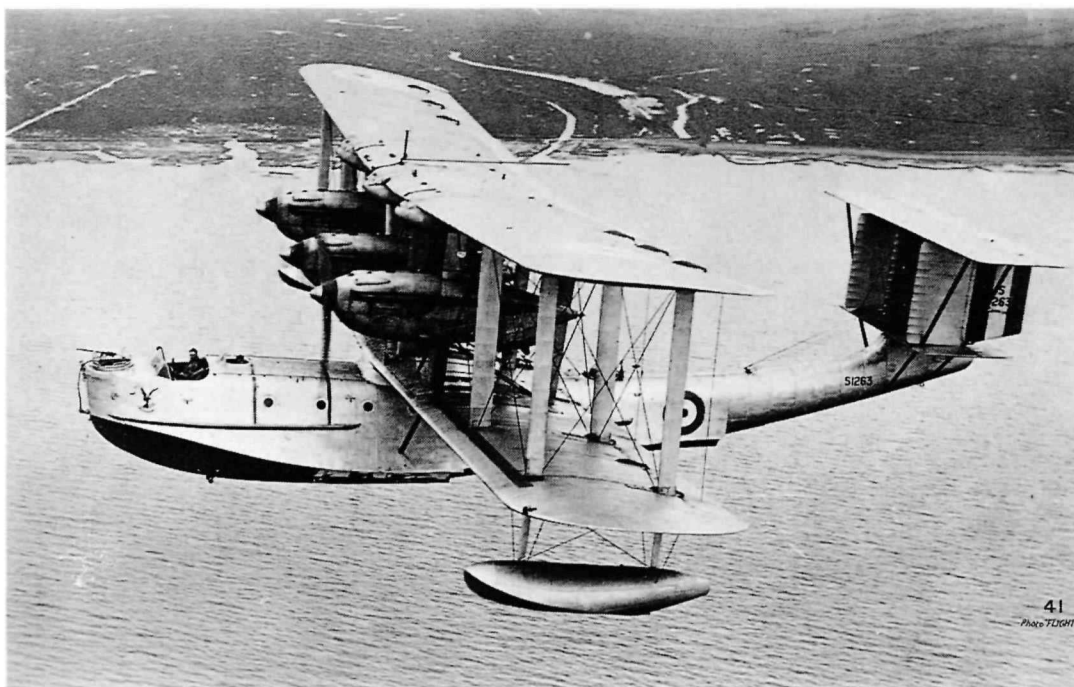
The remainder is a mixture of subjects, with more photographs than normal to make up for the shortage of picture pages in the last issue when the Firebrand threatened to take over all the pages. We could have split this between two issues but we think readers would prefer to have all their tables in one place.

### Puzzle Pic

The airfield in the last issue was Lyneham, around 1942. The one below may be more difficult as it is not one of those that is frequently illustrated. The date is June 1941 and the camouflage experts appear to have been practising.



## Blackburn Iris and Perth



*Iris V S1263 during trials from Felixstowe, March 1932*

In the years following the end of World War One, the Royal Air Force maintained only a small number of flying boats in place of the numerous squadrons that ringed the British Isles and were spaced along the Mediterranean. The need for convoy escort had resulted in a major expansion in the requirements for more flying boats, seaplanes and landplanes. Coupled with this was rapid progress in the development of anti-submarine equipment mainly in the form of special bombs but also including detection gear. Unfortunately, the latter could only be used by landing the aircraft on the surface and listening through hydrophones but both flying boats and seaplanes were fitted with these for trials before the end of the war.

After the Armistice, virtually all the anti-submarine organisation vanished, leaving only a handful of flying boats in the UK and a seaplane station in Malta. Interest lay mainly in the field of reconnaissance for the Fleet. The Royal Navy had never forgotten how the German High Seas Fleet had escaped at Jutland and the long-range flying boat was what was required to first locate the enemy fleet and then shadow it. At the end of the war, flights of flying boats at Scapa Flow had been delegated this task but the German Fleet never emerged again until it was escorted in to be surrendered.

The Air Ministry produced a variety of specifications for reconnaissance flying boats to replace the wartime F.5, which itself was updated and rebuilt in service. Specification 9/23 was for a three-engined long-range boat, the initial draft being replaced by 14/24. This produced the Iris I and Blackburn was awarded Contract 531696/24 for one prototype R.B.1, N185, which first flew on 19 June 1926.

This boat was a very large three-engined biplane, powered by Rolls-Royce Condor IIIs. It had a wooden hull, skinned with plywood, and the wings were of mixed construction, tubular steel main spars being used for the lower centre section while steel struts braced to upper wing centre section.

The tail was a major piece of engineering, being of biplane construction with a thirty-foot upper and a fifteen-foot lower tailplane three rudders. The lower tailplane was fitted with a variable incidence control to permit trimming from the cockpit.

The two pilots occupied a side-by-side open cockpit,

with a third open observer's position behind. This led down into the hull where there was accommodation for a chart table, radio equipment and a galley. An open dorsal gun position provided rearward defence and, in keeping with desired ability to operate away from fixed bases, it also had a four-berth sleeping cabin. A further gun position was fitted in the nose.

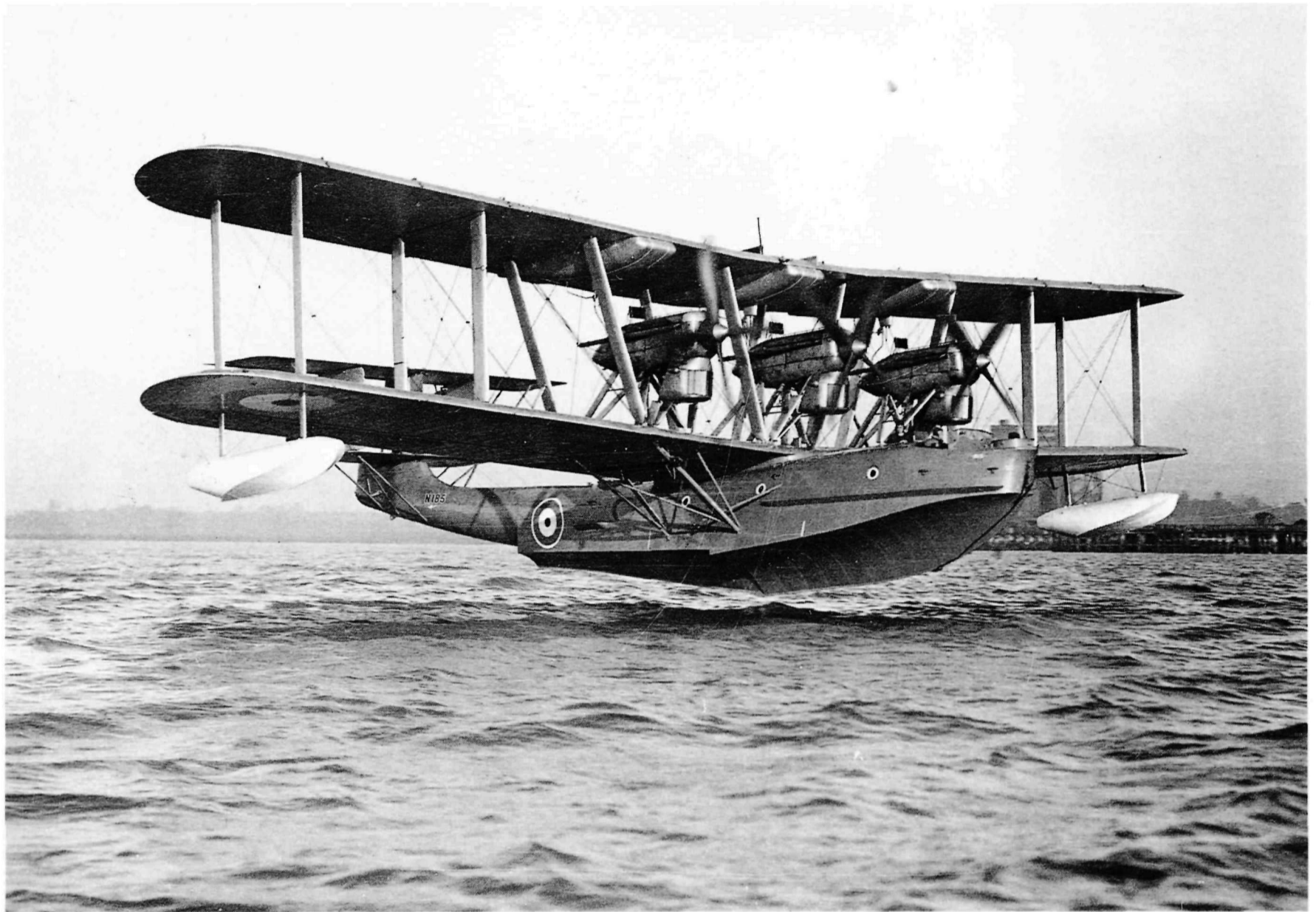
N185 was assembled at Brough and launched into the Humber for its initial trials, being named Iris by the company. Despite the Air Ministry's rather fallible nomenclature system whereby flying boats were named after coastal towns, the name Iris stuck and its successor, the Perth, was also somewhat less than coastal.

A few days later, N185 was on her way to Felixstowe for evaluation by the Marine Aircraft Experimental Establishment. Test flights showed the boat to be stable and easy to handle, despite her bulk. However, soakage in the wooden hull degraded performance and it was decided in March 1927 to return N185 to the makers to replace this under Contract 740774/27 with a metal hull which had been under construction when N185 was first launched.

The work involved replacing the hull completely and modifying the tail unit. This now had two fins and rudders, the central fin being removed and the rudder positioned in its place to provide a servo device to lighten control. The new hull also had a tail gun position and the lower centre section had securing points for an aluminium five-seat dinghy. The engines were changed to Condor IIIs.

Flown again on 2 August 1927 as the R.B.IA Iris II, N185 left immediately for Felixstowe. In a rather hasty manner, and probably not to the liking of the Establishment, N185 was sent off on 12 August for a cruise to Scandinavia. Sir Samuel Hoare, Secretary of State for Air, had an appointment at the Air Traffic Exhibition at Copenhagen on 20 August and desired a flight of flying boats to attend. With the Iris went Singapore I N179 and Saunders Valkyrie N186. Similar political haste was to follow, disastrously, with the R-101.

Crewed by Sqn Ldr C L Scott DSC and Flt Lt W E Dipple, N185 flew off to Oslo and went on to Copenhagen on the 19th with the S of S aboard, returning him to Felixstowe on the 24th. On arrival at Copenhagen, she encountered a full



*N185 with metal hull landing off Felixstowe*

gale but proved very seaworthy. On the 26th, she returned to the Baltic, flying direct from Felixstowe to the new Polish port of Gdynia, followed by a short hop to Danzig (Gdansk) next day. On the 31st, a further flight was made to Helsinki, returning via Stockholm on 5 September and Copenhagen on the 7th to Felixstowe, arriving on the 11th.

Apart from minor airframe breakages, common on all aircraft of the time, N185 returned in good order, but had some engine problems, two engine changes being necessary. Extensive trials were begun and in November 1928, a report was issued on the Iris II. Details gave the following information:

Tare weight: 18929 lbs; Fixed military load: 451 lbs; Service load: 2,810 lbs; Fuel load: 5,618 lbs; Total flying weight for trials: 27,358 lbs. Fuel capacity was 906 gallons, with 60 gallons of oil. Bomb load was 1,138 lbs.

Climbing tests showed the following:

Height	Speed	Time to height	Rate of climb
Sea level	97 kts	-	688 ft/min
2,000 ft	95.6 kts	3 min 9 sec	583 ft/min
5,000 ft	92.7 kts	9 min 9 sec	423 ft/min
10,000 ft	85.2 kts	27 min 27 sec	163 ft/min
11,000 ft	82.7 kts	34 min 51 sec	110 ft/min

The service ceiling was 11,200 ft. Take-off run was 632 yds in 29 secs in a 8½ knot wind. Landing distance was 187 yards in 12 secs at 49½ kts in a 8½ knot wind.

Fuel consumption tests were carried out at 1,000 feet at various weights. These showed the following gallons per hour using a mixture of 80% aviation fuel and 20% Benzol:

Speed	24,000 lbs	26,000 lbs	30,000 lbs	32,000 lbs
80 mph	76	83	92	100
90 mph	86	92	98	107
100 mph	105	100	110	118
110 mph	115	120	125	129

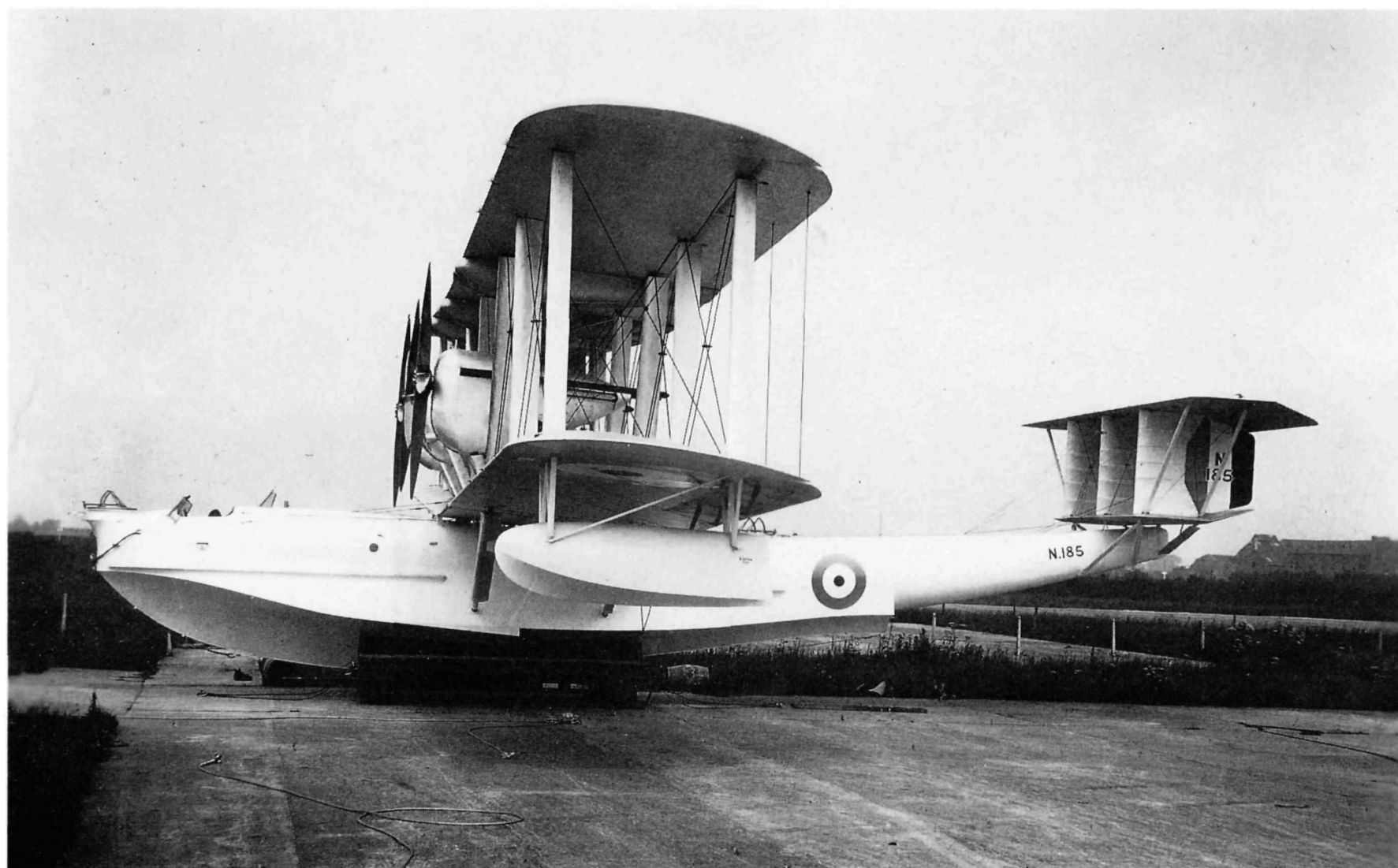
It is one of the curiosities of MAEE reports that both knots and mph are used in the same report for reasons that are not clear.

The new servo worked quite well but it was judged that the rudders behaved as if they now suffered for interference with each other and the original triple rudders were preferred.

Dimensions were given as 95 ft span, 66ft 6 in length, 24 ft 6½ in height off trolley and 26 ft on trolley. The hull was 66 ft 5 in overall with a maximum depth of 8 ft 11 in and maximum beam of 11 ft 0½ in. The depth required with full load was 3 ft 7½ in. Wing surface was 2,410 sq ft giving a wing loading of 11.33 lbs/sq ft. Power loading was 12.22 bhp/lb

The pilots' seats were positioned 12 ft forward of the leading edge. Control was by wheel-and-column and rudder bars. The second pilot's wheel could be detached and engine controls were situated between the pilots. The gunner in the bow position had a bomb sight and bomb release gear as well as a single Lewis gun. The navigator had a special cockpit abaft the pilots 7 ft 6 in forward of the leading edge and a





*Side view of N185 shows well the navigator's cockpit abaft the pilots*

seat in the hull with chart table. Immediately behind, and below, the navigator's cockpit was the wireless installation and 11 ft 4 in aft of the leading edge was the engineers position with engine instruments and radiator controls. This was criticised as being too remote from the cockpit for good liaison. The hull contained living accommodation - separate for officers and men - and room for spares.

Military load was broken down as follows:

Crew (5)	56½ lbs
Lewis guns (3)	900 lbs
Scarff mountings	105 lbs
Magazines	3 lbs
Four 20 lb bombs	98 lbs
Light series carriers	10½ lbs
Two 520 lb bombs	1,040 lbs
Two carriers	36 lbs
Bomb release gear	13½ lbs
Bomb sight	2 lbs
Total:	1,295 lbs
Radio totalled	180 lbs

No serious defects were found. The boat was steady in flight and controls light and responsive. Control at low speeds was good and there was no tendency to drop a wing at stalling speed. The servo rudder was ineffective when the centre engine was decreased below 1,600 rpm. She could be flown hands-off in calm weather and could take-off trimmed for normal flight. It was found that at 26,000 lb AUW, the Iris would fly level on two engines.

She rode well on the sea. A swing to port on take-off could be counteracted by engaging the servo rudder. There was little spray thrown up on take-off and she was very easy to land, with practically no landing shock. After 100 hours

flying, N185 was moored out for long periods, at the end of which the hull was in very good condition.

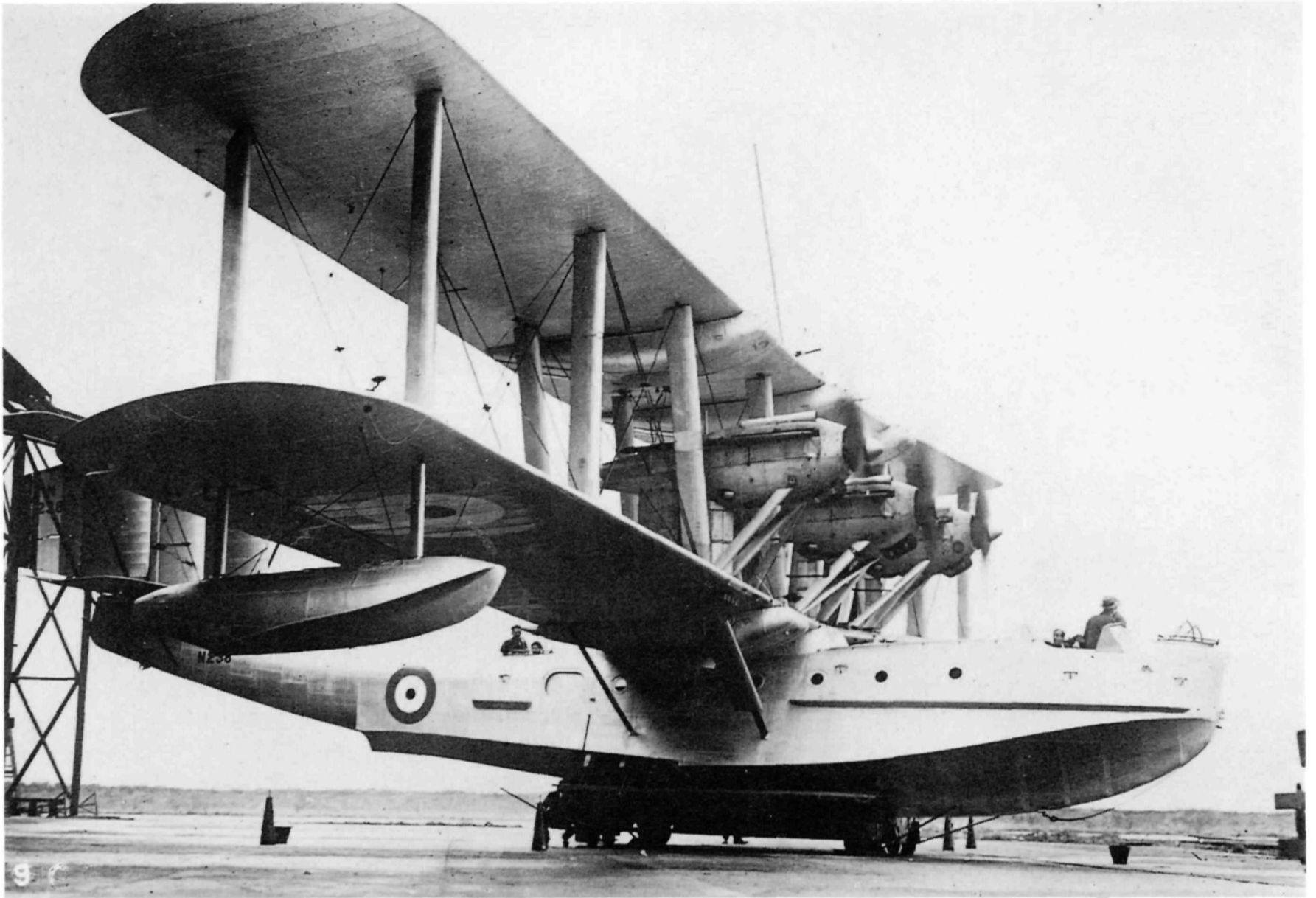
After 60 flying hours, the dural fuel pipes were found to be corroded and changed for copper pipes. It was recommended that all pipes be made flexible to resist the inevitable vibration. The lower centre section was found to be damaged after only a short time due to corrosion and wear from boots and was replaced by 20 gauge dural which proved more effective. The upper centre section was also found to be suffering from corrosion after 90 flying hours and was stripped and replaced by fabric. The navigator's hatch was difficult to operate and buckled easily.

During the Baltic cruise, N185 had twice to be beached for engine changes when no suitable beaching trolley was available. The chine was buckled by the weight of the aircraft but no leakage occurred.

It was found that engine maintenance was difficult, with cowlings difficult to remove, but platforms were easy to rig and general accessibility was good.

During her trials, N185 had her share of engine problems, once having to make an emergency landing off Exmouth. However, plans were laid to fly the boat out to the Middle East for tropical trials. At the same time, it would take Sir Philip Sassoon, Under Secretary of State for Air, and Air Commodore Sir Arthur Longmore on an inspection tour. A complete overhaul was undertaken and the hull scraped down and repainted grey with DTD 26. The living spaces were fitted out with a table and two wicker chairs, a Clyde cooker and two Primus stoves. The navigator's cockpit was faired over and a small hatch fitted.

Sqn Ldr Scott, with co-pilot Flt Lt Martin, flew N185 from Felixstowe to Plymouth on 28 September 1928 to pick up their passengers and then on next day to Berre. The route then took her via Naples, Athens, Alexandretta, Hinaidi,



*Iris III N238 with Condor IIIAs on the ramp at Felixstowe*

Basra, Henjam and Jask to Karachi, arriving on 15 October. Apart from engine trouble at Jask, and some abortive attempts to take-off in unsuitable conditions, N185 arrived in good order.

The return flight, starting on 24 October, was marred by engine failure at Jask and a wait of seven days was required to allow an engine change. Running into a dust storm off Abadan required a precautionary landing before pressing on the short distance to Basra. En route to Hinaidi, choked filters caused another landing on the Tigris and N185 taxied the last ten miles to the moorings near Hinaidi airfield. She then flew home via Alexandretta, Aboukir, Benghazi, Kalafrana, Naples, Berre, Hourtin and Calshot, arriving at Felixstowe on 14 November after covering 11,360 miles in 126 hrs 20 mins at an average speed of 92 mph.

Inspection showed that the keel and forward hull had been scraped clean of paint by rubbing along the sandy bottom of the Tigris and there were a fair number of barnacles in residence. The chine plates at the main step were badly corroded and it also showed up on the rivets. However, no permanent damage was found.

Propeller trials followed but flying on two engines was found to lack directional control. She was also flown with the centre engine removed at 27,358 lbs, probably to test the type's ability to be ferried to a main base after the failure of one engine rather than being stranded waiting for sea transport to deliver a new engine. This was solved in later

flying boats by the fitment of an engine carrier on top of the hull centre section to enable more rapid help to be given. While able to maintain height in calm weather with the centre engine stopped, with an outboard stopped, height was lost and atmospheric conditions had a noticeable effect.

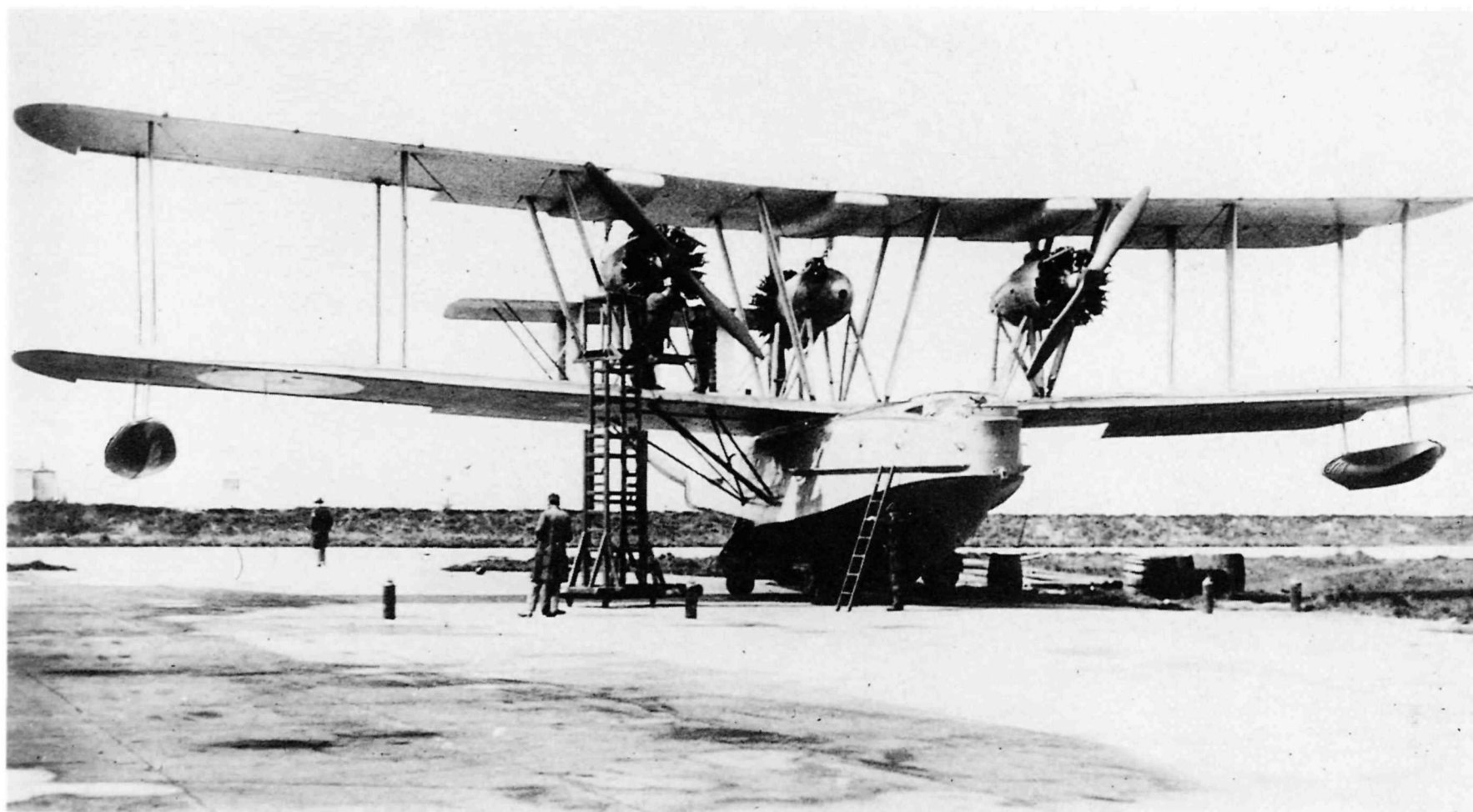
The trials gave the Air Ministry confidence that the Iris was a type worth developing and Specification 31/27 was drawn up for an improved version. Contract 812143/27 was placed for three Iris IIIs with Condor IIIBs. Prototype N238 was first flown on 21 November 1929.

She differed mainly in that the wings were built of Duralumin with fabric covering. Servotabs were fitted to the rudders and the radiators repositioned behind the engines. The hull was of the same dimensions but now had a corridor between bow and cabin, enabling access in flight to the cockpit.

In January 1930, N238 was sent on a cruise to the Persian Gulf to explore the effects of operating a large flying boat in tropical conditions. Take-off tests in high temperatures was a main subject for research.

The crew consisted of Flt Lt C H Cahill, Flt Lt V H Clift, Mr. H M Garner, Chief Technical Officer of MAEE, one wireless operator, two fitters and one rigger.

AUW on departure was to be 31,012 lbs. In addition to normal equipment, a spare Mk XIIA anchor was carried along with two hand-bearing compasses, a wireless receiver of a new type and an RAE C.35 rubber dinghy. Spares



*N185 converted to Iris IV with Armstrong-Siddeley Leopards, one in the pusher configuration*

consisted of two magnetos, a spare set of Lodge A.40 plugs and a drum of ethylene glycol. In the event, only the plugs were used.

On 19 January, N238 left Felixstowe flown by Gp Capt G R Bromet, CO of MAEE. She porpoised on take-off but reached Mount Batten in 4 hrs 50 mins. Next day, three attempts to take-off were made in a glassy sea and with only a 2 mph wind. She was finally pulled off at a high angle of incidence in 1 min 30 secs and landed at Hourtin in 4 hours 45 mins.

On the 21st, the leg to Berre took 5 hours after a take-off run that took 1 min 50 secs in negligible wind. Berre to Naples took 6 hrs 15 mins at an AUW of 30,037 lbs. Despite there being no wind, take-off only took 54 seconds. It took only 33 seconds when the boat left for Malta on the 23rd in an 8 mph wind, arrival at Calafra being in 4 hrs 15 mins.

On arrival, N238 had a twenty-hour inspection and the plugs were changed. On the 25th, two unsuccessful attempts were made to leave for Tobruk. There was a heavy swell but little wind and after two minutes, the first take-off was abandoned. The second, down-wind, was no more successful. It was later found that the hull had been distorted.

Although it was proposed to head for Benghazi at a lower weight, the Air Ministry cancelled further stages and ordered N238 back to Felixstowe. On 3 February, the boat took off at the third attempt and on the 5th a further air test got her off in 1 min 25 secs.

On the 9th, departure was abandoned due to a heavy swell but on the 11th, N238 took off along the trough of the swell in 42 seconds but ran into heavy rain off Sicily so diverted to Syracuse after 1 hr 10 mins. The leg to Naples was completed next day in 3 hrs 10 mins.

On the 13th, take-off was accomplished in 50 secs under the lee of Nisida Island but after arriving in 4 hrs 34 mins at Berre, further distortion of the hull was noticed. Departure for Hourtin was delayed by an unsuccessful attempt to take-off. All baggage was moved aft and, after porpoising, the boat was pulled off fully stalled and arrived in 5 hrs 10 mins.

Take-off from Hourtin in 33 seconds was put down to the base being on a shallow lake. Mount Batten was reached in 5 hrs 10 mins. Next day, the trip was completed in 3 hrs 55 mins.

The engines had run perfectly and water handling was good. Only take-offs seemed fraught with possibilities.

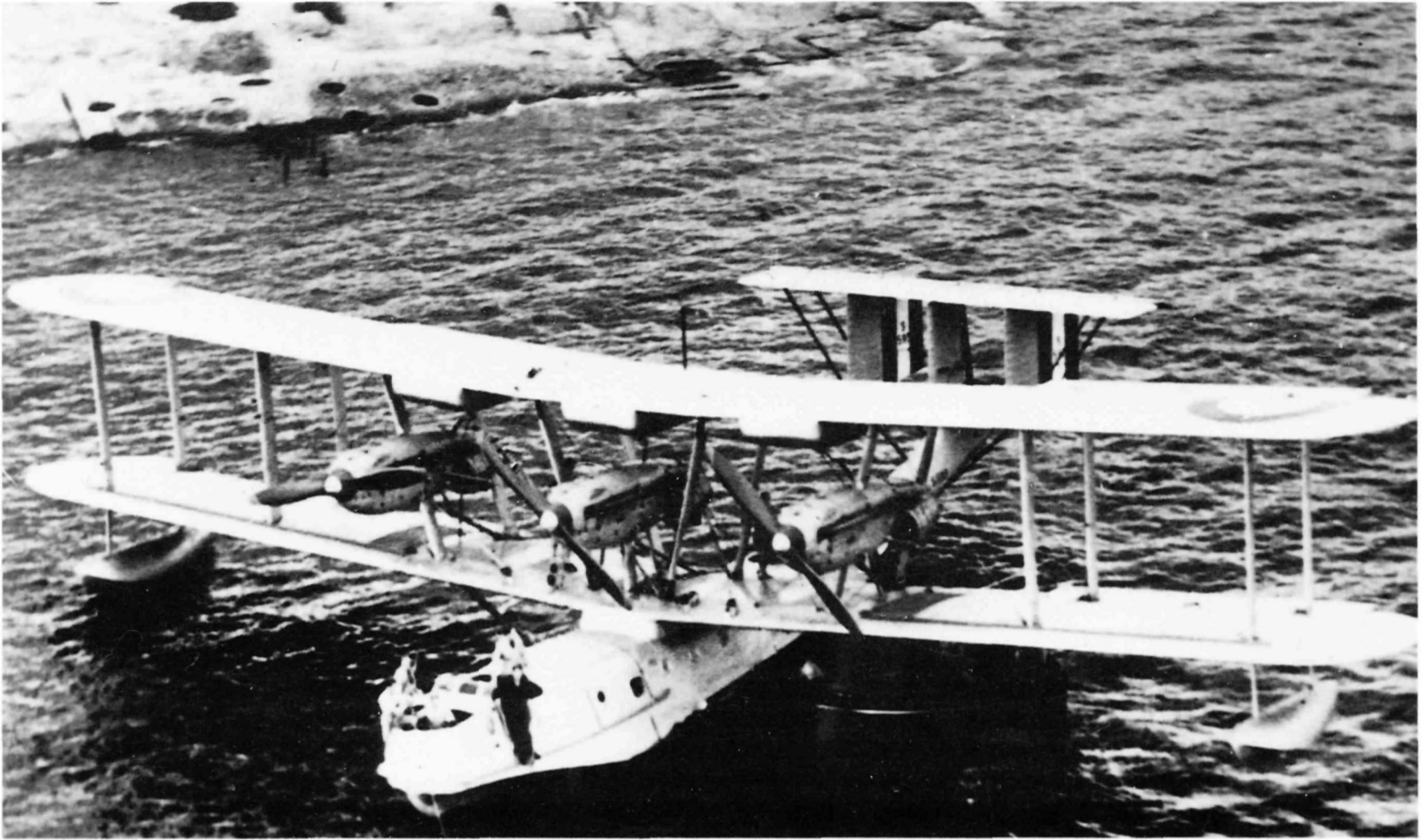
Back at Felixstowe, N185 was used for bomb-loading trials. The RAF had a few bomb-loading scows which had been tested in October 1928 and found satisfactory for loading bombs aboard flying boats at their moorings. However, self-sufficiency in flying boats was the aim and it was envisaged that in wartime, boats would have to operate away from permanent bases.

Bombs could be stored in armories in most parts of the Commonwealth and trucked to wherever the flying boat was based. However, providing bomb scows to every possible temporary base would have been prohibitive in cost and using other craft posed a danger to the boat. It was decided that the RAE rubber dinghy might be an alternative, especially since this had already been carried in an Iris.

On 3 April 1930, trials began with a 520-lb bomb using the Iris III and Southampton S1059. The dinghy was triangular and had to be towed by a motor boat. It was found to be difficult to tow. On 11 April, a bomb was lowered into the dinghy using a portable crane and under tow the dinghy took in water. In choppy conditions, it filled up in less than 100 yards and the bomb was partially awash. With inexperienced crew, the bomb would probably have been lost.

On arrival at the flying boats, the bomb was hoisted on their integral bomb hoisting gear. Due to the shape of the dinghy, the operator was partly underneath the bomb all the time so the task was potentially dangerous.

It was concluded that in calm water, and with practice, the job could be done by the crew on an Iris but the underside of the wing on the Southampton was too close to the water to make the exercise feasible. The RAF continued to use the original bomb scow as its normal loading boat but, of course, if a suitable ramp was available, the bombs could have been



*S1593 moored off Kalafrana during her enforced stay during the winter of 1933-34. Note the enlarged nose position*

loaded while the flying boat was afloat off it.

Later, N185 continued its development work under Contract 58821/30. Three 800 hp Armstrong-Siddeley Leopard III engines were fitted but the centre engine was mounted as a pusher to check the relative efficiency of pusher and tractor propellers. As the R.B.1C Iris IV, she first flew in this form on 6 May 1931 and remained with MAEE until late 1932, being tested at an AUW of 35,000 lbs, making it the heaviest Iris to fly. Performance was an improvement on the Condor-engined boats but the Buzzard had been selected for the Iris V and could provide a similar performance with much greater range.

The other two Iris IIIs on order, S1263 and S1264, were to be delivered to No.209 Squadron, which had been formed at Mount Batten on 15 March 1930. On 5 February, S1263 arrived from Brough and was supplemented by N238 on 15 May. The latter required extensive repairs and was not taken into service until 30 September. S1263 left for a cruise to Stranraer on 20 May with a crew of seven. During this, landing areas were investigated at Kilmaluag on Skye, Stornoway, Donaghadee, Cultra, Castletown on the Isle of Man, Tobermory, Rothesay and Tarbert. She returned on 28 May after 26 hrs 15 mins flying.

On 4 June, S1264 arrived from Brough and on the 24th, both boats left for Reykjavik via Stornoway and Thorshaven in the Faroes, to attend the Millenary Celebrations of the Icelandic Parliament. Unfortunately, S1263, piloted by Flt Lt Maxton, was delayed at Stornoway by serious problems in the fuel system and went no further. On 2 July, S1264, commanded by Sqn Ldr Jones, left Iceland and returned to Mount Batten via Stornoway and Stranraer.

On 25 August, Flt Lt Maxton took S1264 to Lisbon, making the first non-stop crossing of the Bay of Biscay by flying boat, covering 770 miles at an average speed of 71 kts. On 18th August, she reached Gibraltar, arriving back at base

on 4 September.

N238 was lost on 4 February 1931 when she flew into the water on approach at 70 mph and broke up. Nine aboard were killed and there were three survivors.

A replacement Iris was ordered as S1593 and was first flown on 25 June 1931. She was painted battleship grey and had a modified bow with a larger gun position to take the 37 mm COW cannon and arrived at Mouth Batten on 6 July, named *Zephyrus*.

Meantime, on 24 March 1931, the two S-boats had left for a cruise to Basra, flying to Berre via Hourtin to pick up the Chief of Air Staff, Air Chief Marshal Sir John Salmond. From there to Malta took 4 hrs 45 mins on the 31st. On 2 April, he was taken to Sollum where he was picked up and flown to Cairo by landplane.

After an engine change on S1263 at Aboukir, both boats left on 13 April for Berre via Mirabella in Crete, Phaleron, the Royal Hellenic Navy base near Athens, and Nisida, outside Naples. Leaving Hourtin on the final leg on the 19th, both boats diverted to St. Nazaire after receiving a gale warning. On the 22nd, S1263 returned to Mount Batten but S1264 was delayed to carry out engine changes on the centre and port engines; she returned on 3 May.

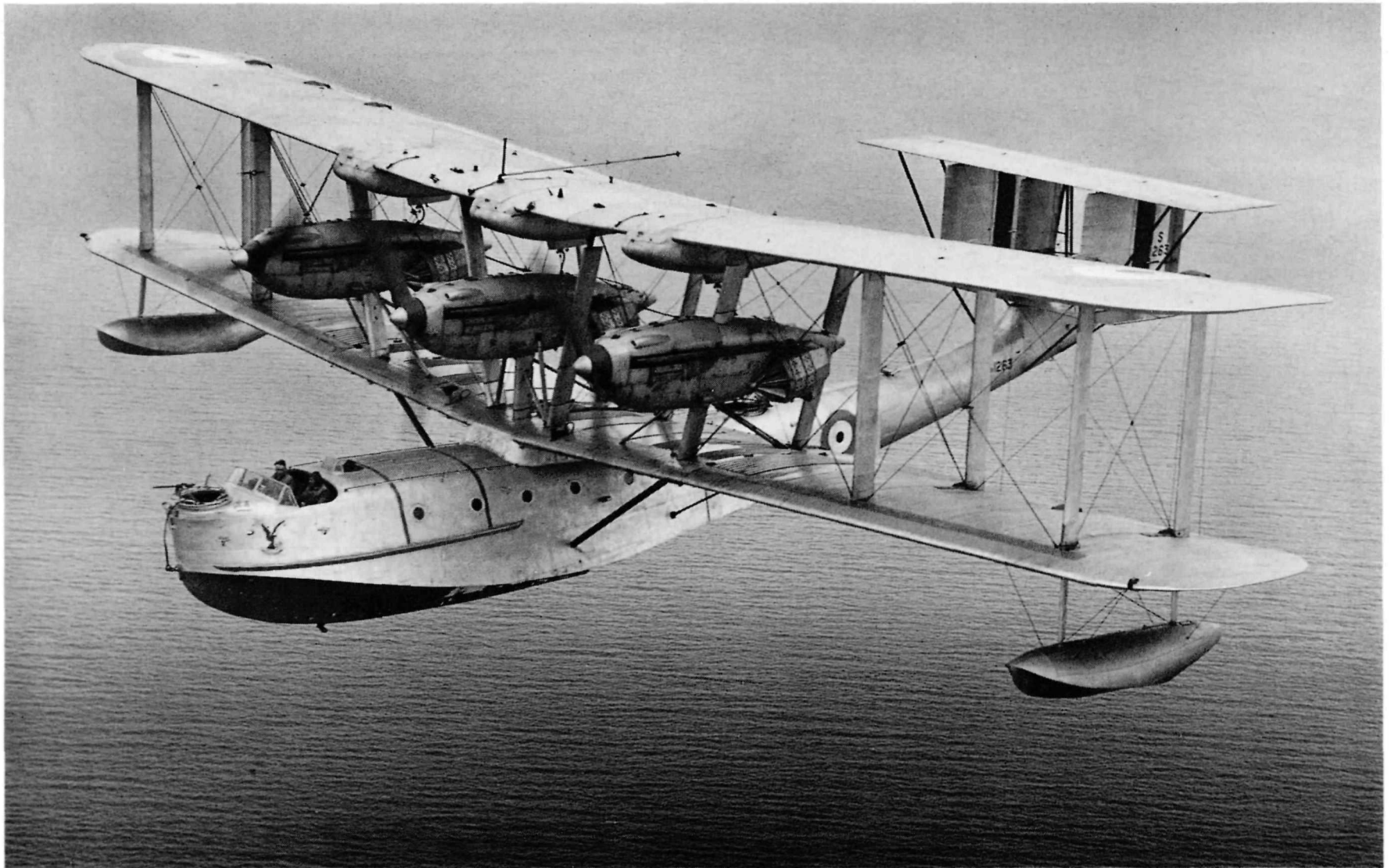
AID was unhappy about the fabric on both boats and they were grounded for repair. On 18 November, S1263 was flown to Brough to be fitted with Buzzard engines. On 27 January 1932, S1264 was damaged in a collision with a fishing boat while taking off at Mount Batten. She abandoned the flight but later sank at her moorings and was taken to Brough for similar conversion work. Finally, S1593 followed the others to Brough on 10 December 1932.

The Iris V was little changed for the Mk.III apart from its engines. The 825 hp Rolls-Royce Buzzard IIMS engines were of higher power than the 675 hp Condor IIIBs and larger-diameter propellers promised to greatly increase take-



*Two views of Perth K4011 flying from Felixstowe*





*Iris V S1263. The navigator's small cockpit is visible as well as the folded radio mast*

off performance with corresponding increases in speed.

S1263 took to the air again on 5 March 1932 as the first R.B.1D and went to MAEE for trials. These were conducted in bad weather but the water handling was found to be very good although not so clean as on the Mk.III due to reduced buoyancy.

Test weights were recorded as:

Tare weight:	21,510 lbs
Fuel	7,850 lbs (1,020 galls)
Oil	430 lbs (54 galls)
Service load	1,860 lbs
Overload tanks	680 lbs
Total	32,440 lbs

The speed at full throttle was found to be 110 kts and the rate of climb 660 ft/min at 2,000 feet. Take-off took 36 seconds at normal load and 57 seconds at 35,000 lbs. Fuel consumption was 1.04 gall/mile at 83 kts and 0.99 gall/mile at 90 kts. Range was 1,050 miles.

At 35,000 lbs, the boat was low in the water and when opening up for take-off, the bow wave was thrown over the lower wing and on to the top of the hull. The midships gun position had to be closed or water got into the hull. Landing was easy but if the boat was trimmed nose heavy, porpoising developed.

Handling was heavier than with the Condor-powered Iris and control at low speeds good. It could be landed without altering the tail setting.

The Mk V was also noisier than the Mk.III and the din from the centre propeller was painful for the pilots, even with cotton wool in their ears!

To alleviate this problem, Blackburns sent down a cabin

structure to be fitted to S1263. This was of dural construction with safely glass windows and two Cellon-covered sliding panels in the roof. The two side windows and two small front windows could be opened in flight. The other windows could be ventilated to prevent misting over. The sliding roofs were very stiff and awkward to use and rattled in flight. It gave an increase of 2 kts in speed.

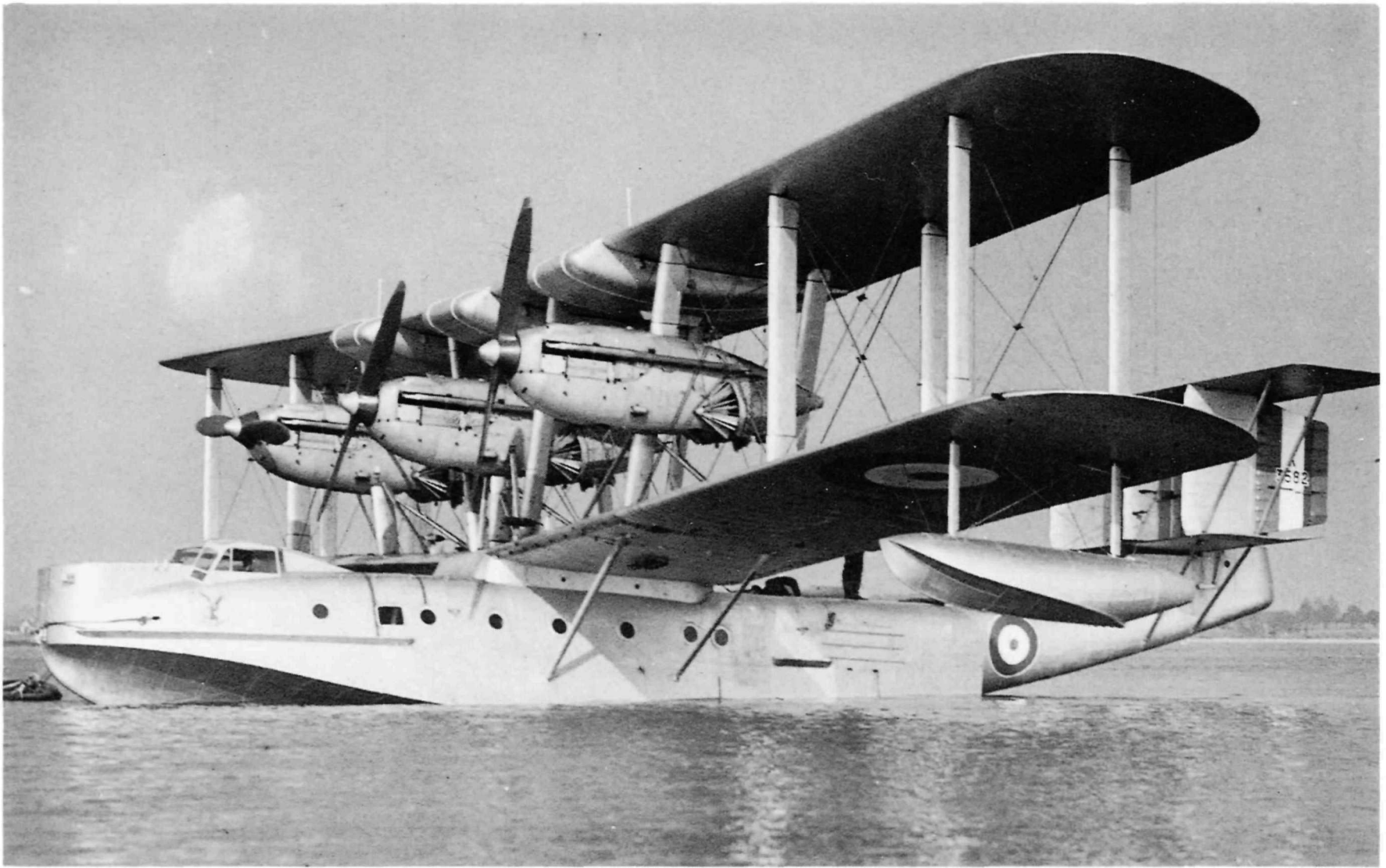
The pilot's view was good but the windscreen was closer to the pilot and fairings had been fitted to clear the tops of the control wheels which restricted the view forward. The noise was much less but was still excessive.

S1263 was handed back to No.209 Squadron on 6 June 1932 and ten days later left, with the Saro A.7 Severn N240 loaned to the squadron in the absence of its own complement of boats, for Loch Fyne, returning on the 26th. On 5 July, both boats left for a survey of flying boat anchorages along the west coast but the Severn forcelanded with engine trouble in Lough Larne and sank. On 12 August, Singapore II N246 was received as a replacement.

S1264 flew again on 2 January 1933 and flew down to Felixstowe. On the following day, she sank at her moorings in a gale and was damaged beyond repair. On 12 January, S1263 hit a naval pinnace on landing at Mount Batten and was wrecked, one of the crew being killed.

S1593 returned on 21 March 1933 and on 6 June left for a cruise to Malta down the usual route, Hourtin, Berre and Naples. In high temperatures, take-off proved difficult. In the meantime, two Southamptons, N9906 and S1149, had been loaned to bring the squadron up to strength.

On 29 April 1934, the recalcitrant S1593 returned to Mount Batten and as Perth's were now available, was flown back to Brough on 12 June. There she became a flying testbed for the Junkers Jumo IVC.1 diesel engine to further a project



*Perth K4011 carried No.209 Squadron's badge below the cockpit. The only obvious difference in appearance from the Iris V is the cockpit canopy*

for a four-engined Iris in twin tandem mounts. This would greatly increase the range and even give the ability for transatlantic flights.

Three Jumos were fitted into S1593 under Contract 354295/34, being 720 hp Napier Culverin Is built under licence. It was some time before the boat was ready for testing, the first flight taking place on 9 June 1937. Fitted with two-bladed Watts propellers, but later with four-bladers, the Culverins proved excessively smoky, the Iris trailing long plumes of black smoke in flight. Difficulty in reducing revs to below 800 rpm made it very difficult to taxi slowly enough to pick up moorings and resulted in engines being cut so that the boat could be towed in. There was no difficulty in starting in cold weather and maintenance was similar to the petrol-engined boats. Trials ended in April 1938 after 15 hrs 35 mins flying and S1593 was consigned to testing anti-corrosive paints

Four more boats were built to replace the Iris V, initially as the Iris VI but later named Perth. Specification 20/32 was issued but the lay-out differed little from the Iris V. To obtain greater buoyancy, the beam was increased by 18 inches, Alclad being used to plate the hull. The wings were of dural and fabric covered with walkways being built into the lower centre section, the top wing and tailplane to allow access for maintenance. The rudders were fitted with servos.

Span was 97 ft, length 70 ft, height (over airscrew disc) 28 ft 11 in on trolley, 26 ft 11 in off trolley. Wing area was 2,493 sq ft, giving loadings of 13.2 lb/sq ft and 13.1 lb/bhp. Depth required to float 3 ft 10 in.

The hull was 70 ft long, 9 ft 3 in deep and 12 ft 6 in wide. The bow gunner was 19 ft 6 in, pilots 12 ft, navigator 7 ft 4 in forward of the leading edge, the cabin began 1 ft 4 in

and the wireless operator's position was 12 ft 6 in aft of the leading edge. Drogues were fitted for braking.

The Buzzard engines had gas starters and drove two-blade wooden propellers. There were two Blackburn Honeycomb radiators per engine. Three fuel tanks fitted in the top wing held 1,725 gallons.

Contract 199604/32 was issued for three boats, K3580, K3581 and K3582. K3580 made her first flight on 11 October 1933 and on 10 November flew down to Felixstowe for trials. These were reported in detail as follows:

Tare weight:	23,130 lbs
Fixed military load:	1,625½ lbs
Service load:	1,608½ lbs
Fuel:	7,700 lbs (1,000 galls)
Oil:	486 lbs (54 galls)
Flying weight for trials:	32,924 lbs

Performance was measured at the above weight.

	<i>Top speed</i>	<i>Climb to</i>	<i>Rate of climb</i>
Sea level	106.0 kts	-	613 ft/min
1,000 ft	105.5 kts	1 min 37 sec	562 ft/min
2,000 ft	104.8 kts	3 min 31 sec	512 ft/min
3,000 ft	104.0 kts	5 min 34 sec	460 ft/min
5,000 ft	101.8 kts	10 min 33 sec	357 ft/min
6,500 ft	99.7 kts	15 min 16 sec	280 ft/min
10,000 ft	91.3 kts	35 min 30 sec	100 ft/in

Service ceiling was 10,000 lbs, landing speed 55 kts and take-off time 36 seconds.



*Perth K3580 on the ramp at Brough on October 1933 with Blackburn B.2s in the background. The 37 mm COW gun is fitted in the bows and the anchor is neatly stowed below it*

Military load was broken down into the following headings:

Crew (with parachutes)	1,000 lbs
Guns	260 lbs
Bomb gear	111 lbs
Fixed gun gear	100 lbs
Pyrotechnics	30 lbs
Electrics	210 lbs
Instruments	323 lbs
Radio	232½ lbs
Auxiliary services	85 lbs
Miscellaneous equipment	882½ lbs
Total	3,234 lbs

The racks could take the following bombs:

Eight 20 lb on 2 light series carriers  
 Eight 258 lb on eight racks  
 Four 520/550 lb on four racks

The report covered 20 hours flying and 448 hours moored out. The internal framing of the hull was found to be weak and was strengthened by the makers. There was no trouble with the floats. The bottom tailplane spar carrying the starboard front fin strut failed and was redesigned and replaced. The tinned steel fuel tanks were satisfactory but again the stainless steel piping corroded. There were no problems with the engine mountings but the three original propellers failed due to the opening up of the laminations. Smaller 13 ft 6 in props were then fitted.

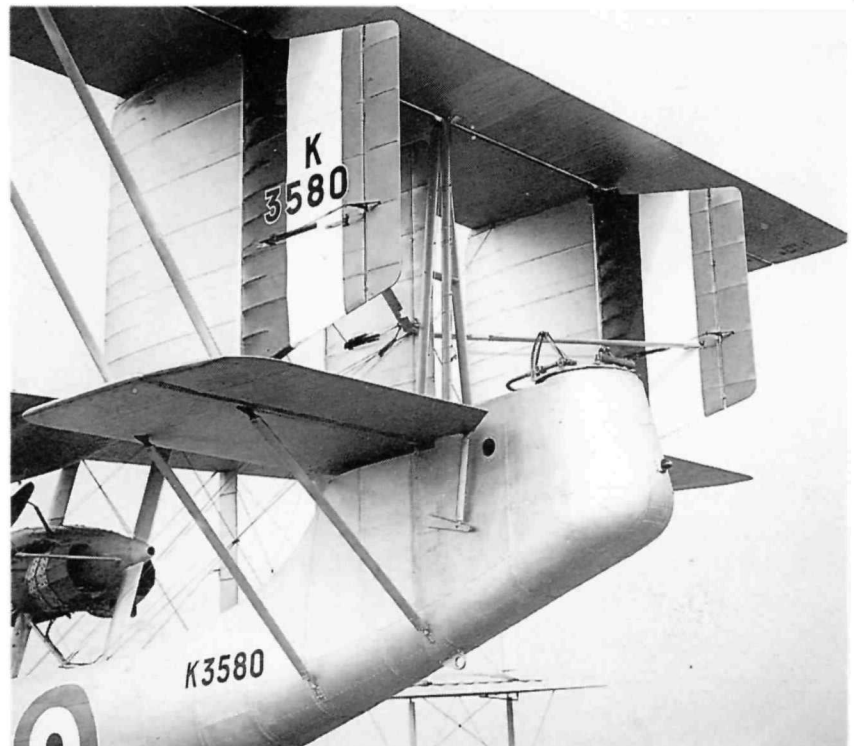
The internal arrangements were considered good. The bow compartment was separated from the pilots' cockpit by a draught-proof bulkhead fitted with a door. There was a similar bulkhead at the rear of the cockpit. The cockpit itself was totally enclosed and framed in Alclad with unbreakable glass windows but was still very noisy. The sliding hatches were of fabric but drummed and were difficult to use and it was recommended that new metal hatches be designed and fitted. The view was limited on take-off by the bow position and there was no view dead-ahead at this point. There was a tendency to swing at the start of the take-off run. Within the hull, most of the internal space was open to the chine and it was recommended that it be fitted with a floor. The area of

the officers' living quarters was double packed with tinfoil for sound absorption. Presumably, the other ranks were already deafened.

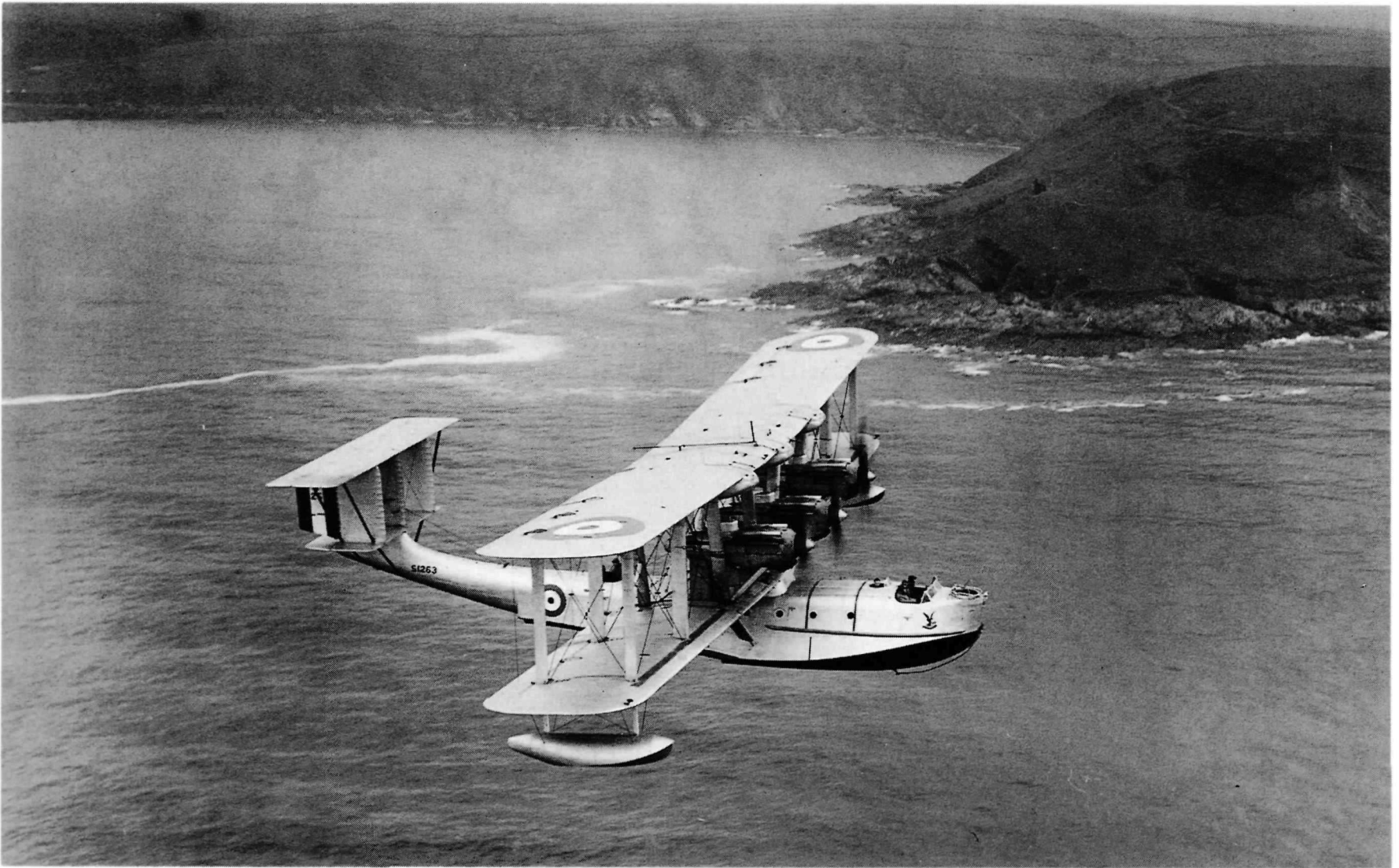
In the air, the boat was stable at all speeds and it controlled well down to 65 kts. Landing was easy while handling in a dive at 30% above maximum speed was normal but the hull vibrated. The early drogues proved too weak and were replaced. The original beaching trolley was unstable and a redesigned version was later supplied.

K3580 was also used for trial firings of the 37 mm COW gun mounted in the bows. This was a flexible mount and had potential as an anti-submarine weapon. A mock-up mounting of rigid construction was made for alignment purposes and then the gun was mounted for firing live ammunition. On 29 January 1934, the boat was taxied at 10 knots and twenty rounds were fired at a vertical floating target measuring eight feet square at ranges between 500 yards and 800 yards. No hits were obtained because of the slight pitching and rolling of the boat.

*The tail gun position on Perth K3580. The central servo-rudder is well-illustrated in this view*







*Iris S1263 of No.209 Squadron out of Mouth Batten cruises along the Cornish coast*

Firing while airborne was more productive. From 1,000 feet at a speed of 85 knots, a further twenty rounds were fired at the same target. Three direct hits were obtained while the remainder landed near the target. After each test, the gun and mounting were inspected and found to be satisfactory. The 37 mm installation was deemed suitable for Service use.

The 37 mm gun could have been used as an anti-submarine weapon. A solid shot would have caused considerable damage to the pressure hull of a submarine and, despite its relatively small size, would have been difficult to cope with without surfacing and patches being applied. This would have put the submarine in danger from bombs or any warship in the vicinity. Once inside the hull, the shot would also have damaged equipment.

K3581 was delivered to No.209 Squadron on 5 January 1934, being joined by K3582 on 4 February. On completion of trials, K3580 joined on 31 May 1934. K3581 and K3582 left for a cruise to Greenland on 12 September as part of a survey of North Atlantic routes but this was abandoned in the Faroes after ice reports made this unwise.

The Perths were grounded on 8 October 1934 for inspection of their tail units. After flying was resumed on 6 November, there were still worries and they were again grounded on 27 November for the structures to be removed and sent to Blackburns for modification in March 1935. To fill the gap, No.209 acquired Short R.24/31 K3574, London prototype K3560 and Stranraer prototype K3973.

The Perths returned in July and August but did not last for long. On 14 September, K3580 lost a float on take-off in heavy seas at Stornoway and crashed. She was damaged beyond repair. On 24 January 1936, the remaining two Perths were struck off charge as the squadron prepared to convert to Singapores. K3581 was passed to DTD for research purposes,

including mooring and slipping equipment.

One other Perth was built, K4011 to Contract 265687/33. She was first flown on 16 April 1934 and delivered to MAEE four days later. Despite carrying No.209's badge on the nose, she remained at Felixstowe for experimental purposes.

The Iris and Perth were the largest biplane flying boats to serve in the RAF. In retrospect, they were probably too large for operational use and the Singapore IIIs which succeeded them were much more practical boats and saw widespread service. At the time they were specified, the Blackburn boats were intended to investigate the use of flying boats over long distances. Reinforcing the Middle and Far East required diplomatic clearance for each flight as refuelling had to be arranged at French and Italian seaplane stations. The goal was to have a boat which would fly non-stop on the Mount Batten - Gibraltar, Gibraltar - Kalafrana and Kalafrana - Aboukir legs. Thereafter, there were British bases all the way to Singapore. But the RAF had to wait until the London before that was achieved.

#### Sources

Researchers wishing to dig further into the subject of the Iris and Perth can find details in the following files at the Public Record Office: AVIA19/139, 346, 350, 386, 392, 394, 396, 399, 404, 407, 408, 474, 499, 521, 544, 569, 571, 616, 626, 928. No.209's account of its life with these boats is in AIR27/1292.

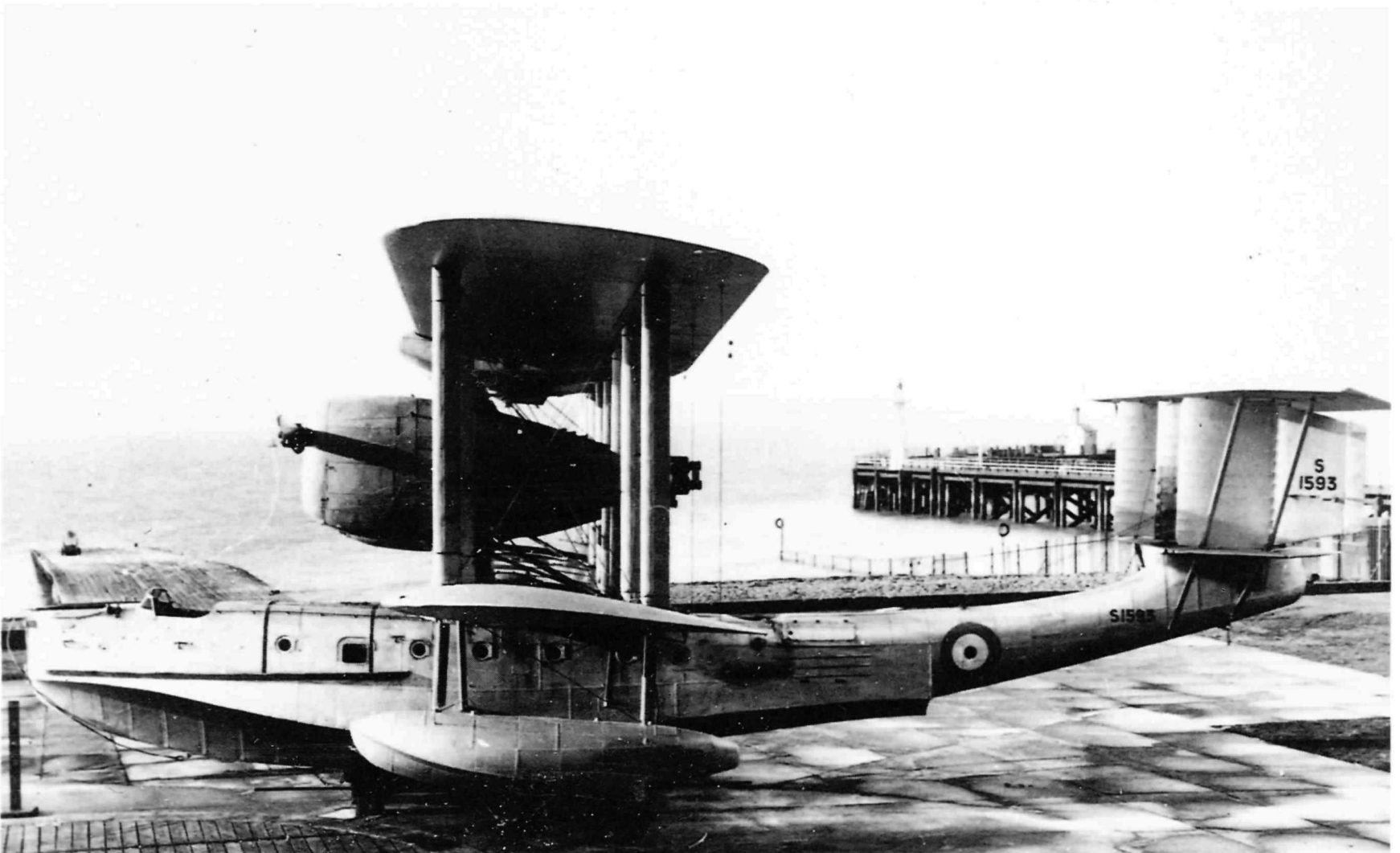
#### Photographs

Our thanks for the kind assistance of Mike Hooks and Richard Riding for many of the photographs that illustrate this article.



*K3581 after decommissioning being used to test mooring equipment. Note Mayo Composite in background*

*S1593 as the Napier Culverin test-bed*



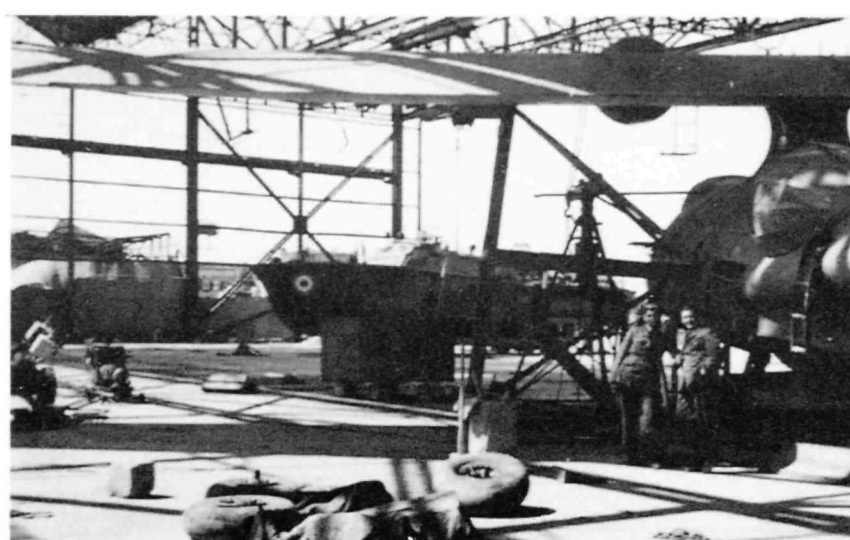
## Feedback



### Wartime Malta

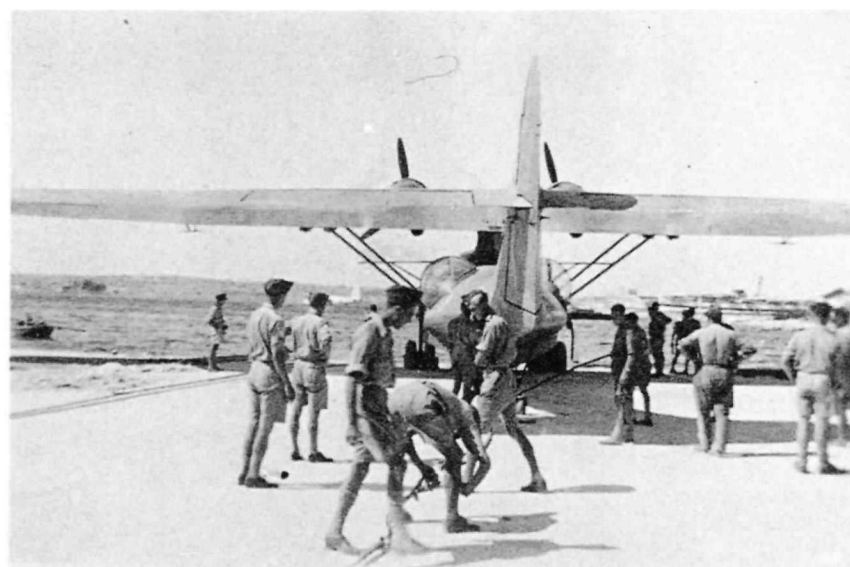
Ron Backhouse has written in with some photographs acquired in Malta where he was with HSLs (air-sea rescue launches for the non-nautical among us).

Spitfire ES127 seems to have been a local mod. It carries the codes of No.4 Squadron SAAF and it appears that the fuel tank in front of the cockpit has been removed to make room for a seat. The purpose is unclear although there were wartime rumours that at least one hack Spitfire had been so converted to permit the CO to carry his batman around during changes of base! ES127 was SOC on 8.3.44 to become a ground instructional airframe. One wonders if this was camouflage for what actually went on away from the prying eyes of AHQ or the result of someone finding out what was going on.



Spitfire IX EN199 does not have any codes but served first with No.92 Squadron and later with No.238, with which it was lost on 13 September 1943. Only No.92 passed through Malta en route to Sicily so where the photo was taken is obscure.

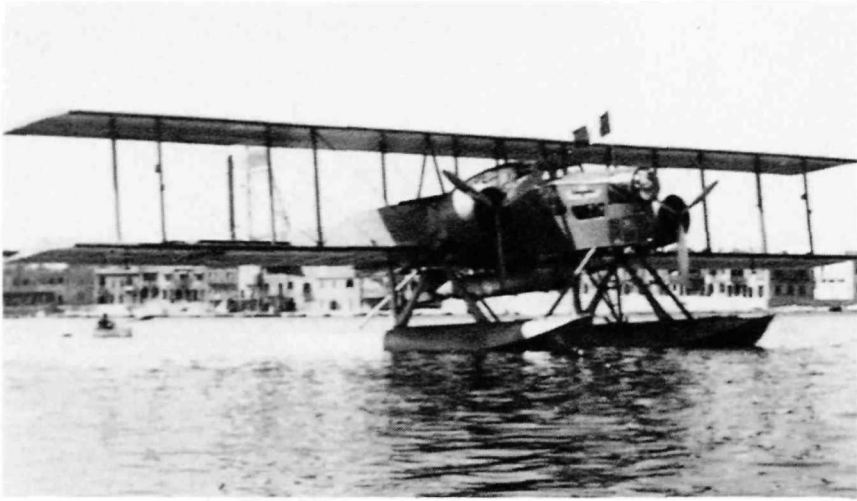
Also around in mid-1942 were some Catalinas for No.240 Squadron staging through to Redhills Lake, Madras. VA731 was the awkward one as it developed engine problems that proved beyond local help. A spare engine was sent from the mainland but the fuselage also got damaged so in the end VA731 proceeded no further and returned to the UK where it was overhauled and issued to No.131 OTU. The



bomb-damaged hangar is testament to the *Luftwaffe's* raids on Kalafrana. The odd VA-prefix is not a misprint, being a Canadian-built aircraft with a much-advanced serial for its time. We still await a logical explanation for this.

From earlier days come the two French marine aircraft taken by a friend of Ron's who was stationed at Kalafrana in 1938. The large seaplane station at Karouba, near Tunis, was the home of several French Navy units and both aircraft came from there.

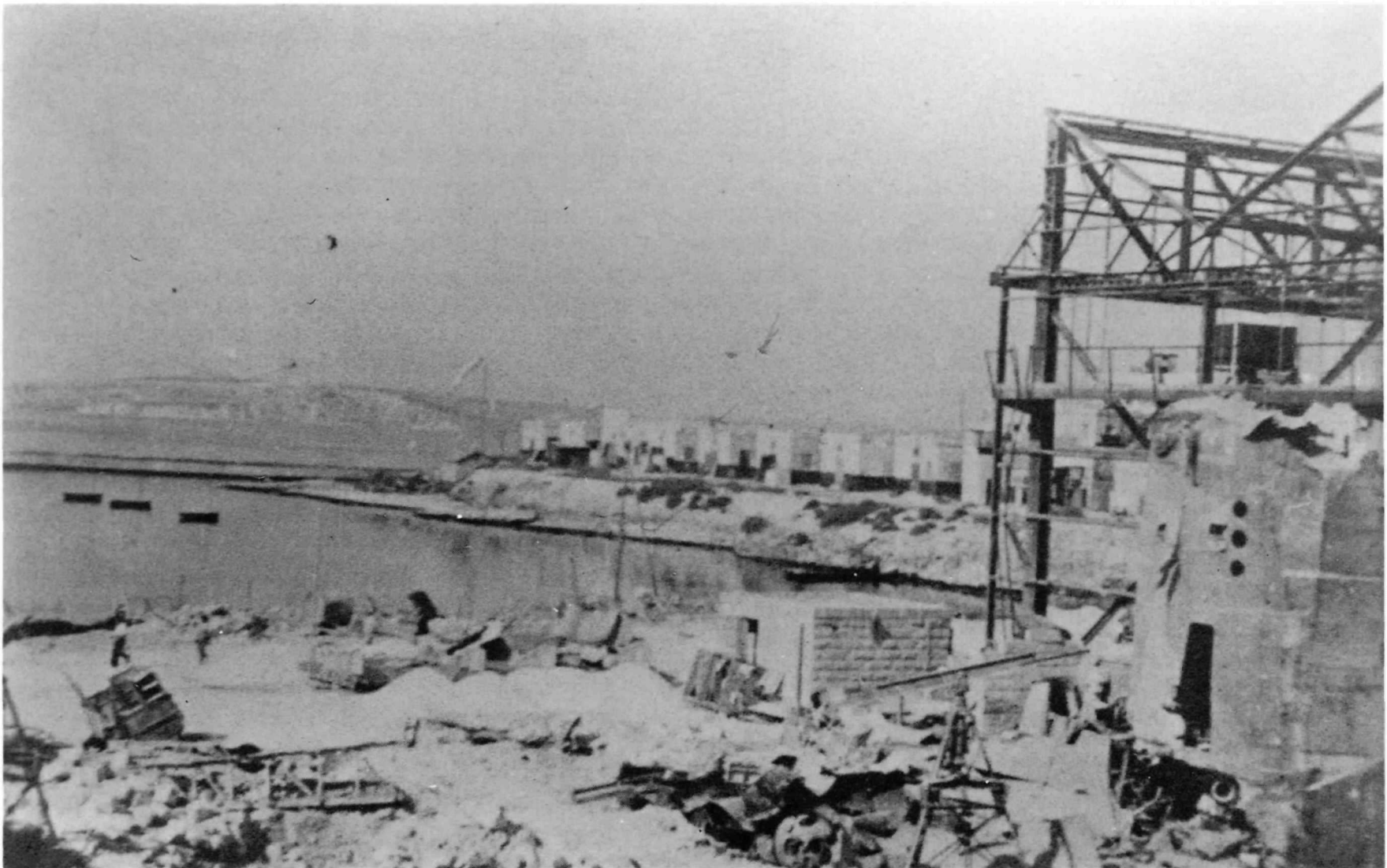
The seaplane is a Lioré-et-Olivier H-257bis from either Escadrilles B1 or B2 and, in true naval style, is flying a French ensign. It is moored in Pretty Bay, off Marsaxlokk.



The three-engined flying boat is a Loire 70 of Escadrille E7 which had an establishment of seven boats of this type. Like the Leopard-powered Iris in the main article in this issue, one engine was a pusher.

The Hurricane is Z4544, a Mk.IIA fitted with a desert filter. This was a Royal Navy Hurricane (but not a Sea Hurricane) and was originally issued to the Royal Navy Fighter Squadron in Egypt. It later was passed on to No.806 Squadron where it hit a car on take-off at Helwan on 29 December 1941 and was written off. No Maltese connection is apparent but there is the wreck of a Beaufighter in the background.

The ramp at Kalafrana has been the background for many photographs of RAF marine aircraft between the wars but the photograph below shows a different picture after numerous raids. A land mine landed left centre and wrecked the hangar and a parked Sunderland. One three-bladed propeller can be discerned on the left and various bits of the boat on the right.



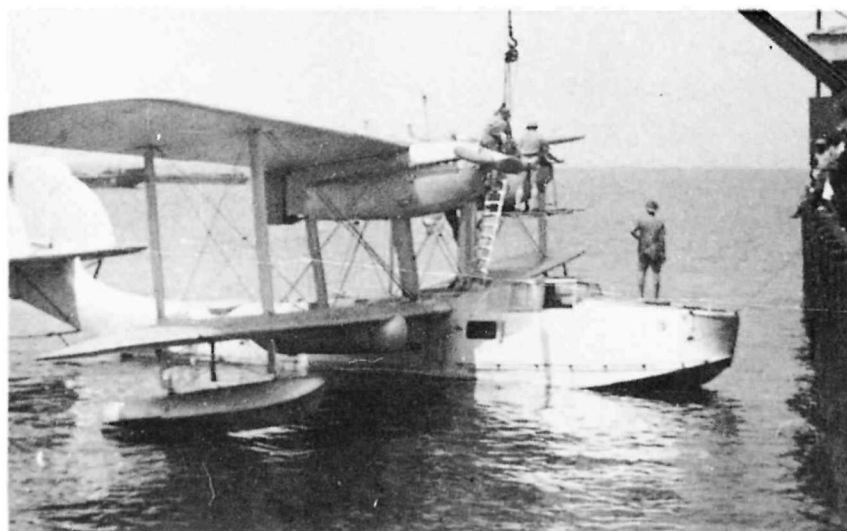
## Picture

## Pages

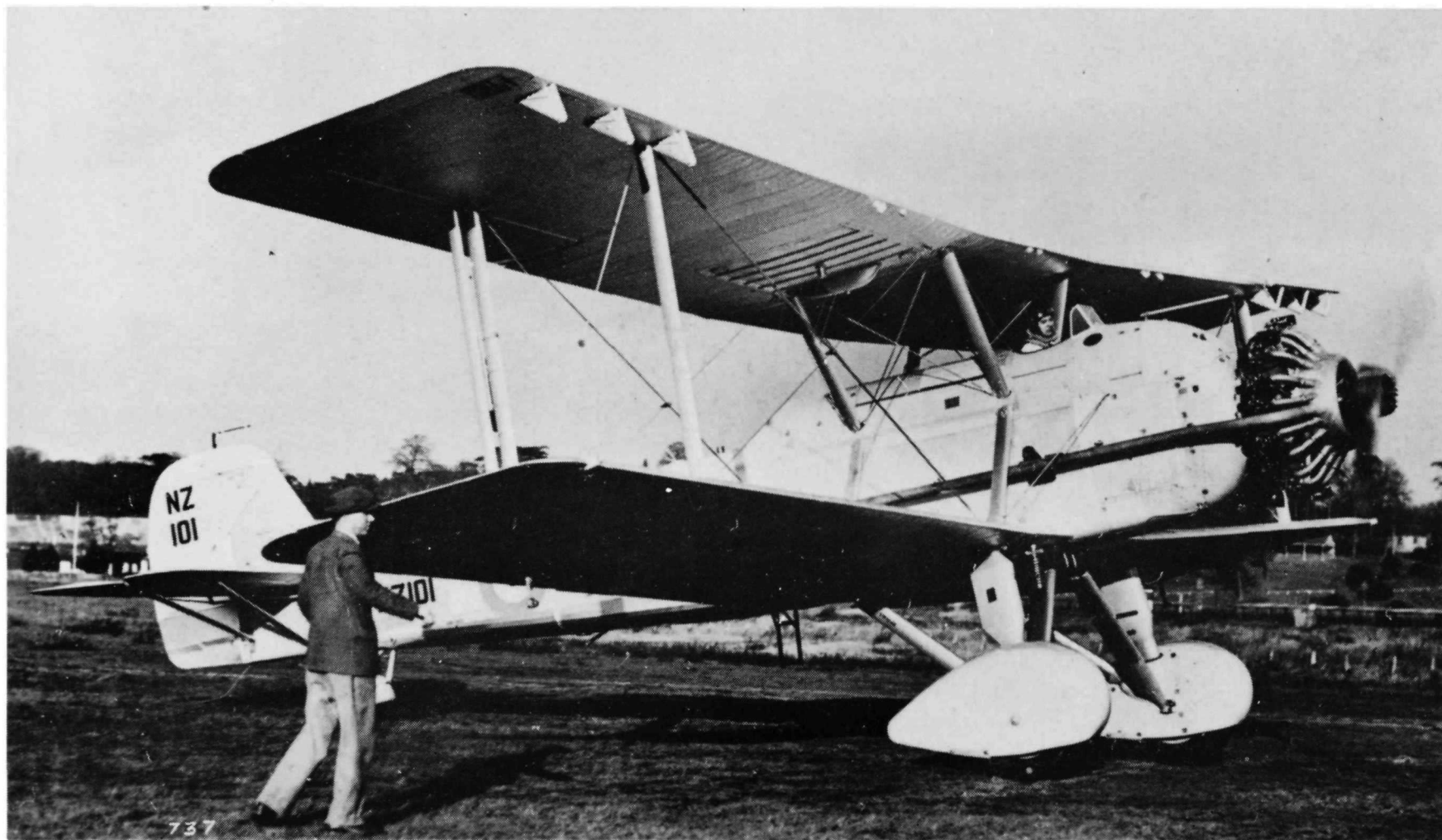


Top right is Wellington IC P2469 wearing the codes of No.149 Squadron. But there is something wrong here. P2469 was a Magister. Answers next issue!

Scapas K4194 and K4196 of No.202 Squadron set off on a cruise to West Africa on 12 December 1936. At Freetown, K4194 suffered an engine failure which required its removal. Lacking the equipment on the spot for an engine change, the engine was attached to a derrick on a jetty, detached from the engine mount and then the crew waited patiently for the tide to go out and leave the engine suspended. Replacement was by the help of a rising tide!



NZ101 was the first Vildebeest III of a batch of twelve, NZ101 to NZ112, ordered under Contract 327476/34 for delivery in 1935. They were later joined by many surplus RAF Vildebeests and Vincents.





Clive Berry has passed on some photos taken by Arthur Cope soon after the end of the war.

Above: Liberator nose-art is fairly uncommon in the RAF but this example appeared in the scrap-yard at Chakeri around October 1945. The 3D door is very well painted.

Right is Stirling V coded ORT-C on the trooping and freight run from the UK to India.

First in line below is EV842 coded V but we have not been able to find an owner for this Liberator yet.

Next to it is a line-up of Dakotas of No.1315 Flight at Iwakuni, Japan. This Flight formed a vital link in the communications chain to the Commonwealth Occupation Forces.



## R. N. A. S. Katurunda



Mr. E. Dowling has kindly provided a set of photographs that neatly ties in with the re-issued monograph *The Squadrons of the Fleet Arm*.

Top right are three Oxfords from No.729 Squadron at Katurunda, PH137 K7B, PH139 K7O and PH258 K7K.

The Sea Otter is also unidentified but is probably of No.1700 Squadron. The primitive shelter in the background is presumably OK if one can fold the wings of the aircraft.

Also seen at Katurunda is an unidentified Barracuda with Oxford PG251 in the background.



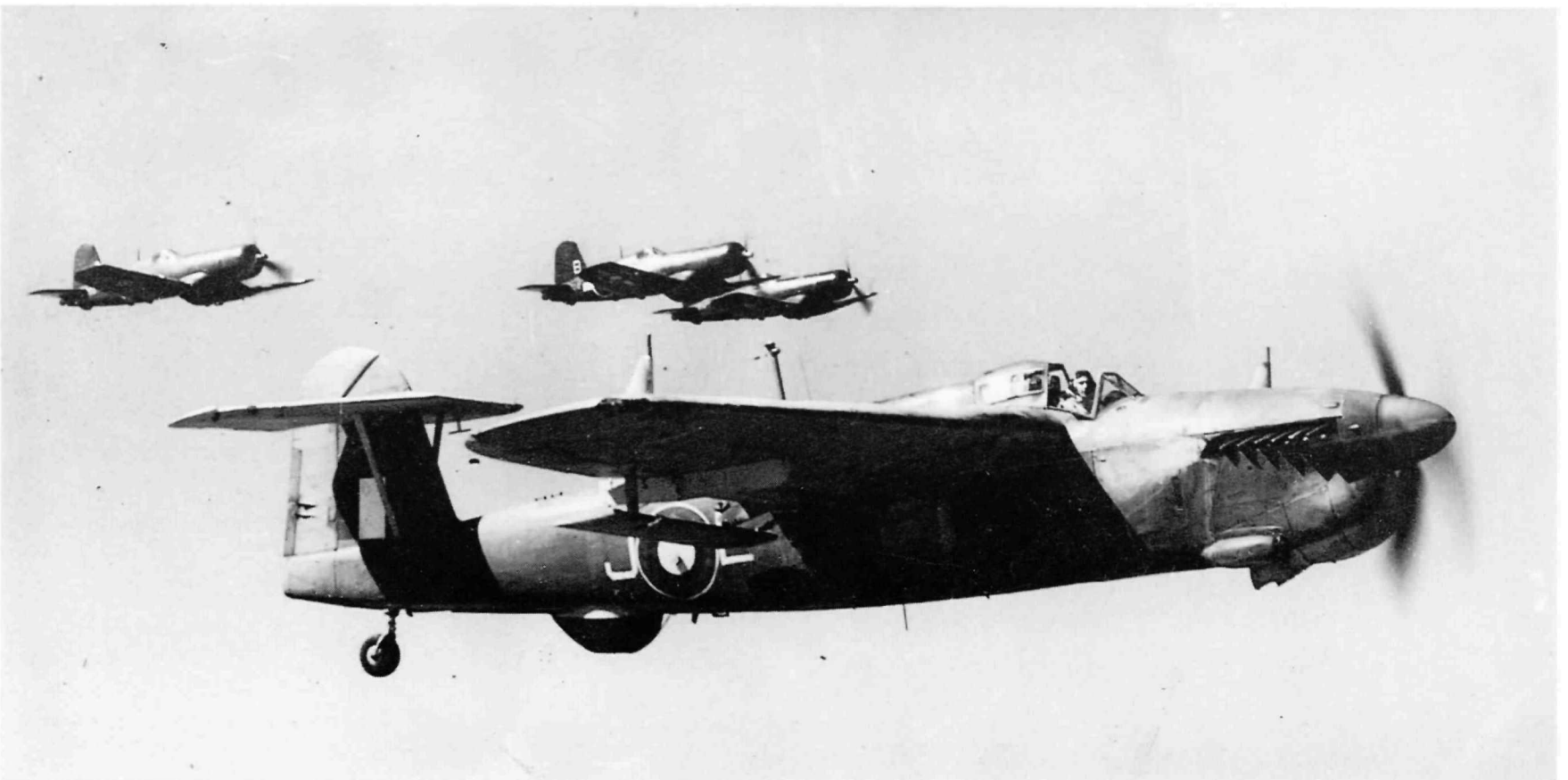


Swordfish LS348 coded KL of 756 Squadron.

Tiger Moth NL728 was resident at Katakurunda, having arrived for No.1700 Squadron from No.292 Squadron in December 1945.



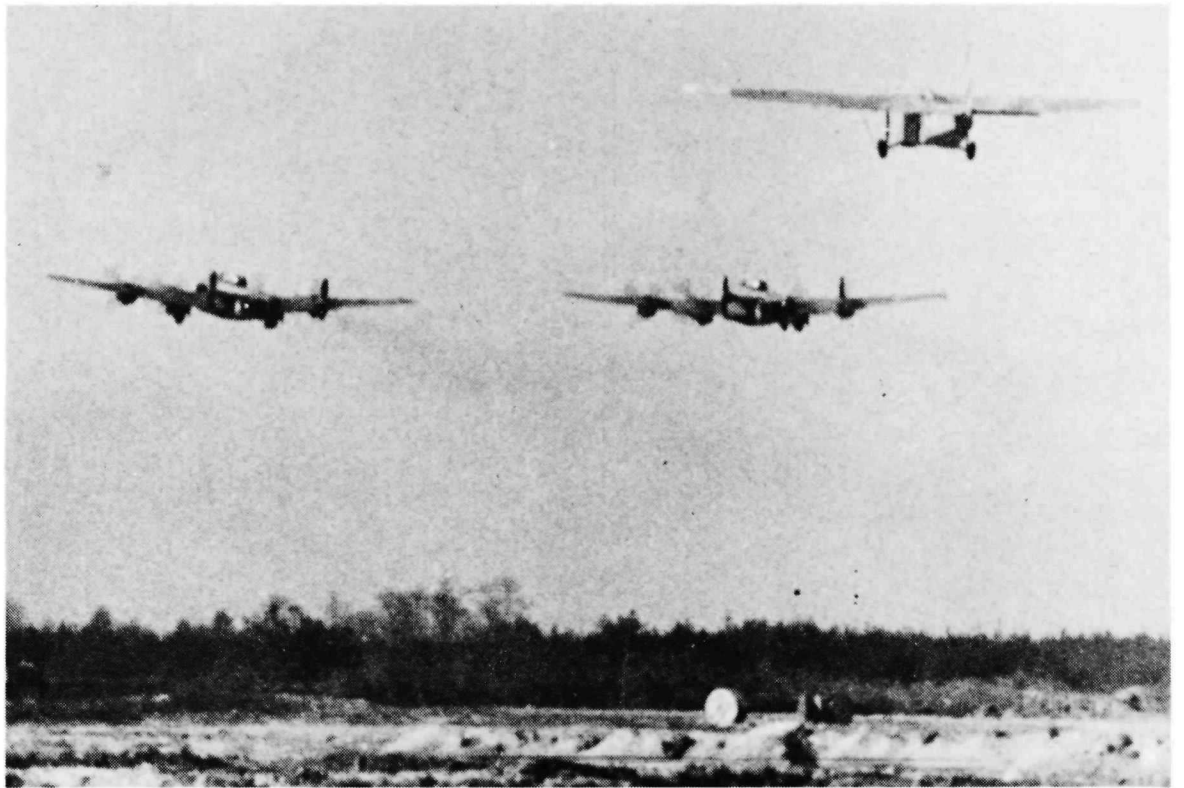
A Barracuda, probably of 814 Squadron escorted by Corsairs of No.1851 Squadron practicing for the Victory Fly-Past at New Delhi. No.1851 was part of 15th Carrier Air Group in *Venerable* as was 814 Squadron.





## Twin

## Tugs



By the middle of 1943, glider towing had become commonplace but with the advent of much larger gliders like the Hamilcar and Waco CG-13, it became evident that the ability of single aircraft to tow off these gliders with an acceptable take-off distance and rate of climb was marginal. Using gliders in tropical conditions degraded the take-off and climb performance further.

Britain was not alone in finding this. The Germans had tried using three Bf 110s to tow off Me 321s, with disastrous results during one test when all four ended up in a heap. More revolutionary was the idea of using two He 111s joined by the wings with a fifth engine filling the centre section.

The USAAF tried a pair of P-38s but as they had standardised on the Waco CG-4A and the Airspeed Horsa as their service gliders, the faithful C-47 was quite adequate for this purpose.

The Royal Aircraft Establishment was given the task of evolving an operational twin-tug system. Studies showed that the system would require considerable changes in flying practices and a high degree of training before the combination was safe for operational service.

Towing two gliders was not new to the RAE. In September 1940, Heyford K6874 had arrived at Farnborough for glider towing experiments which lasted until February 1941, when it was replaced by a Whitley. The gliders were, in fact, a pair of BA Swallow lightplanes with the engines removed. They were later replaced by the first Hotspurs and the Whitley was the standard tug.

For Glider Training Schools, the Master replaced their original Hectors and it was with the Master that the first trials of a twin-tug system were undertaken. The towing gear was designed for two Masters and a Hotspur but could be beefed up to take heavier aircraft loads. Tests were successfully completed with an unloaded Horsa being towed off but no attempt was made to cast off with this combination as a single Master could not tow a Horsa unassisted.

The Masters at 5,000 lbs towed a Horsa at 8,000 lbs. Take-off run of the tugs was 1,200 yds and for the combination to 50 ft was 1,700 yds. It took 2 minutes to reach 500 feet and 15 mins to 5,000 ft. Towing speeds was 100 - 110 mph.

Once the principle had been proved, heavier-duty towing cables were designed to cope with a pair of Whitleys towing first a Hotspur and then a Horsa. Finally, two Halifaxes were engaged in towing a Hamilcar, eventually at full load.

Allowing for differences in scale, the technique was similar for all types of combination. Using two aircraft to tow the glider to its normal operating height, one tug would cast off, allowing the second to tow the glider to its objective. The first would then land and hook up to another combination for another take-off.

Neither tugs nor gliders required any modification to use the system. The towing gear was designed to fit existing take-up points and consisted of a long cable connecting the two tugs which passed round a pulley attached to the apex of the glider bridle. A stop on the long cable prevented either of the tugs from getting too close to the pulley but when both tugs got too close, the release unit on the cable was operated by the pulley block and left only one tug attached.

Originally, it was intended to have two attachment points on the glider, one either side of the nose, so that the glider pilot could cast off one of the tugs. But glider development resulted in both the Horsa and the Hamilcar being fitted with attachment points on the wing for a bridle. One test flight was made with two Whitleys towing individual lines but this proved unsatisfactory. The cables became slack and taut alternately and this set up an unpleasant oscillation in the glider so this scheme was abandoned.

Various other schemes were considered, like towing in tandem. A Typhoon towing a Halifax towing a Hamilcar would have had the same rate of climb as a twin Halifax scheme but difficulties in handling were foreseen and no flight tests were carried out. There would have been a need to fit a towing hook in the Halifax's nose.

The choice of two Halifaxes was governed by the type's ability to tow a fully-loaded Hamilcar with its own full operational equipment aboard. The second Halifax could have been stripped down for take-off and climb purposes only and need only have a small amount of fuel aboard. Formating with the main tug would be the responsibility of the second tug pilot. This would require special training but the main tug pilots would not require any more skills than already instilled by the Heavy Glider Conversion Units. The main tug would be on the port cable, allowing the pilot of the second tug to maintain formation easily.

On reaching operating height, the assisting tug would cast itself off. To allow an easy transfer of load, it would throttle back until the release unit reached the pulley when the cable would then detach itself.

Trials with different cable lengths showed that a Whitley

would require 250 feet of cable and a Halifax 300 feet to allow the tugs to formate without difficulty in directional control. A length of 100 feet of cable round the pulley unit gave a sufficient margin to ensure that premature release did not take place during take-off or in bumpy weather.

After some difficulties when both tugs were flying light, the release was fitted to the main tug and operated when the second tug overtook it. The cables were initially stranded steel but were later to be steel cables with a hemp centre as the original cable had a tendency to kink. In due course, a telephone line was placed within the hemp centre to provide intercommunication between glider and tugs.

The release units were designed by R Malcolm Ltd and gradually developed in the light of flying experience. After separation, the 10-lb release unit was towed with 300 feet of cable to be dropped on the despatching airfield. The remainder of the cable was dropped when the glider finally cast off. It was found that snaking of the cable after release damaged it while the release gear tended to be damaged by impact with the ground. Small parachutes were then fitted to minimise the latter type of damage.

Intercommunication was desirable between tugs and, to a lesser extent, with the glider pilot. It was not a good idea to use radio as this could be picked up by the enemy and give warning of an operation. The telephone cable was the best alternative as using signal lamps was clumsy.

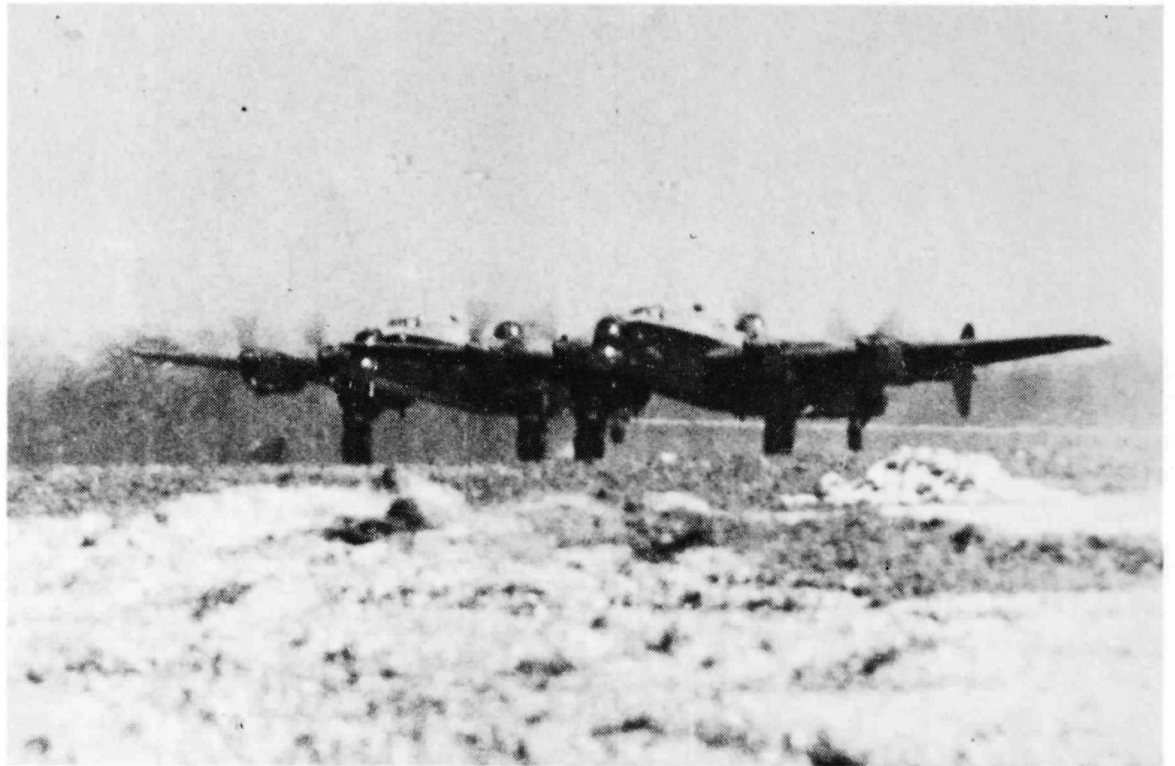
Actual flying tests were initially carried out by Whitleys from a grass airfield. After the tug pilots had gained confidence, they graduated to a standard 150-ft wide runway with little difficulty. Finally, they culminated in take-offs with a 15,000 lb Horsa and the lead Whitley at 26,500 lbs with the support tug at 24,000 lb.

The tugs had a ground run of 1,100 yds and the combination cleared 50 ft in 1,700 yds. It took 24 minutes to reach 10,000 ft at a climbing speed of 100 mph.

Halifaxes and Hamilcar trials were carried out at 36,000 lbs for the Hamilcar and 48,000 lbs and 42,000 lbs for the Halifaxes. The glider took off in 700 yds and the tugs in 1,200 yds before climbing at 125-130 mph. Time to 6,000 ft was 14 minutes.

It was found that if the throttles were opened slowly, there was no tendency to swing. Once airborne, the support tug retracted its undercarriage first to permit easier forming and to avoid possible falling back and automatic release of the tow.

One Whitley-Horsa take-off was carried out at night without difficulty but it was envisaged that operational sorties would be in daylight. Formating at night on lights in the leading tug was not easy and would require considerable extra



*Top: Two Halifaxes take-off side-by-side from the runway  
Below: The Hamilcar being towed follows up.*

training for squadron pilots.

About thirty tows were made at the RAE with twelve different tug pilots without accident. Further tests by Airborne Forces Experimental Establishment did result in several emergency releases, however.

RAE concluded that twin tug towing in normal weather conditions in daylight was a practicable operation but night towing would probably only be possible on clear moonlight nights.

Horsas and Hamilcars had been tested with rocket-assisted take-off pods (see AM.2/80) but the twin-tow method was regarded as being the more reliable.

Various other combinations were considered. A Spitfire had towed a Hotspur and it was proposed that twin Spitfires could tow a Horsa. Among other types considered were the Typhoon, Hurricane, Mustang, Beaufighter, Albermarles and Bostons but these were not tested by RAE.

A more radical method of getting a loaded glider off the ground was found in the Hamilcar X, which used a pair of Bristol Mercury engines to assist the tug and which could also sustain it in flight in a light condition. Despite the research, twin-tugs were never used operationally by the RAF.

## Vickers Warwick GR.V



The Warwick was totally overshadowed by its smaller sister, the Wellington. Designed to B.1/35 as a heavy bomber, the Type 284 was ordered in prototype form on 7 October 1935. Due to changes in the design and requirements, the prototype, K8178, did not make its first flight until 13 August 1939.

In the event, the Warwick never reached bomber squadrons. Its originally-planned Rolls-Royce Vulture engines had proved temperamental and were all required for the Manchester.

The second prototype, L9704, flew on 5 April 1940 and was fitted with Bristol Centaurus radials, but these were at a very early stage in their development life and production with these installed was impossible.

Casting around for an engine that was not in demand for other types, the Air Ministry picked Pratt & Whitney Double Wasps. An order was placed for 250 Warwicks powered by these engines but it was April 1942 before the first Warwick I was delivered.

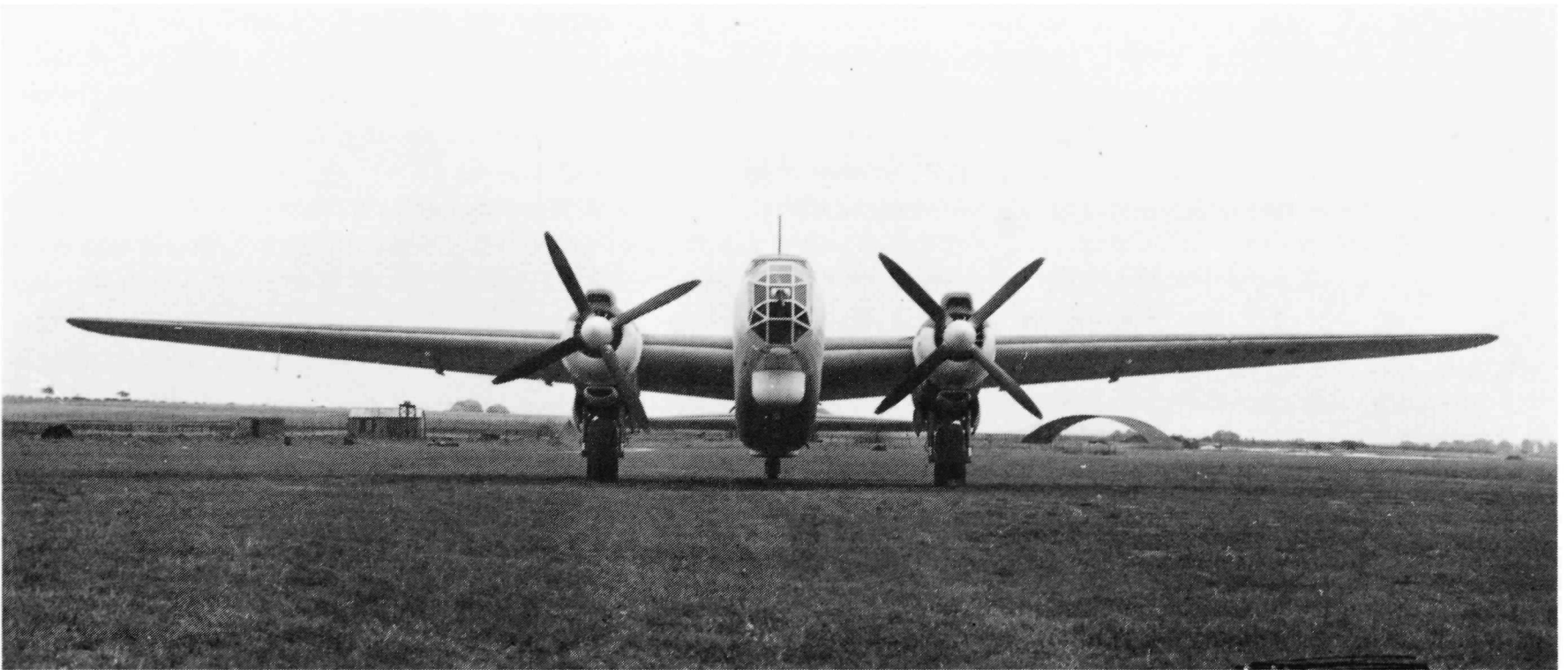
By this time, large four-engined heavy bombers were in service and there was no place for a larger version of the Wellington in Bomber Command.

It was decided to use the Warwick for air-sea rescue duties and for the rest of the war they patrolled the seas looking for ditched aircrews. An airborne lifeboat could be carried and dropped to any crew in trouble. Others were used as transports.

The final development of the Warwick came in the GR.V, the first of which flew in April 1944. It was fitted with a Leigh Light which was lowered through the rear fuselage, a radome under the nose and no dorsal gun turret, there being two 0.5-in beam guns, with another in the glazed nose. A standard tail turret with four 0.303-in guns was also fitted.

The GR.V saw active service by a matter of weeks but post-war requirements meant that Coastal Command adopted the Lancaster GR.3 as standard and the Warwick soon passed out of service.





## Contracts (Part 4)

S1590	Flycatcher	1	Fairey	70208/30		Ex Argentine PV aircraft
S1591	A.W.XVI Starling	1	A Whitworth	54578/30	N.21/26	
S1592	Firefly III	1	Fairey	54577/30	N.21/26	ex-G-ABFH
S1593	Iris III	1	Blackburn	58821/30		
S1594	Sea Hornet	1	Hawker	54576/30	21/26	Nimrod prototype
S1595 - S1596	S.6B	2	Supermarine	S.30012		
S1597 - S1614	Horsley	18	Hawker	84220/31		Deld as Mk.II
S1615 - S1639	Nimrod I	25	Hawker	102865/31	16/30	
S1638	Southampton	1	Supermarine			Serial wrongly allocated
S1640	Blackburn B.3	1	Blackburn	55826/30	M.1/30	
S1641	Type 207	1	Vickers	55827/30	M.1/30	
S1642	H.P.46	1	Handley Page	55828/30	M.1/30	
S1643 - S1647	Southampton II	5	Supermarine	105491/31		
S1648	Southampton IV	1	Supermarine	124775/31	R.20/31	Scapa proto
S1649 - S1674	Ripon II	26	Blackburn	106668/31	13/31	Deld as Baffins
S1675 - S1676	Moth Major	2	de Havilland	113208/31	T.6/33	Seaplanes
S1677 - S1698	Osprey I	22	Hawker	70868/30	19/30	
S1699 - S1701	Osprey III	3	Hawker	124118/31	10/33	Stainless steel construction
S1702 - S1704	Osprey III	3	Hawker	249962/33		
S1705 - S1720	Fairey IIF	16	Fairey	110958/31		Cancelled due to similarity with K-serial IIFs and Gordons
S1705	F.S.36	1	Gloster	130844/31	S.9/30	
S1706	S.9/30	1	Fairey	130845/31	S.9/30	
S1707 - S1715	Vildebeest	9	Vickers	131305/31		
S1721 - S1770	Not used					
S1771 - S1791	Fairey IIF	21	Fairey	109567/31		Cancelled due to similarity with K-serial Gordons and IIFs
S1779 - S1844	Fairey IIF	66	Fairey	110958/31		Deld as Mk.IIIB for FAA
S1845 - S1865	Fairey IIF	21	Fairey	109567/31		DC aircraft
K1000 - K1037	Atlas	38	A Whitworth	933799/29	11/28	Ran from J9951
K1038 - K1062	Avro 504N	25	Avro	928312/29	3/27	
K1063 - K1078	Hinaidi	16	Handley Page	934192/29	14/28	
K1079 - K1101	Bulldog II	23	Bristol	929308/29	17/28	
K1102	Hart	1	Hawker	891666/28		Kestrel V testbed
K1103 - K1112	D.H.60M	10	D.H.	932183/29	4/29	
K1113 - K1114	Atlas	2	A Whitworth	933799/29	11/28	
K1115 - K1121	Fairey IIF Mk.IV	7	Fairey	933981/29	25/28	
K1122 - K1157	Wapiti IIA	36	Westland	933774/29	1/29	
K1158 - K1170	Fairey IIF Mk.IV	13	Fairey	933798/29	25/28	
K1171	Helicogyre	1	Isacco	836334/28	2/28	
K1172 - K1197	Atlas DC	26	A Whitworth	972069/29	12/28	
K1198 - K1227	D.H.60G Moth	30	D.H.	5785/30	4/29	
K1228 - K1229	Parasol	2	Parasol	863432/28	15/28	
K1230 - K1240	Tutor	11	Avro	9373/30	3/30	
K1241	D.H.60G	1	D.H.	8660/30		For India
K1242 - K1253	Avro 504N	12	Avro	5789/30	3/27	
K1254 - K1309	Wapiti IIA	56	Westland	21443/30	1/29	
K1310 - K1315	Victoria V	6	Vickers	2666/30	7/29	
K1316 - K1415	Wapiti IIA	100	Westland	30386/30	1/29	
K1416 - K1447	Hart	32	Hawker	26275/30	9/29	
K1448 - K1453	Tomtit	6	Hawker	27634/30	5/29	
K1454 - K1506	Atlas DC	53	A Whitworth	34471/30	12/28	
K1507 - K1602	Atlas AC	96	A Whitworth	35536/30	11/28	
K1603 - K1694	Bulldog IIM	92	Bristol	35537/30	11/29	
K1695	Hendon	1	Fairey	872875/28	B.19/27	
K1696	Cierva C.19	1	Avro	344721/30		
K1697 - K1728	Fairey IIF/IVB	32	Fairey	35535/30	3/31	
K1729 - K1748	Gordon	20	Fairey	35535/30	18/30	
K1749 - K1778	Fairey IIF/IVB	30	Fairey	35535/30	3/31	
K1779 - K1786	Tomtit	8	Hawker	27634/30	5/29	
K1787 - K1796	Tutor	11	Avro	49321/30	3/30	
K1797	Tutor	1	Avro	50505/30	3/30	

K1798 - K1823	Avro 504N	26	Avro	5789/30	3/27	
K1824	Puss Moth	1	D.H.	54344/30	8/30	
K1825 - K1907	D.H. 60M	83	D.H.	27847/30		
K1908	H.P.39	1	Handley Page	62551/30		G-AACN Gugnunc
K1909 - K1925	Hinaidi	17	Handley Page	27633/30	13/29	
K1926 - K1946	Fury I	21	Hawker	40559/30	13/30	
K1947	Pterodactyl IV	1	Westland	948111/29	16/29	Also allocated K2235 in error
K1948	Cierva C.19	1	Avro	77015/30		Mk III
K1949	Saro A.10	1	Saro	74201/30	F.20/27	
K1950 - K1955	Hart Fighter	6	Hawker	56338/30	25/31	
K1956 - K1990	Avro 504N	35	Avro	90666/31	3/27	
K1991	Fairey LR	1	Fairey	S.2669/31	14/30	
K1992 - K1994	Sidestrand III	3	Boulton & Paul	92429/31	10/29	
K1996 - K2034	Audax	40	Hawker	102034/31	7/31	K1996 blt as Hart T
K2035 - K2082	Fury I	48	Hawker	102468/31	13/30	
K2083 - K2132	Hart (India)	50	Hawker	102035/31	9/31	
K2133	Vellore IV	1	Vickers	38677/30	34/24	Ex G-ABKC
K2134	Rangoon	1	Short Bros	112915/31	R.19/32	
K2135 - K2234	Bulldog IIA	100	Bristol	105490/31	11/31	K2188 deld as DC
K2235	D.H. 60M	1	RAE			Built from components
K2236 - K2251	Wapiti IIA	16	Westland	109869/31	1/29	K2248-K2251 not deld
K2252 - K2320	Wapiti IIA	69	Westland	109870/31	1/29	
K2321 - K2339	Virginia X	19	Vickers	101683/31	5/31	5/31
K2340 - K2345	Victoria V	6	Vickers	101677/31	7/29	
K2346 - K2423	Avro 504N	78	Avro	122030/31	3/27	
K2424 - K2475	Hart	52	Hawker	117876/31	20/30	
K2476 - K2495	Bulldog IIA	20	Bristol	11/31		
K2496 - K2513	Tutor I	18	Avro	113780/31	3/30	
K2514 - K2566	Atlas I DC	53	A Whitworth	103834/31	12/28	
K2567 - K2601	Tiger Moth I	35	D.H.	120255/31	23/31	
K2602	Gloster AS.31	1	Gloster	131801/31	1/31	
K2603 - K2649	Gordon I	47	Fairey	126629/31	18/30	
K2650 - K2680	Virginia X	31	Vickers	141161/31	5/31	
K2681	Cloud	1	Saro	171042/32	15/32	
K2682	Avro Ten	1	Avro	164779/32		
K2683 - K2768	Gordon	87	Fairey	166235/32	18/30	
K2770	Pterodactyl V	1	Westland	172770/32	F.3/32	
K2771	Vickers Type 253	1	Vickers	174761/32		G.4/31
K2772	Parnall G.4/31	1	Parnall	174759/32		G.4/31
K2773	H.P.47	1	Handley Page	174760/32	G.4/31	
K2774 - K2790	Osprey	17	Hawker	78068/30	19/30	
K2791 - K2808	Victoria	18	Vickers	170929/32	6/31	
K2809	Rangoon	1	Short Bros	179569/32	R.19/32	
K2810 - K2822	Vildebeest	13	Vickers	131305/31	22/31	
K2823 - K2841	Nimrod	19	Hawker	177993/32	16/30	Last 8 deld as airframes
K2942 - K2858	Demon	17	Hawker	176937/32	25/31	
K2859 - K2872	Bulldog IIA	14	Bristol	183620/32	11/31	
K2873	Bristol 118A	1	Bristol	174305/32		
K2874 - K2883	Fury	10	Hawker	184986/32	3/30	
K2884 - K2887	Ripon	4	Blackburn	170234/32	13/31	
K2888 - K2889	Southampton	2	Supermarine	188371/32	14/31	N253
K2890	Supermarine 224	1	Supermarine	189222/32	F.7/30	
K2891	Westland PV.4	1	Westland	189221/32	F.7/30	
K2892	Blackburn F.3	1	Blackburn	189223/32	F.7/30	
K2893	Sea Tutor	1	Avro	174961/32	26/32	
K2894 - K2898	Cloud	5	Saro	191023/32	15/32	
K2899 - K2904	Fury	6	Hawker	184986/32	3/30	
K2905 - K2908	Demon	4	Hawker	176937/32	25/31	
K2909 - K2914	Nimrod	6	Hawker	163799/32	16/30	
K2915	Hart	1	Hawker	159690/32		Supercharged Kestrel
K2916 - K2945	Vildebeest	30	Vickers	131305/31	22/31	
K2946 - K2963	Bulldog IIA	18	Bristol	183620/32	11/31	
K2964 - K2965	Southampton II	2	Supermarine	182160/32	10/28	
K2966 - K3030	Hart SEDB	65	Vickers	198868/32	20/30	
K3031 - K3054	Hart SEDB	24	A Whitworth	198870/32	20/30	
K3055 - K3145	Audax	91	Hawker	190684/32	7/31	

## Bookshelf

**The Marshall Story** by Sir Arthur Marshall  
Patrick Stephens - £19.99

Marshalls of Cambridge has been a well-known name in aviation for nearly seventy years and is possibly the major British company in the section of the business which supported aircraft but did not build them.

Marshalls had been in the motor trade for some time before acquiring a franchise to sell Moths as well as Austins. The young Arthur Marshall learned to fly in 1927 and operated Moth G-AAEH from a field at Heachem, near Hunstanton, Norfolk, where the family had a seaside cottage. Once the decision to go into the aircraft business had been taken, an airfield in Cambridge was acquired. This was at Fen Ditton only a half-mile along the Newmarket Road from the later Teversham airfield, opened in 1937 and which developed into Cambridge Airport. A flying school was opened but it was the formation of the RAF Volunteer Reserve which gave Marshalls a boost by contracting the company to operate No.22 Elementary & Reserve Flying Training School. In June 1938, Marshalls opened another school, No.26 E&RFTS at Kidlington, thus neatly combining Oxford and Cambridge.

With new large hangars, Marshalls could maintain and repair a large fleet of Tiger Moths, Harts and Battles and on the outbreak of war these facilities was put to good use by the arrival of Whitleys for overhaul. From this grew a long period of work on RAF aircraft, Mosquitoes, Typhoons, Vampires, Britannias, Valiants and Hercules among them. Civil transport aircraft were also handled post-war and the airport overflowed across the Newmarket Road to a major factory complex.

In recent years, Marshalls looked after the RAF's TriStar programme as well as considerable work in the civilian aviation field.

This is an interesting account from someone who was involved from the beginning of Marshall's aviation activities. It even goes back to 1919, when a Handley Page O/400 at Fowlmere was bought for £5.00. It was dismantled, towed off with some difficulty to the family home and various bits used, including the undercarriage on a six-seater sand yacht....

**The History of 73 Squadron** by Don Minterne  
Tutor Publications - £15.05

Another of our members has been busy for the past few years and has produced half a history of No.73 Squadron. This first volume covers the activities of the squadron from its formation on 1 July 1917 until the end of November 1940, when it moved to the Middle East.

No.73 was a Camel squadron and remained a fighter unit until 1957, flying Furies, Gladiators, Hurricanes, Spitfires, Vampires and Venoms. This volume takes it through its service in France and during the Battle of Britain.

The squadron was fortunate to arrive in France at a time when the Camel was the ultimate single-seat fighter of its day. Although tricky to handle, it was ideal for pilots who mastered its handling idiosyncrasies.

With 303 pages, 135 photos and colour drawings of the squadron's aircraft types, this is a comprehensive account of the everyday activities of a RAF fighter squadron. There are

appendices of aircraft used, squadron personnel, casualties, claims, awards, etc.

Definitely one for the bookshelf of anyone interested in the history of the Royal Air Force. Available from the publisher at The Cleve, Bradford Peverell, Dorchester, Dorset, DT2 9SA. Add £2.05 for packing and postage.

**The Royal Flying Corps in France** by Ralph Barker  
Constable - £18.95

Subtitled "From Mons to the Somme", this is a very readable account of the development of the Royal Flying Corps from its arrival in France in August 1914 to the end of 1916, by which time the original collection of aircraft types had been developed into a sophisticated organisation that provided valuable support for the Army.

One of the RFC's main tasks was reconnaissance, over and behind the enemy lines to locate batteries and dumps and to map trench systems. Linked with this was the incessant artillery co-operation where aircraft droned to and fro over the front line spotting for the Royal Artillery.

The other major responsibility of the RFC was to prevent enemy aircraft carrying out the same functions and, as the enemy were intent on the same purpose, the defence of our own aircraft resulted in the birth of fighter combat. During the period covered, the Germans had an advantage in the quality of their fighters which cost the RFC dear.

For anyone who believes the media presentation of aviation during World War One being a small collection of fragile aeroplanes manned by eccentrics, this is a useful account of what went on in the real world at that time.

**The Anzac Squadron** by Norman Ashworth  
Available from Hesperian Press, PO Box 317, Victoria Park, WA, 6100 Australia - \$A34.00 (incl P&P)

The Squadron in question is No.461, formed on Anzac Day, 25 April 1942, which gave it its title. Unlike the original ANZAC, there was no New Zealand component involved but the title 'Anzac', since the last war, appears to have been requisitioned by the Australian media as meaning all-Australian.

No.461 was a Sunderland squadron, based successively at Mount Batten, Hamworthy and Pembroke Dock. A nucleus from No.10 Squadron RAAF enabled it to become operational on 1 July and for the next three years it patrolled the Western Approaches. This is a good account of the activities of a Coastal Command squadron with its brief flashes of action amid many hours of boredom.

Its 275 pages has 73 photographs and some useful maps and diagrams. Many of the photographs seem to have come from private sources, including an unusual view of Hamworthy with its ramp full of Sunderlands. There are comprehensive appendices giving details of individual squadron aircraft.

**The Era of the Nocturnal Blip** by Norman Cordingly  
Merlin Books - £8.95

The author was deeply involved in radar during World War Two and this is the third, and sadly last, book on his memories of the development of radar and radio for the RAF as he died in January of this year. Only 90 pages in length, it provides details of his involvement in ground-controlled interception and his operational trips with night fighter squadrons. There are forty-eight photos and a map.

