

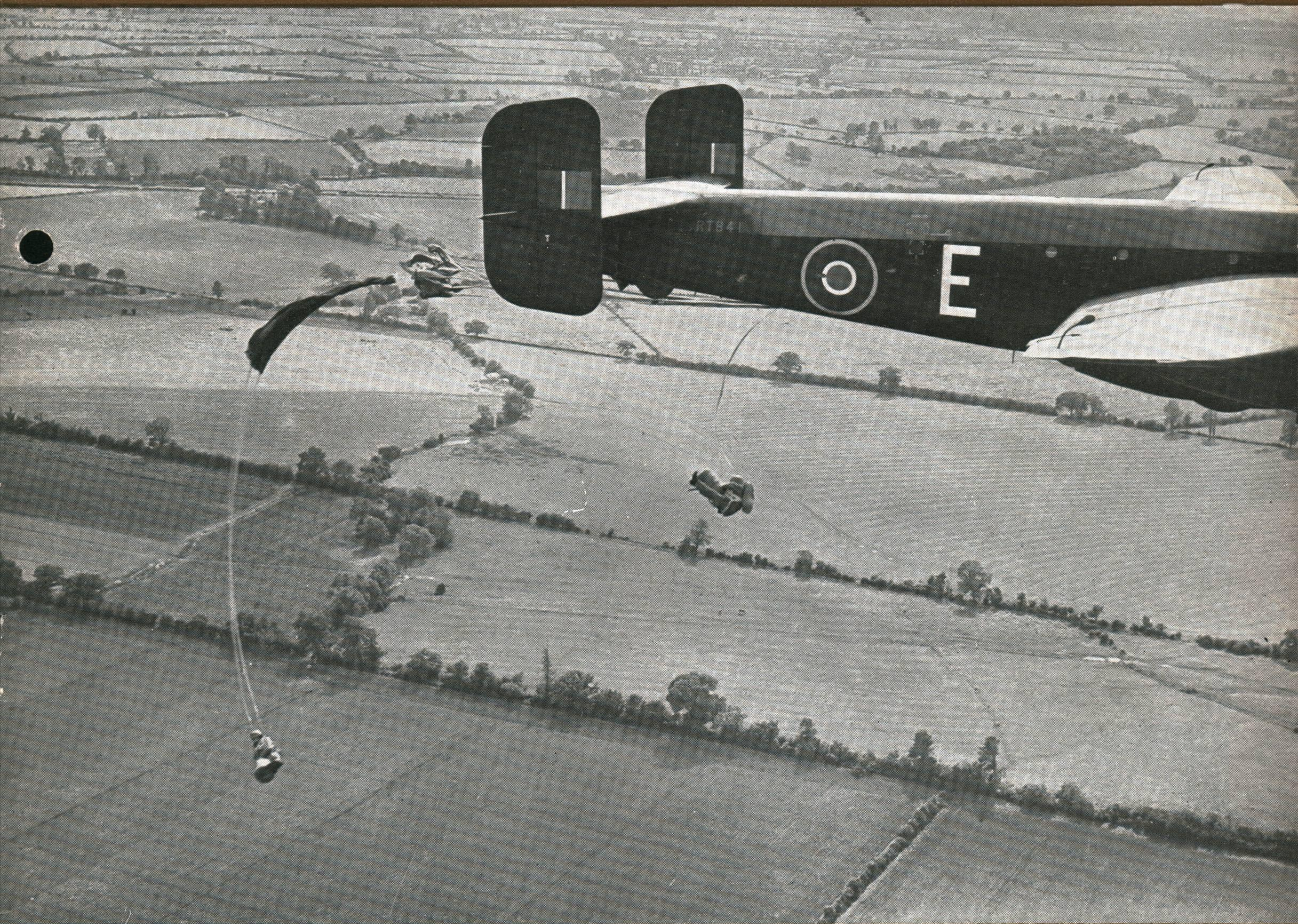
THE INTER



SERVICES

# AIRCRAFT RECOGNITION

*Journal*



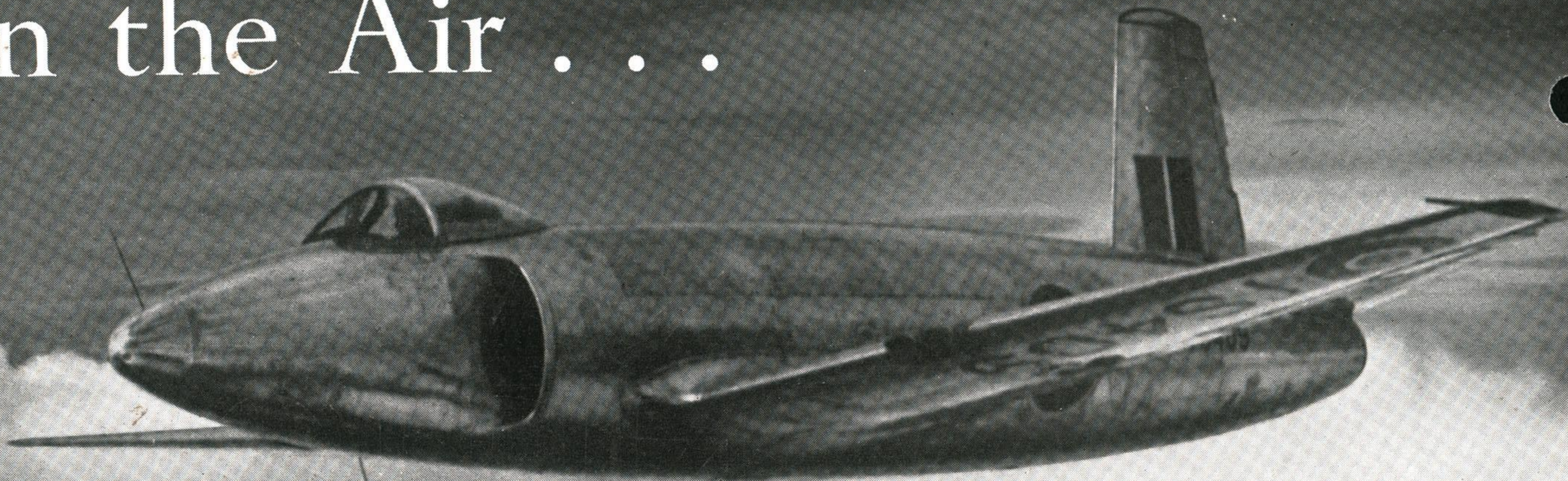
ARMY NUMBER

NOVEMBER 1946

New Series

Volume I. No. 5

# In the Air . . .

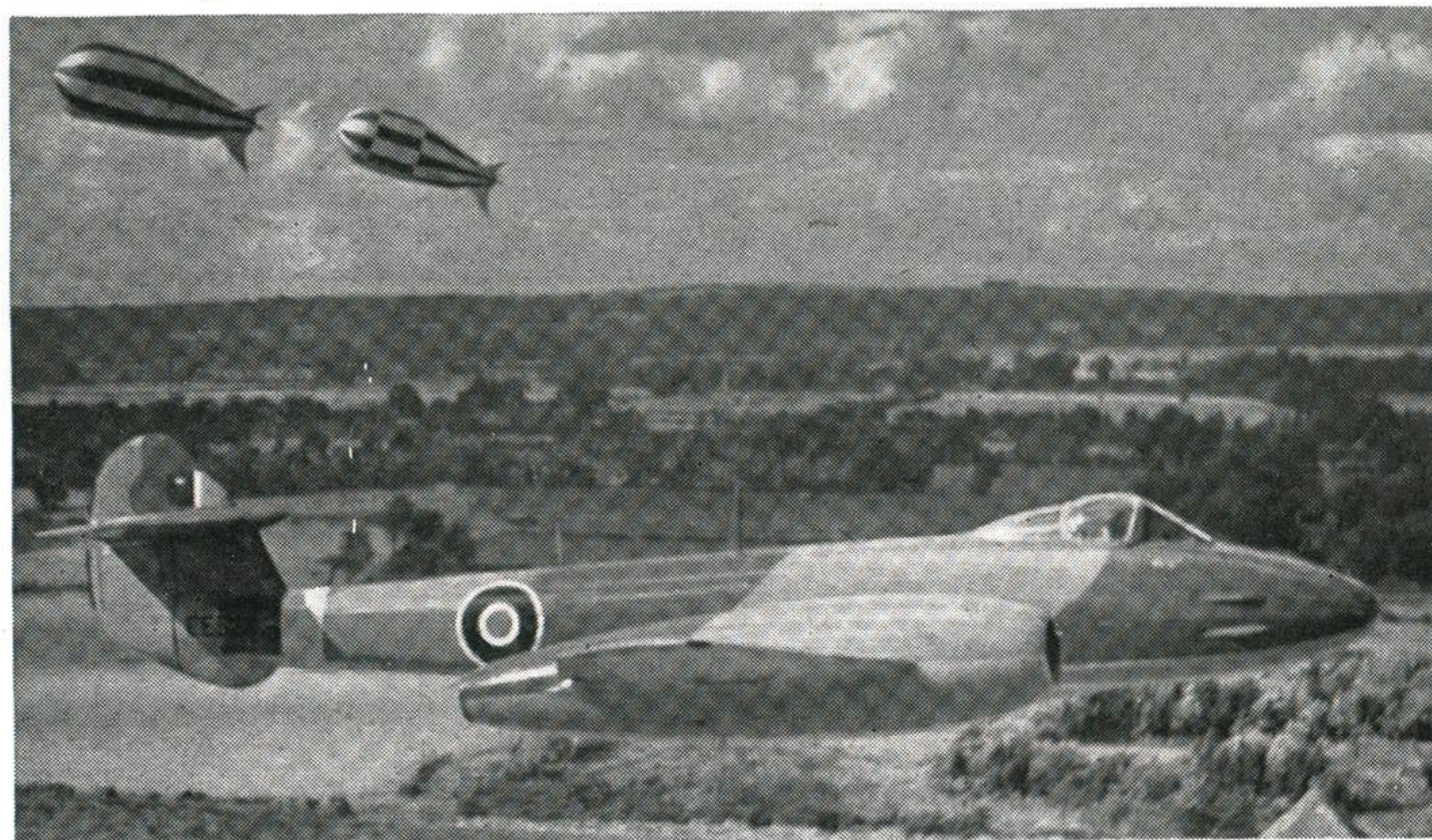


The **VICKERS SUPERMARINE** high performance jet fighter (Rolls-Royce Nene I) built to specification E/10/44 is flying. Spiteful wings have caused it to be wrongly called the jet Spiteful; it is an entirely new design. The likeness of the fuselage to a

projectile is remarkable. Its short span wing is low set, of which the tips, as with all other aerofoil extremities, are squared off. The tailplane has a dihedral angle. Performance figures are not available but it has a 600 m.p.h. plus. appearance. (Span 36 ft. 11 in.).



The **FAIREY FIREFLY Mk. I TRAINER** (Rolls-Royce Griffon XII) is the answer to the demand for a high performance dual-control fighter trainer. It has been met by the introduction of a hump, replacing the observers cockpit, from which the instructor is able to "overlook" the faults of his pupil pilot. Maximum speed is 305 m.p.h. (Span 44 ft. 6 in.).



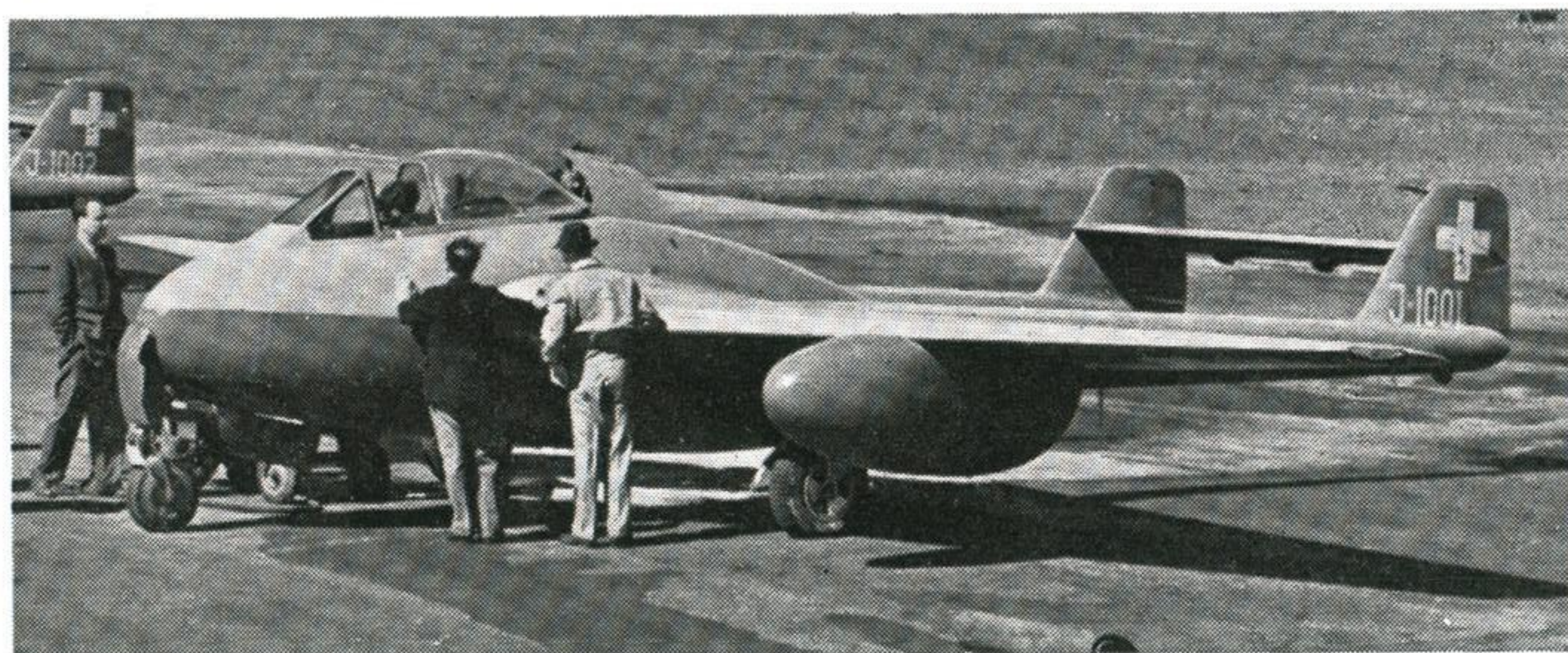
**GLOSTER METEOR IV** (2 Rolls-Royce Derwent V). One of the Meteors of the High Speed Flight turning off the course after a trial run. In effect, a standard RAF fighter, the turbo-jet units have been specially rated for record attempts. Note long motor nacelles. Squadron Leader W. A. Waterton, A.F.C., is the pilot in this shot. (Span 42 ft. 10 in.).



**AIRSPEED CONSUL** (2 Armstrong Siddeley Cheetah X). Externally almost identical with the older and well-tried Oxford trainer, the Consul is a post-war 5-6 seater passenger transport now coming into service on the shorter, feeder air lines. Differences are in windows and nose length. Like the Oxford, it is constructed of wood. (Span 53 ft. 4 in.).

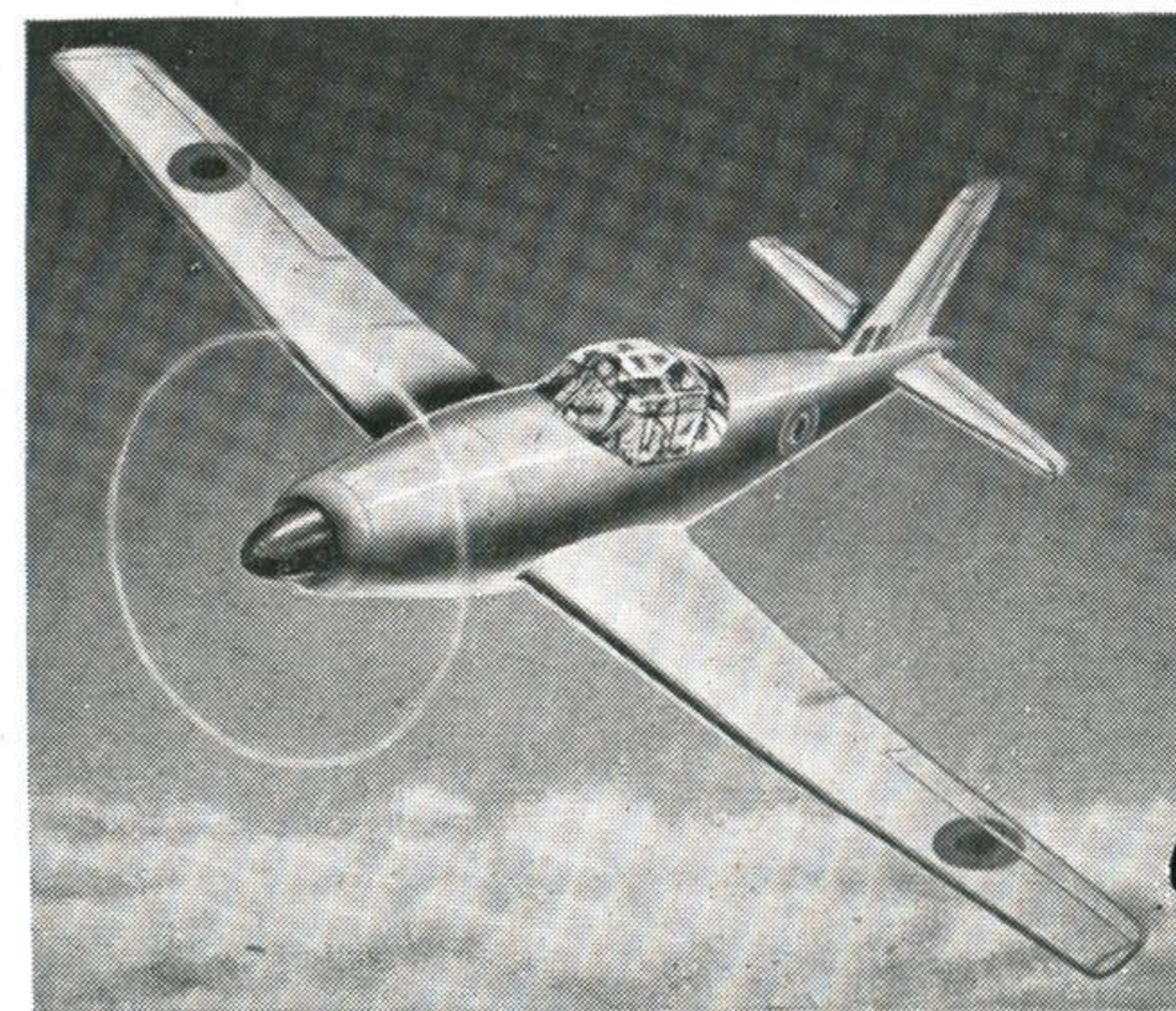


A **SHORT "HYTHE" CLASS** Boat displays its fine lines for all to admire. This bowler-hatted Sunderland III is one of several in service with B.O.A.C. The engines are the well-tried Bristol Pegasus XVIII radials: the span is 112 ft. 10 ins.



A **DE HAVILLAND VAMPIRE**, destined for the Swiss Air Force, on the ground at Hatfield prior to taking off on a non-stop flight to Zurich. Note long-range tanks and Swiss markings. The pilot is Mr. John Cunningham, here seen standing by the intake (back to the camera in the light-coloured overalls). (Span 40 ft.).

A drawing of the **BOULTON PAUL P.108** (Rolls-Royce Dart prop-jet unit) projected advanced trainer. It is conventional in layout. The jet outlet is just behind and below the starboard wing root fillet, so cannot be seen in this view. All aerofoils have clipped tips. Among its possible duties are Gunnery, Navigation, Bombing and Night Flying. The Navy are evidently interested as it can have arrester-hook and folding wings. (Span 39 ft. 4 in.)



THE INTER



SERVICES

# AIRCRAFT RECOGNITION JOURNAL

(NEW SERIES)

## Foreword

by *Lieut. Gen. O. M. Lund, CB · DSO*  
*Commander-in-Chief A.A. Command.*

THE decision to resume publication of the Inter Services Aircraft Recognition Journal was most welcome. The importance of the subject to all in the Services—whether in the air, in ships or on land—has been demonstrated so clearly during the years of war that it can hardly need further emphasis now.

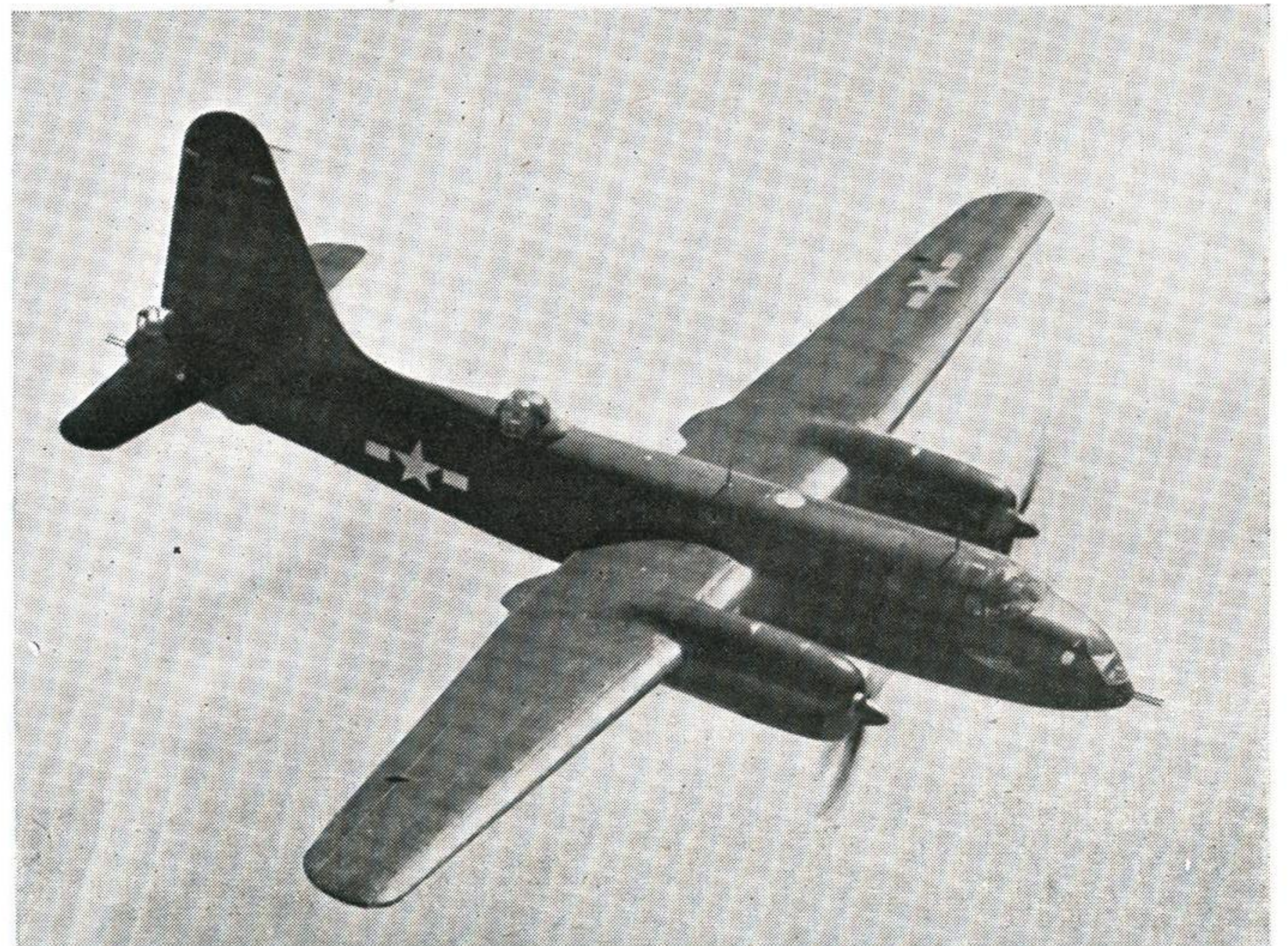
The Journal has always been an attractive and interesting publication, well designed and magnificently illustrated; its aim has been admirably set out in its first issue—"above all to interest". For all in the Services, or who will join the Services, a journal which sets out to encourage interest in Aircraft Recognition is of particular value; a real interest in the subject is essential if the best results are to be obtained from the many aids to training in Aircraft Recognition—films, silhouettes, handbooks, models and the like—which are used in the Services.

This publication should have a very wide appeal and I wish it every success.

*O. M. Lund*  
 Lieut. Gen.



**NORTH AMERICAN NAVION** four-seaters are threatening to swarm in the U.S. according to reports. Of all metal construction, this small low wing, private owner type has a very neat layout. A tricycle undercarriage is a very good feature from the P.O. point of view. A completely removable rear cockpit canopy facilitates loading if the machine is used to carry freight. Close inspection of shapes and forms reveals its ancestry.



The **LOCKHEED P2V NEPTUNE** (2 Wright Duplex Cyclones), a long-range overseas reconnaissance type, recently established a World Record for long distance. One of them, brim-full of petrol, and carrying two pilots (supercharged for wakefulness), plus a baby kangaroo, flew 11,236 miles non-stop from Australia to the United States, creating a new long-distance record. High aspect wing and high tail are noteworthy features.

# THE ARMY AND THE AIR



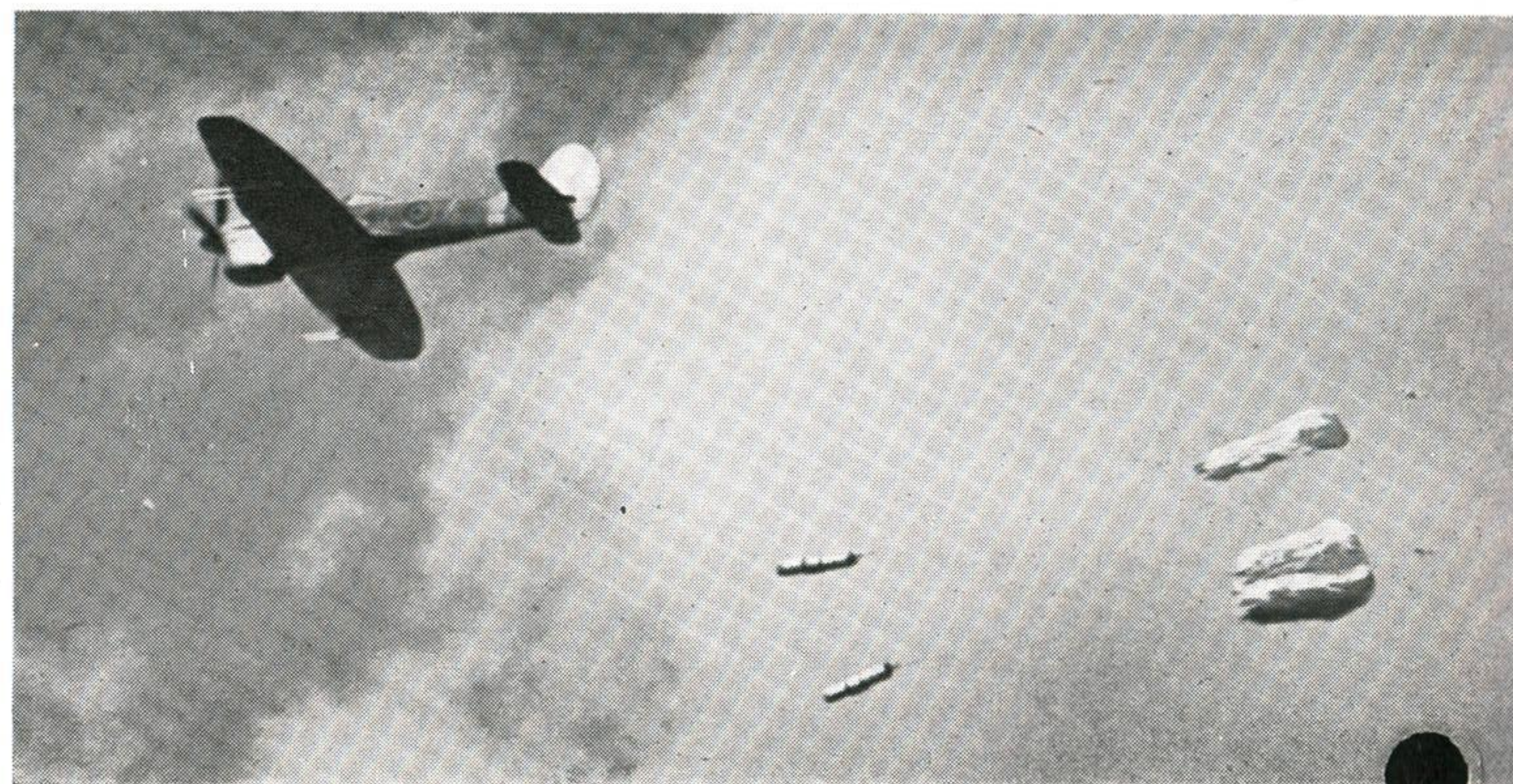
A Dakota about to "snatch" a Hadrian glider

**A** PART from the work of the Air Observation Post pilots, which is dealt with elsewhere in this issue, the only other Army air crews belong to the Glider Pilot Regiment and fly the Horsa and the Hamilcar operational gliders; the glider tugs are manned by R.A.F. crews. In fact, every other operation involving the use of aircraft to support the Army is taken care of by the R.A.F.

That is not to belittle the extent of the Army's airmindedness—quite the contrary—the modern soldier is very conscious of the part the R.A.F. must contribute to any success he may achieve. The story may begin with strategic bombing of targets quite remote from the area of impending operations, i.e., factories, airfields or oil storage depots, etc., and of course there will be constant photographic reconnaissance to assist planning. Operations are planned by a combined R.A.F.—Army staff and this close co-operation between the two Services is the essence of success and runs right down from Army Group level through the various Headquarter staffs, with the Army and the R.A.F. working literally side by side.

The name given to the air aspect of these joint operations is Air Support. Air Support has many functions grouped loosely under two headings, Offensive Support and Transport Support. Briefly, Offensive Support means direct action against the enemy from the air in front of the ground forces, while Transport Support means transporting by air the wherewithal for the assault and the subsequent reinforcement of the battle area.

In Offensive Support, the Army can, through the combined staffs, call upon squadrons of R.A.F. Fighter Bombers, medium Bombers, and sometimes even heavy Bombers, specially laid on to work with them, and so direct them to the chosen target. The link-up is so close that it is often possible for the aircraft to be in action within a couple of minutes of the request being received from the forward troops. This is called Close Support. The type of attack varies with the circumstances and the target. For example, Fighter Bombers might be chosen for attacking tanks, whilst a big enemy strong point might require the participation of Lincolns dropping the heaviest bombs. In this case, it is likely that the target would be marked by Pathfinder Mosquitos before the main attack commenced. Medium Bombers, again, might take care of such things as rail junctions, bridges and enemy lines of communication in areas near the front, so as to prevent reinforcements coming up and to disorganise retirements. Offensive Support aims at liquidating obstacles in the path of our ground forces, and once the enemy is on the run, to turn retreat into complete destruction.

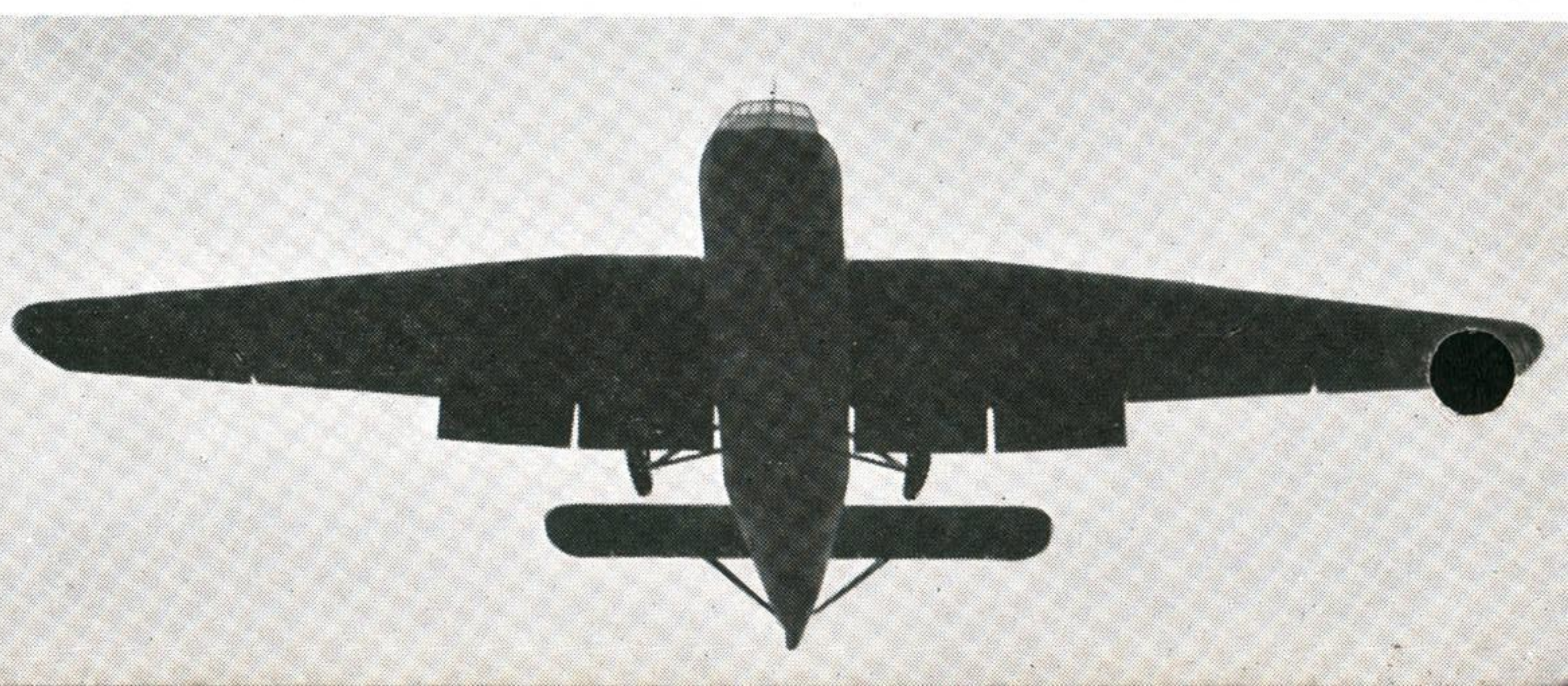
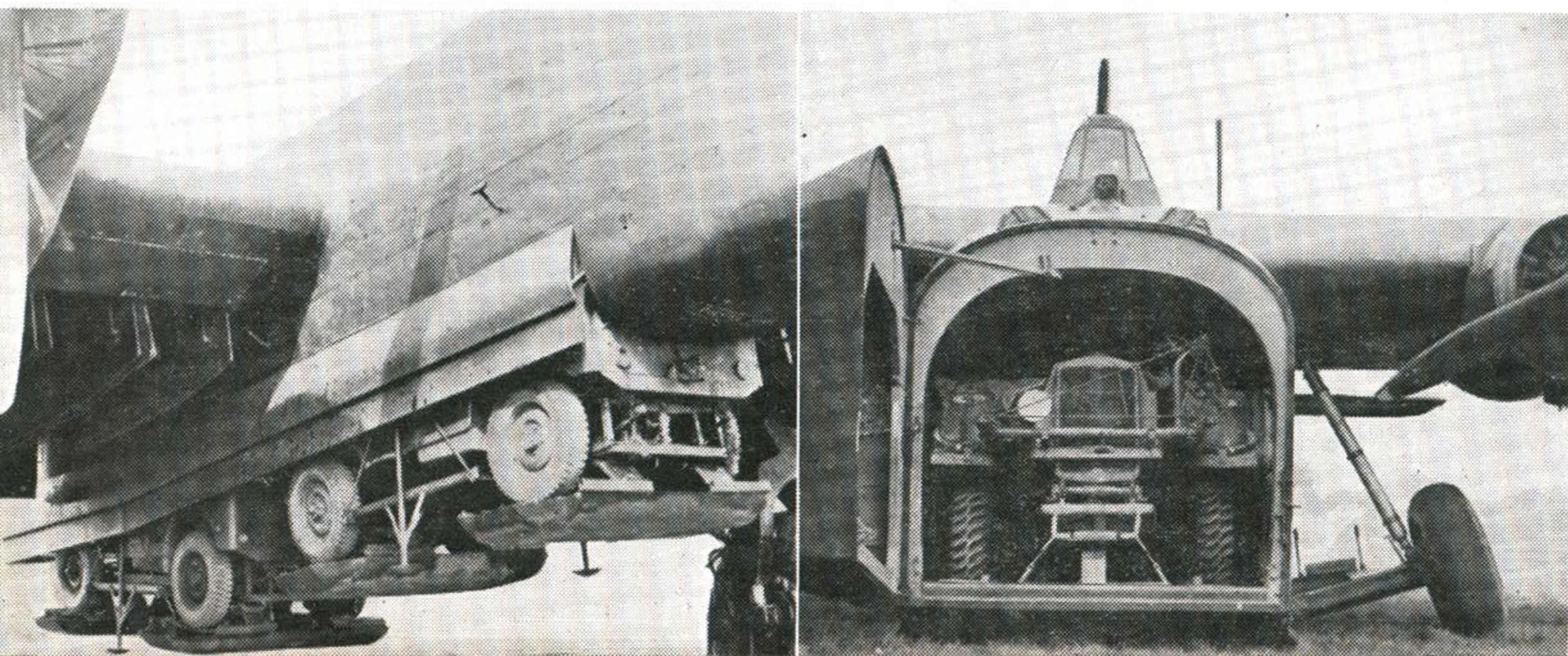


A Hawker Tempest V drops supplies



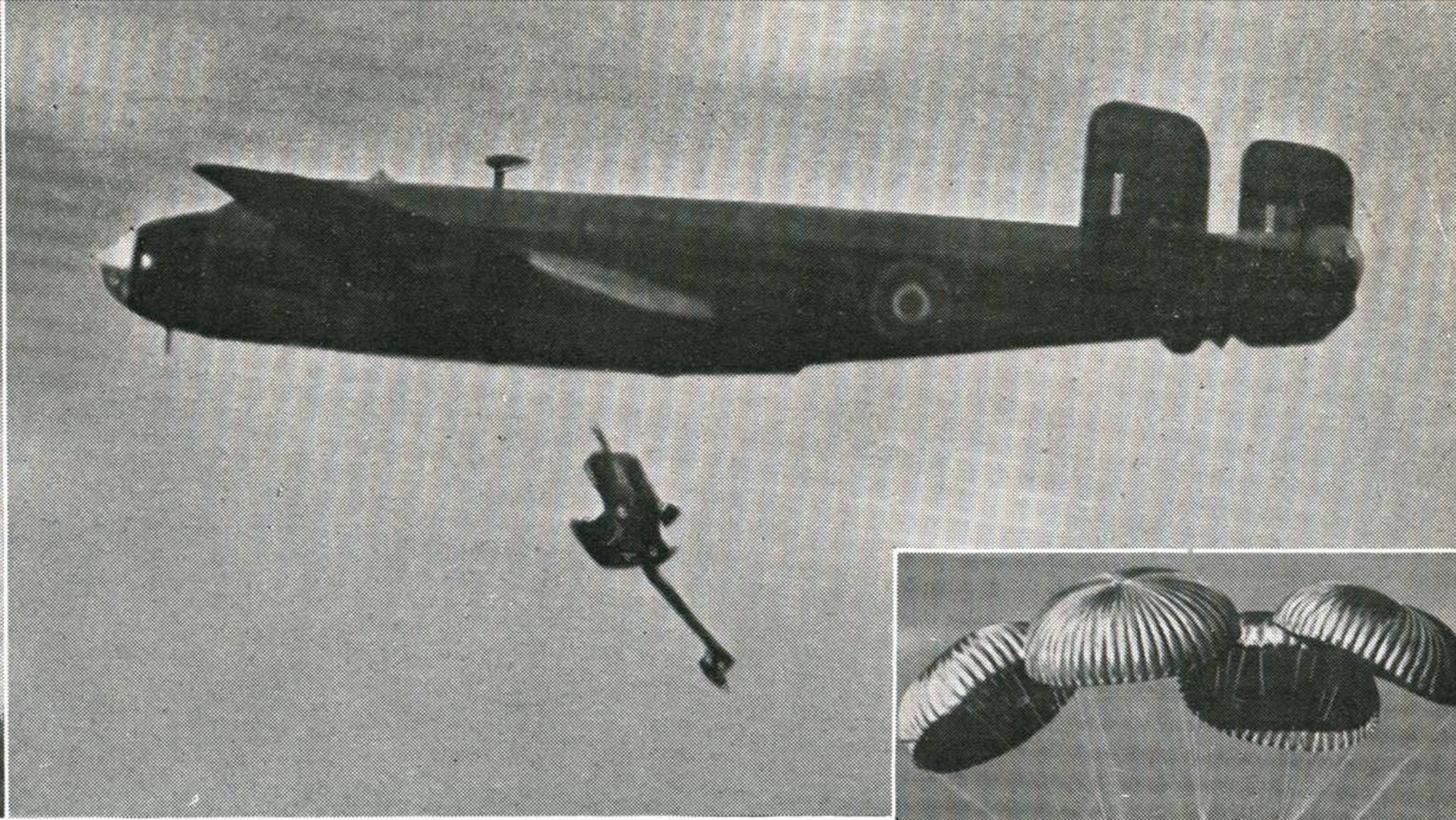
(above) Dakotas over the "DZ." (below) a Horsa II full of airborne infantry making an approach.

(left) Jeeps in the bomb bay of a Halifax and (right) an armoured vehicle in the "maw" of a Hamilcar X.





The new Heston A.O.P. as it will appear upon its lawful occasions.



A howitzer leaves a Halifax IX and (inset) four parachutes take the strain.

Transport Support, as its name implies, supports the ground forces by carrying men and supplies to the battle area. The aircraft used are mainly of the transport type, some in the straightforward transport role, carrying men and/or material, others carrying paratroops or towing gliders.

Parachute dropping requires a special skill on the part of the aircrews, for loads must be dropped accurately and on time. Concentration is essential and everything must land in a small area known as the "dropping zone". Apart from "live drops," all manner of heavy loads may be put down, including the 6 Pounder gun and its crew, a jeep with its crew, and many other requirements of the Army. The aircraft generally used for parachute dropping are transport types, but in case of emergency, fighters may drop supplies.

It is the responsibility of the R.A.F. tug crews to get the gliders to the right place at the right time. The gliders are then released and land as quickly as possible in a concentrated area. Once

landed, or crash landed if necessary, the glider pilot reverts to his role of soldier and assists in the assault.

Glider snatching consists of retrieving a glider from a confined space, where the tug aircraft cannot land. In this operation the tug's hook picks up the glider's tow rope, which is suspended between two poles. The glider is thus whipped off the ground with the minimum forward run—hence the "snatch".

Every aircraft in service with the R.A.F. directly or indirectly provides potential support to the Army in the field. The types of aircraft used in support are, therefore, legion, covering the whole range from the heavy bomber and transport aircraft, to the small but not insignificant Auster, with the Helicopter type a strong favourite for the near future.

How necessary it is then, to be able to identify these aircraft, to know their respective roles and, should the occasion arise, to be able to distinguish them from enemy aircraft.

## ADVANCED SPOTTING

Recognition Test No. 14



# Transports for the **ARMY...**



VICKERS VIKING C.Mk.II.



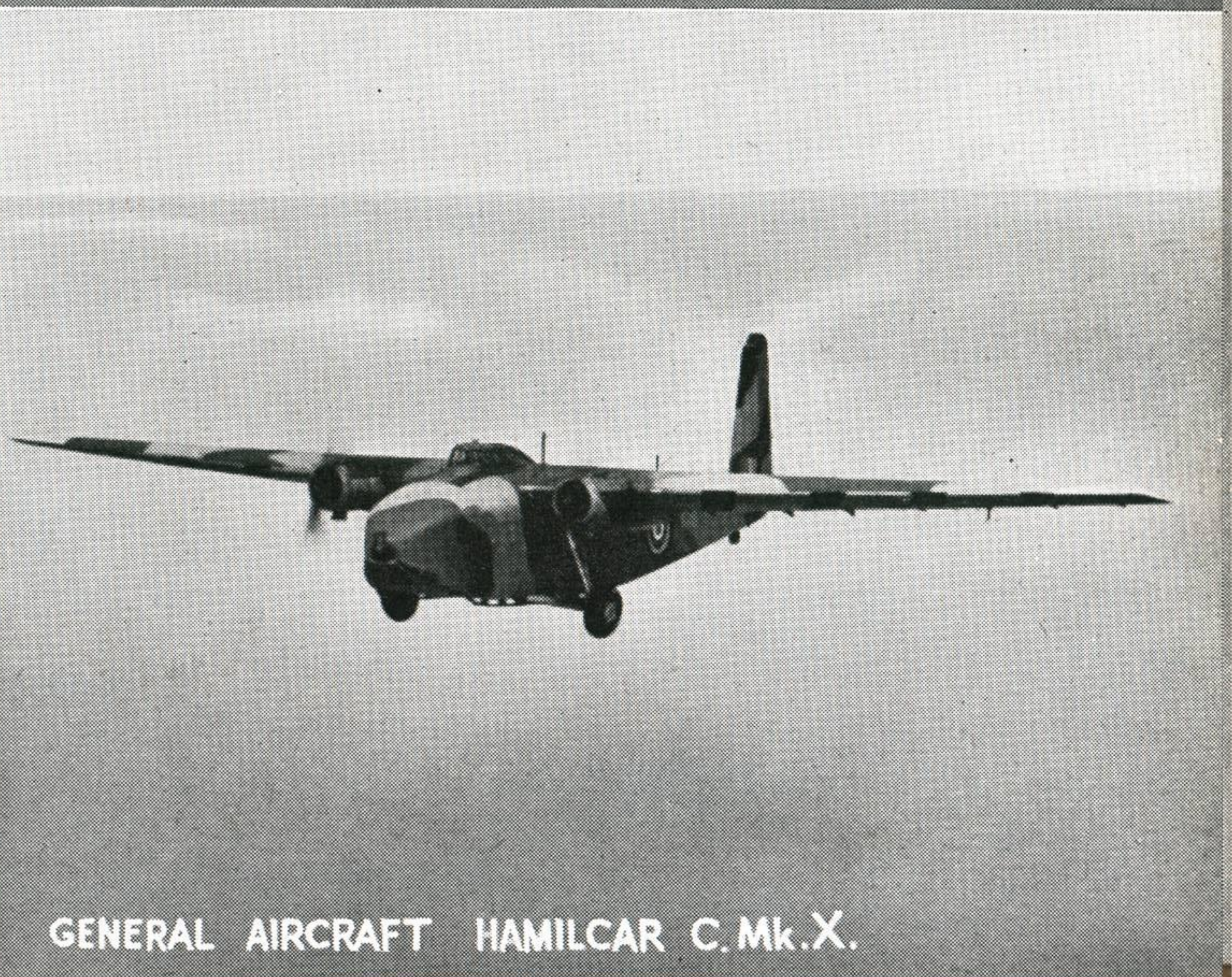
HANDLEY PAGE HASTINGS C.Mk.I.



AIRSPED AYRSHIRE C.Mk.I.



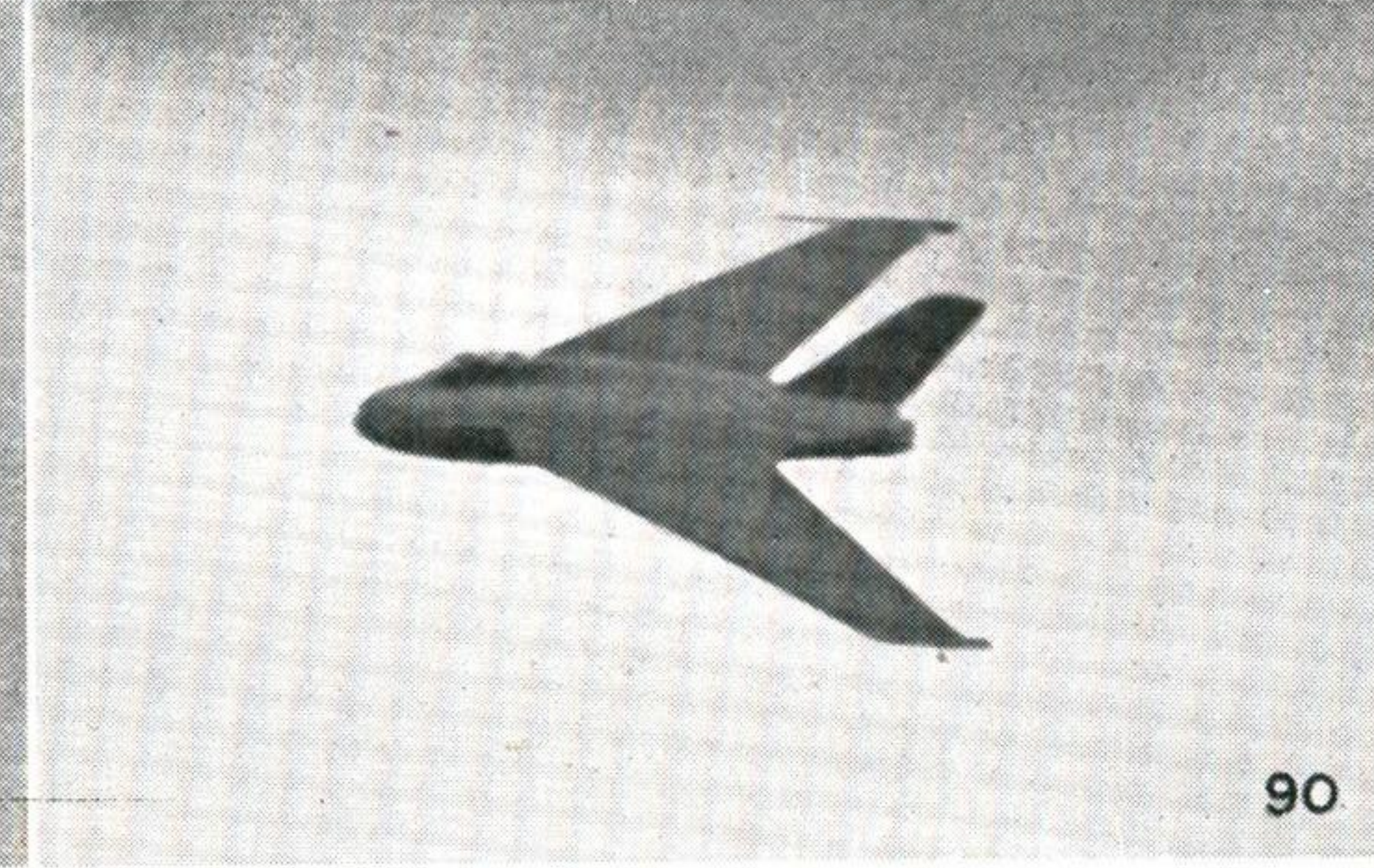
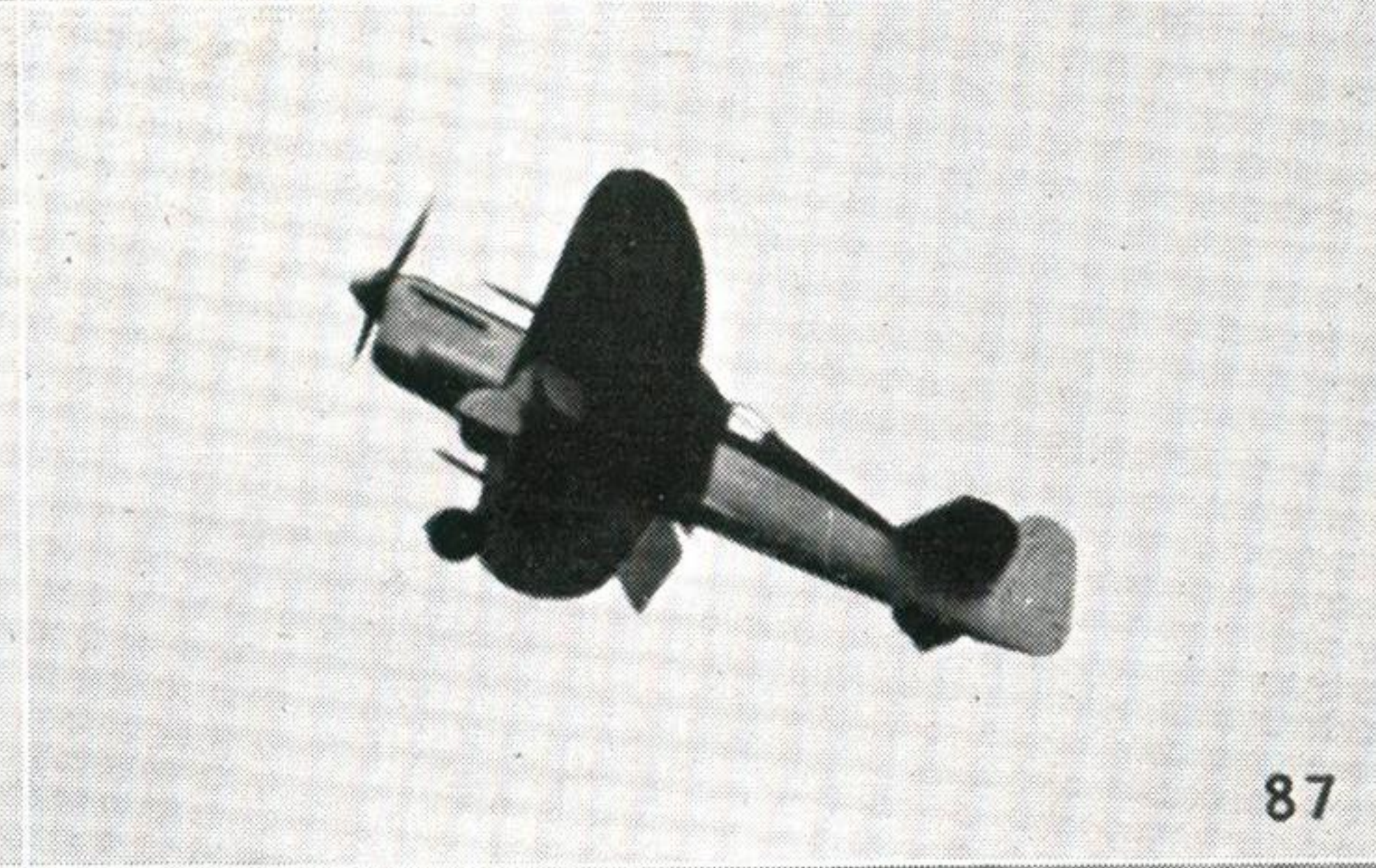
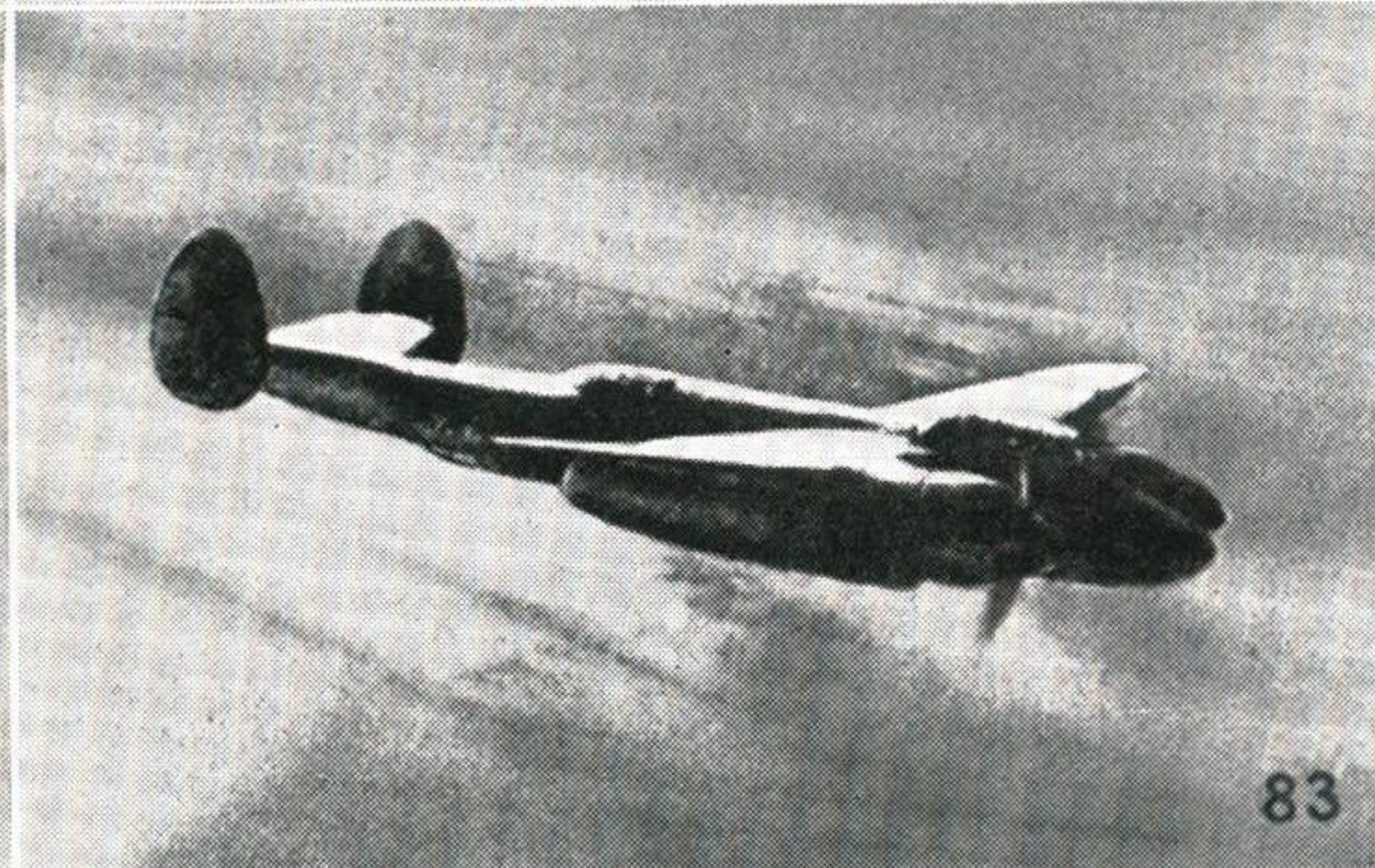
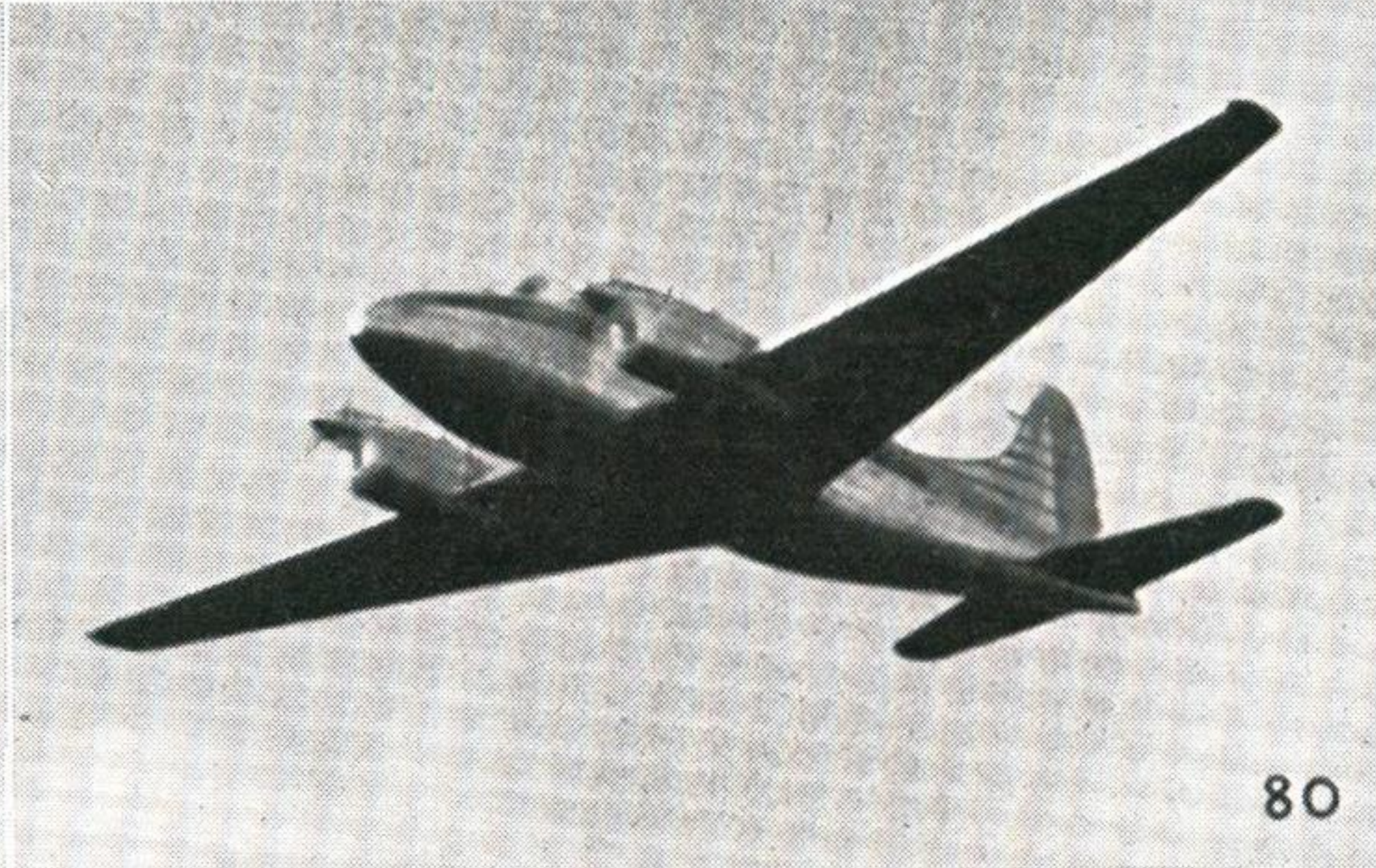
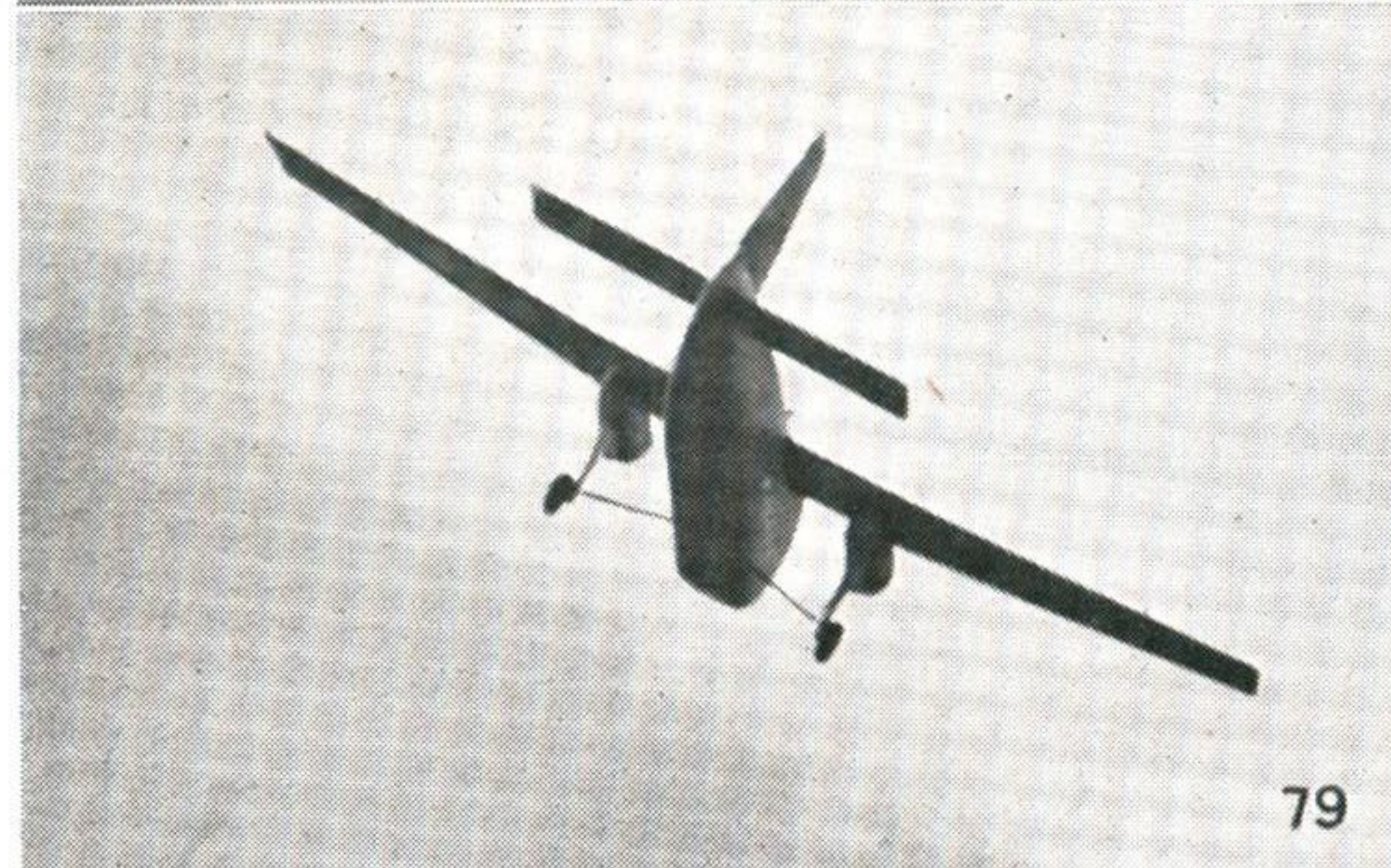
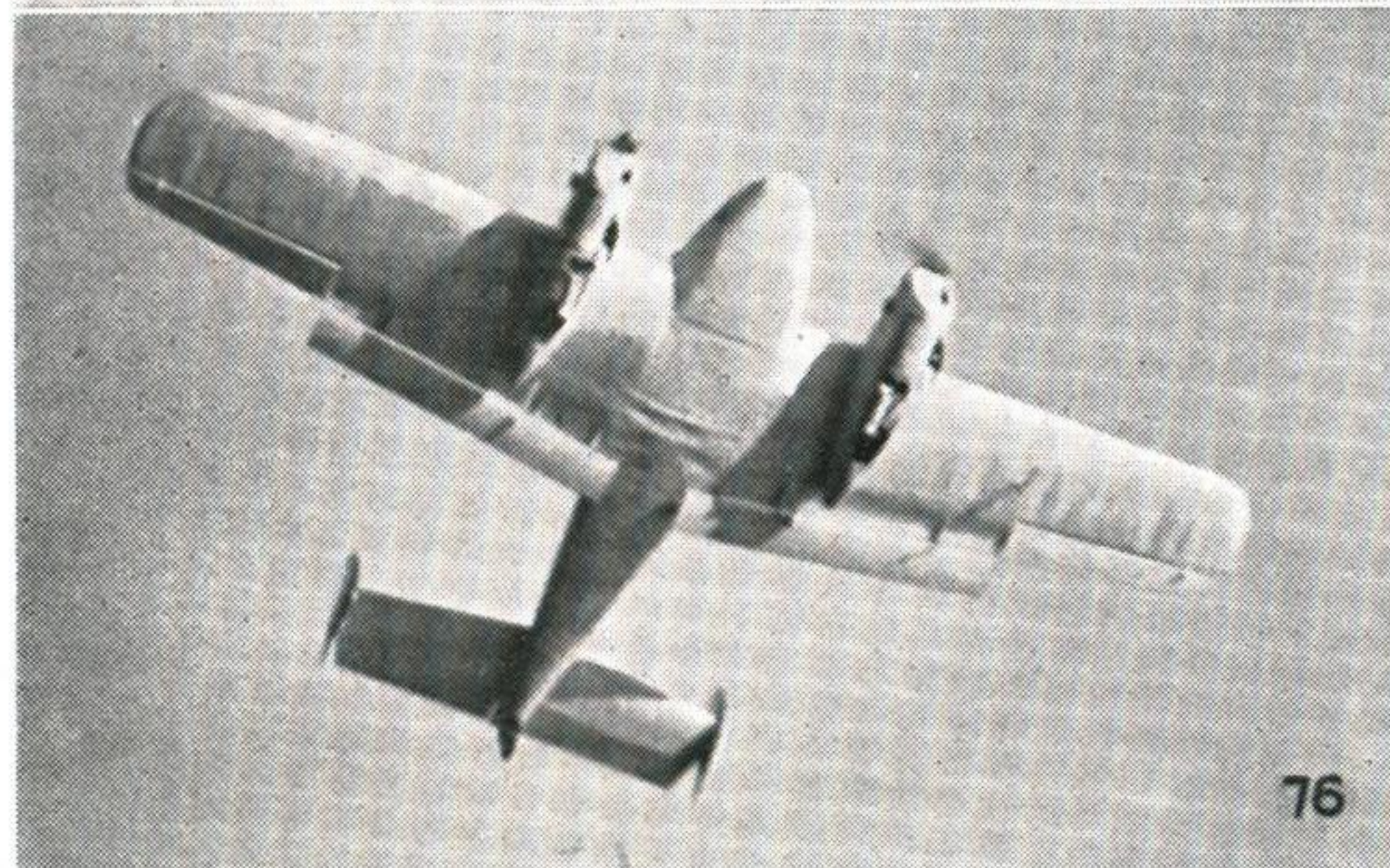
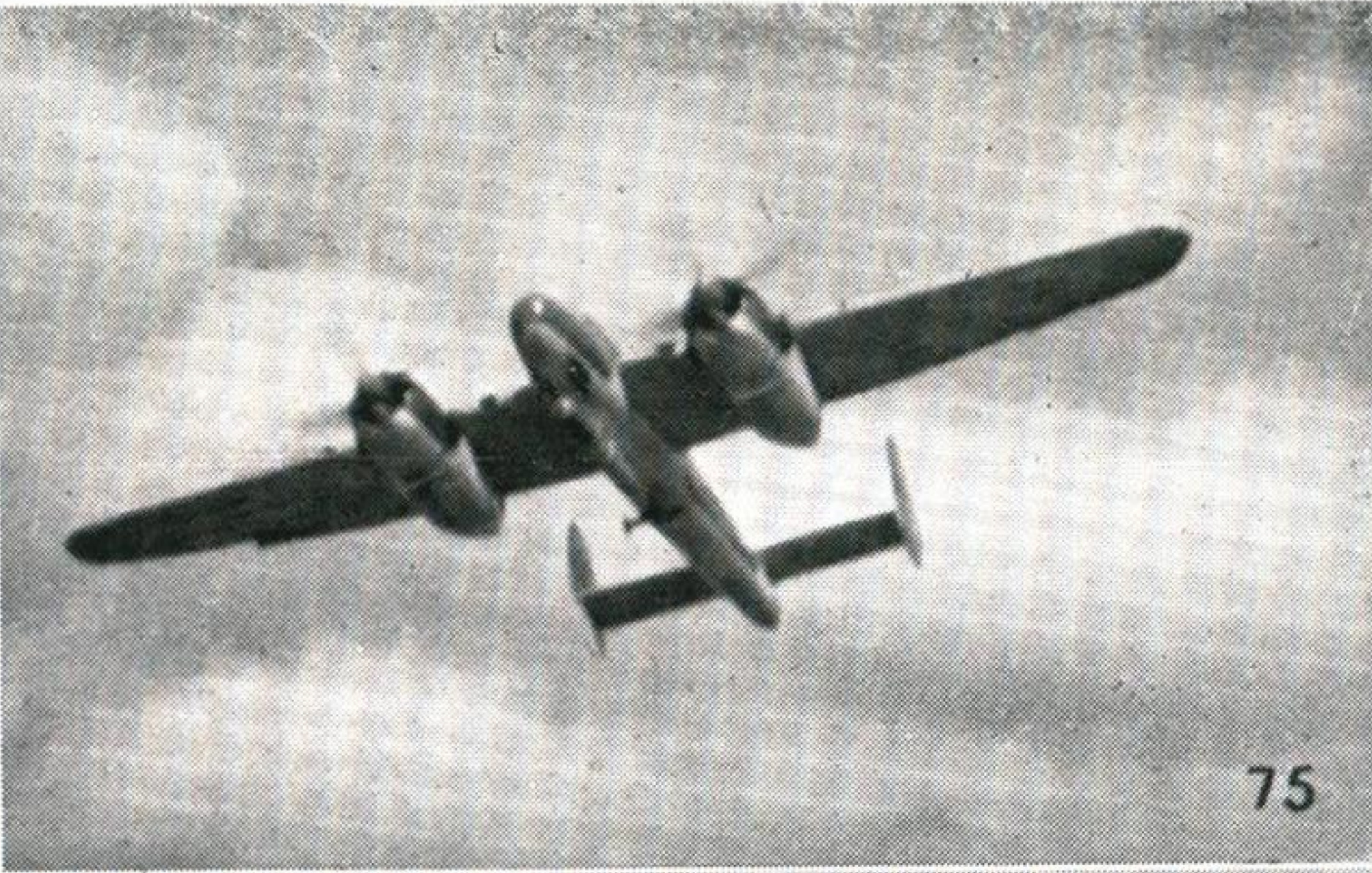
DOUGLAS DAKOTA C.Mk.I



GENERAL AIRCRAFT HAMILCAR C.Mk.X.



AIRSPED HORSA G.Mk.II



# ELEMENTARY SPOTTING

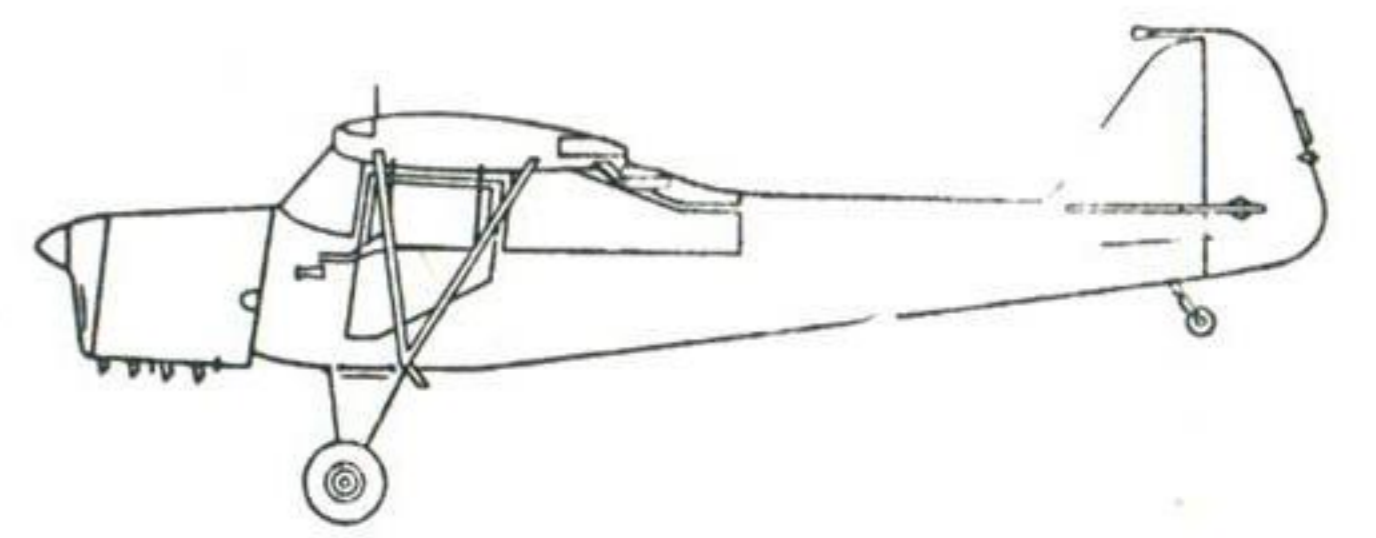
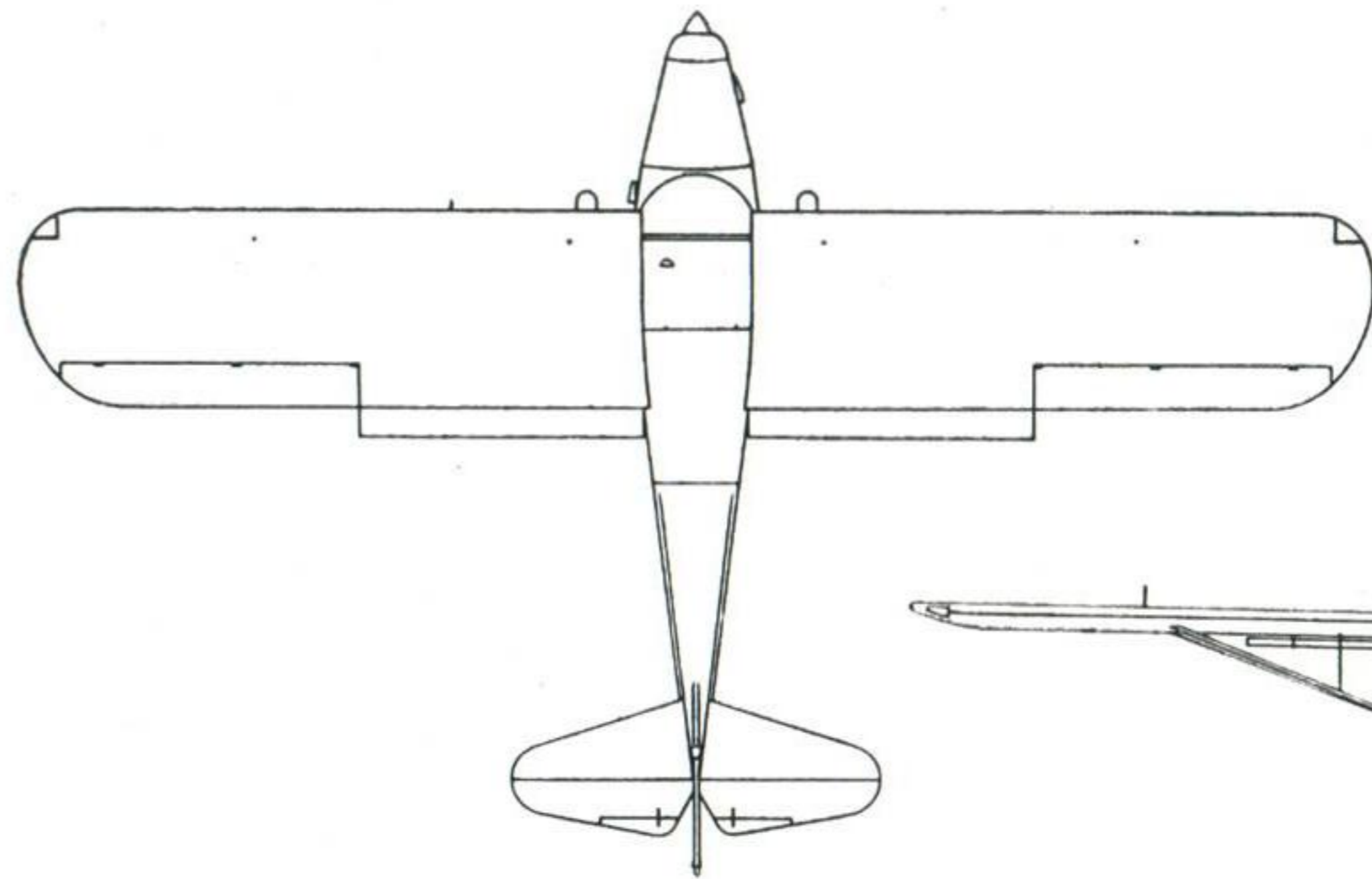
# • AUSTERS

and

# A.O.P.s

by

Flight Lieutenant  
Charles Sargeant



Auster VI  
(Gipsy Major VII)

Span 36 ft. 0 in. Length 22 ft. 9 in.

**A**EROPLANES used as Air Observation Posts (A.O.P.s) require special attributes, both in performance and design.

Since their main occupation is spotting and directing artillery fire upon enemy targets, the prime consideration is a good view of the ground over the widest possible angle. A high wing arrangement is usual, although in the new Heston A.O.P. which is now in process of being constructed, the low wing arrangement has been adopted and the difficulties of view from the cockpit have been overcome by a long well-glazed nose.

The A.O.P. job must be very robustly constructed, particularly in the matter of undercarriage, which should be wide in track, enabling it to use any convenient field as a landing ground. In fact, it must be able to rough it in no uncertain manner. It must carry a two-way radio and someone to work it, or to observe; it must sometimes carry a large camera and be able to undertake the hundred-and-one jobs that the Army, and the Artillery in particular, can find for it. In performance, high speed is not essential, but it must have a very low stalling speed and be able to fly at low speeds so that its crew can make the most of their observations. Manoeuvrability must be exceptional.

The most successful A.O.P. during the war was the Auster. There were Marks I, II, III, IV and V—and now the Mark VI is in service.

In the main, there has been very little change in their external appearance, the differences being largely matters of engines and details connected therewith. Recognitionally the greatest innovation is perhaps the down-and-back-set trailing edge auxiliary flaps which have been introduced on the Mark VI. We should be grateful for small mercies.

#### Motors and Noses—

The various Austers and their power units are: Mk. I (*Blackburn Cirrus*); Mk. II (*Lycoming*); Mk. III (*De Havilland Gipsy Major*); Mk. IV (*Lycoming*); Mk. V (*Lycoming*); Mk. VI (*De Havilland Gipsy Major*).

The Mark I was later fitted with a Lycoming engine, which is slightly more powerful than the Cirrus, and renamed the Mark II. While it was being built, there was a sudden shortage of Lycoming engines and only one Mark II was eventually produced. The airframe was again modified, the Gipsy Major engine fitted, and thus was born the Auster III.

The Mk. IV was projected because the Army wanted a three seater, and the more powerful Lycoming engine was used in the Mk. III airframe, the result becoming the Auster IV. The Mk. V has the same engine, but differs slightly in equipment. The Mk. VI is now in production for the Army with an even more powerful Gipsy Major VII engine.

There are two distinct types of nose form in the Auster aircraft. The Marks II, IV and V, with the Lycoming "flat" or horizontally opposed air-cooled engines, have short snub noses with air intake patterns on the nose cowling, strongly resembling fat hideous faces. The Austers I, III and VI have the more normal in-line types of air-cooled engine and consequently a longer and a more tapering nose form and a pinched looking "face." In both types the propellers are mounted high.

#### Wing Form—

The wing shape has not changed in appearance throughout the development of all the various marks. It is made of spruce spars and steel ribs. The "V" struts supporting the wing are also of steel, while the wing covering is fabric. In shape it is parallel edged with bluntish tips. Where the wing joins the fuselage, the perspex top to the cabin takes over as top surface.

#### Fuselage—

Like the wing, this has changed but little during the evolution of the Auster. It is of welded steel tube construction and has fabric covering. It is rectangular in cross-section at any point along its length. Behind the motor the wind-shield rises fairly sharply and forms the front of the cabin. The upper half of the cabin is entirely of perspex, extending half-way back along the fuselage. With perspex all round and forming the roof, the occupants have an excellent view.

#### Tail Unit—

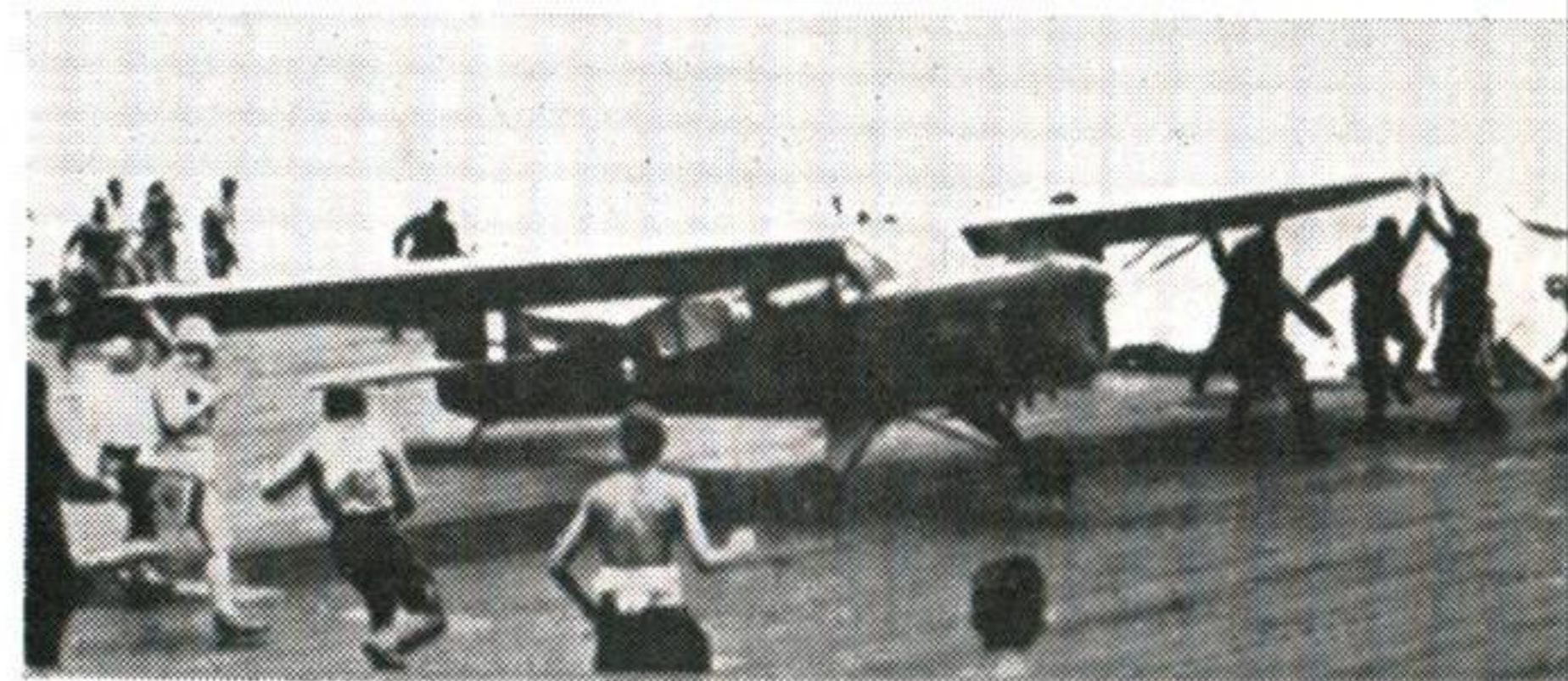
The tailplane form is that of a diamond with small rounded tips. It is placed level with the top of the fuselage in line with the fin and rudder. The Marks I, II, III and IV had small auxiliary trimming surfaces fitted



The trim little Auster Mk. I. The first A.O.P.



Note the "face" on the Auster Mk. II. Only one was made.



Hold it! The Auster Mk. III lands on. A scene during the assault upon Rangoon.



Posed for a picture. The Auster Mk. IV. A three seater.



(Above) The Auster Mk. V. (below) the latest A.O.P. the Auster Mk. VI. Observe downset flaps.



AUSTER VI

below the tailplane. In the Mark V and VI, the trimming arrangements are incorporated in the elevators. The fin is large and prominent, being roughly in the form of an equilateral triangle with the corners well rounded off. The earlier Austers had tail-skids, the later ones have tail-wheels.

#### The Undercarriage—

The under-carriage is of the fixed type, the steel tubes being "webbed" together by fabric; the "V" struts, which brace the wing, join the bottom of the fuselage where the rear under-carriage strut meets it.

We may sum it up as a high wing strut-braced little monoplane having a fixed undercarriage. Its span, in all marks, is 36 feet. You can encounter it at all heights from knee-high to approximately 17,000 feet. The Austers are of a class which is and probably always will be quite numerous, so that for instant identification of its various marks, you will have to take a little extra trouble over your studies.

All who have flown in the Auster as pilot or passenger, will agree that it's the most delightful little aeroplane to fly about in and it is not surprising to learn that many war-time A.O.P.s have become peace-time gad-about. Most marks may still be found flying in various parts of the world, in various disguises, civil and otherwise.

Some Mark V Austers became J/1 "Autocrats". The Lycoming engine has been replaced by the 100 h.p. Cirrus Minor and its maximum speed is 120 m.p.h. The windshield has been remodelled, in one piece, to improve view and war-time austerity is replaced by comfortably upholstered seating. They say it costs ½d. a mile to run. Quite a number are flying and more are in production.

#### War Record—

As a war aeroplane it has "got some in" and has had an extraordinarily adventurous and checkered career. During the Battle of the Bulge, for example, there were severe snow storms and it looked as though the Allied Artillery would be deprived of its A.O.P.s. An urgent call to the makers produced sets of

In its cream civvy suit the ex-Auster Mk. V has become the "Autocrat." Wide areas of perspex give an excellent view all round. Do you see an autocratic expression on its "face"?



skis within 7 days and the A.O.P.s continued on the job. Performance was hardly affected.

The Auster V was also fitted with floats. A floatation test on a local N.F.S. water tank proved quite successful. It is still possible to see "floated" Austers flying. The change-over from wheels to floats and vice versa takes very little time. As an ambulance aeroplane, the Auster was used in Burma, North Africa and Italy, carrying one stretcher case, one patient or attendant sitting, and one pilot. In the Far East, the Navy operated Austers from Carriers in some of their shoots, notably at the assault upon Rangoon. In the jungles of Burma, Austers laid telephone cables.

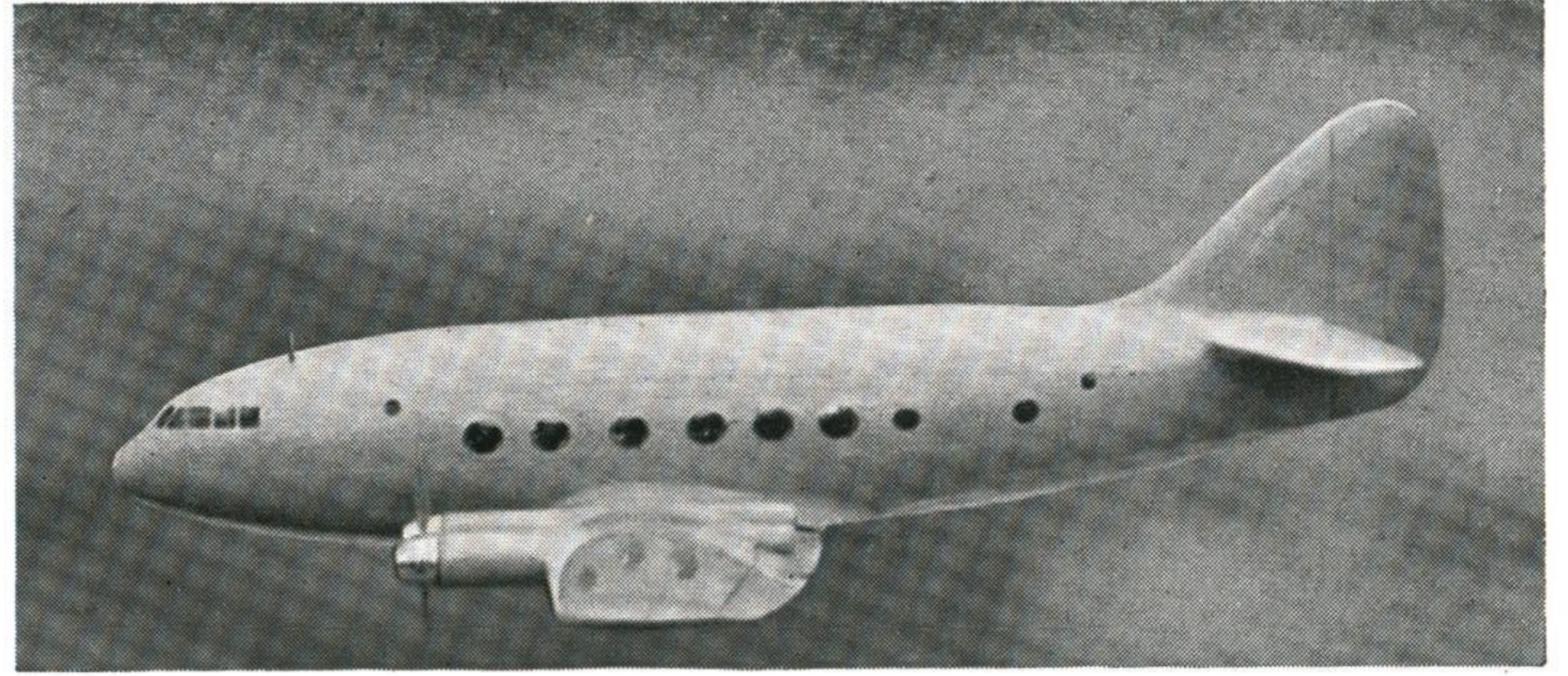
These are but a few of the jobs that this ultra light aeroplane has had to undertake. Of course, its main job is artillery observation and in this the Auster excelled during the war. Curiously enough, by far the greater danger to which they were exposed, on this work was from "friendly" shells. The Auster's job was to fly about and observe and correct the fall of shells from the particular battery to which it belonged. Naturally, other batteries would be engaged at the same time, in different shoots, working on entirely different firing plans. They would have no knowledge of the positions of the other batteries' A.O.P.s, hence the exciting part of the Artillery Observer's life.

As to Enemy fighters, the gen was for the warning to be passed to the A.O.P. if low flying Enemy fighters were observed in the neighbourhood (high flying Enemy fighters were ignored). The Auster would then, so to speak, "go to ground" and orbit the nearest tree or slip smartly up the nearest street and turn off at the pub. There was simply no future in these antics for fighters, and it was only the craftiest Hun who got a chance to "draw a bead" on an Auster.

## MIXED BAG



The prototype **De Havilland Mosquito** is surrounded by every alternative outfit the military mind can conceive for encompassing the destruction of an enemy. It is probably the most versatile of all operational aircraft.



The model of the **Armstrong Whitworth** prop-jet projected air liner indicates a conventional four-engine layout. The power units, in long cylindrical cowlings, will be Armstrong Siddeley Mambas. No performance details are available. (Span 92 ft.).











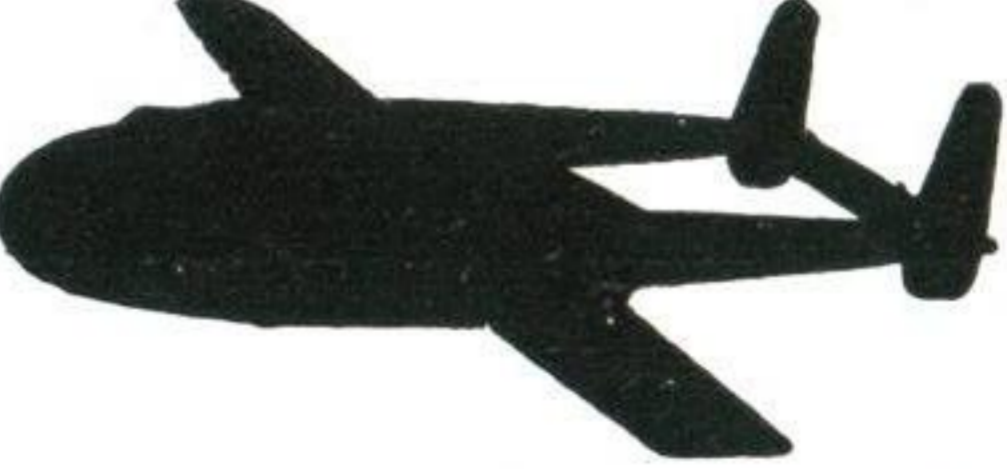











A new Soviet transport is the **Iliuchin IL-12**. It carries 27 passengers, has a range of 1,200 miles and a cruising speed of 230 m.p.h. The design seems to have been influenced by that of the Douglas DC-3, which the Russians built under the designation LI-2.

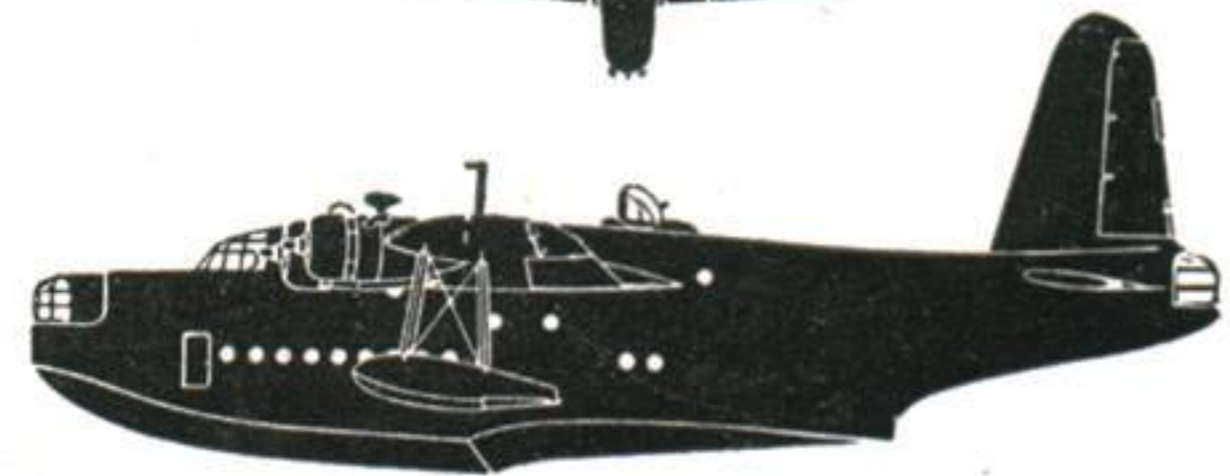
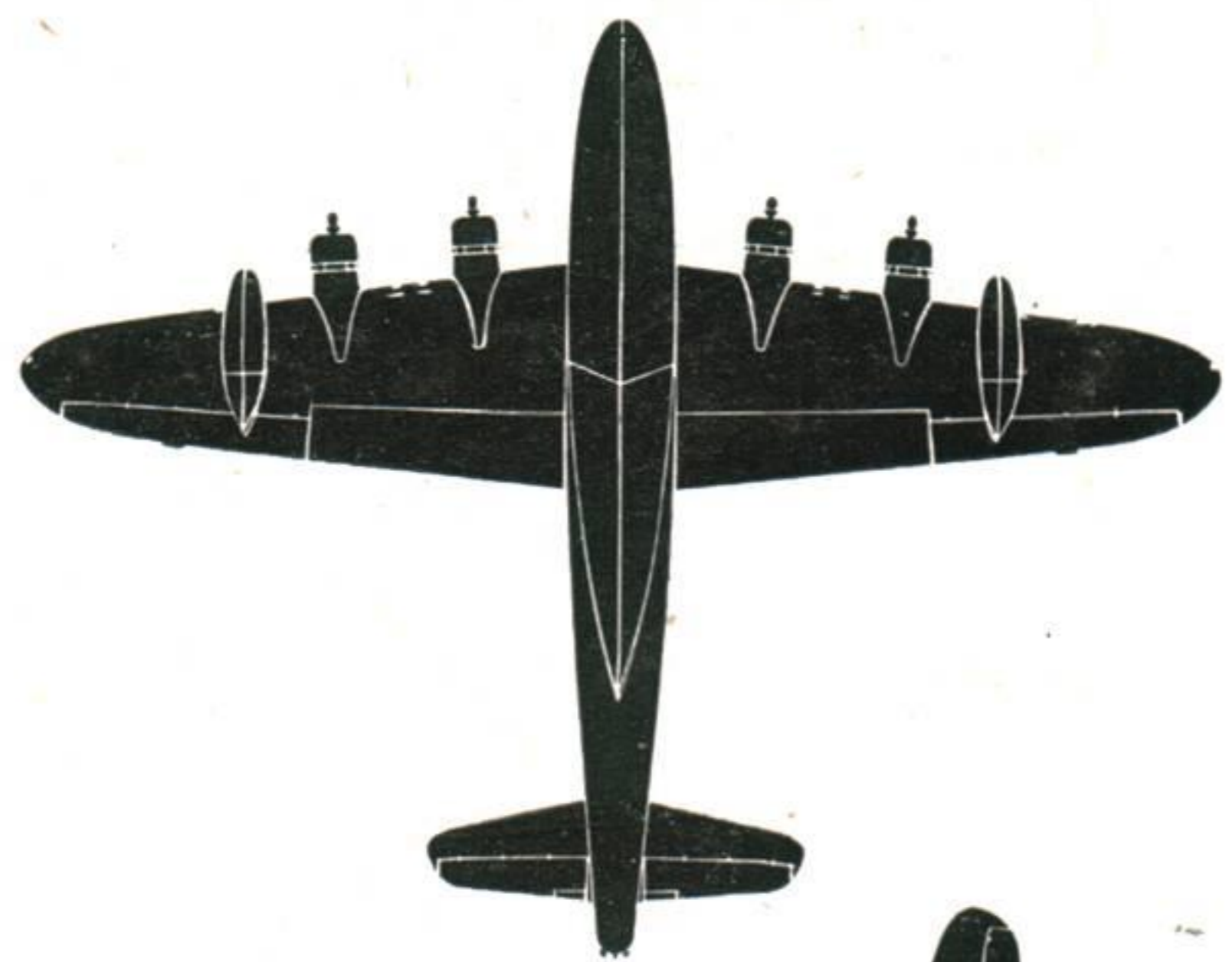


The **Spitfire** undergoes what must surely be its last variation. An instructor's cockpit gives a humped appearance to the Spitfire Trainer, a modified Mk. VIII, although any Mark may be so "camelized". All that remains now is for the Spit to be converted into a glider—or a helicopter.

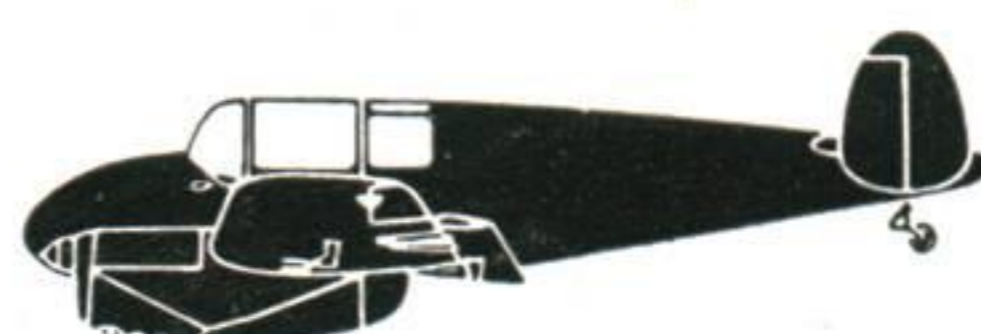
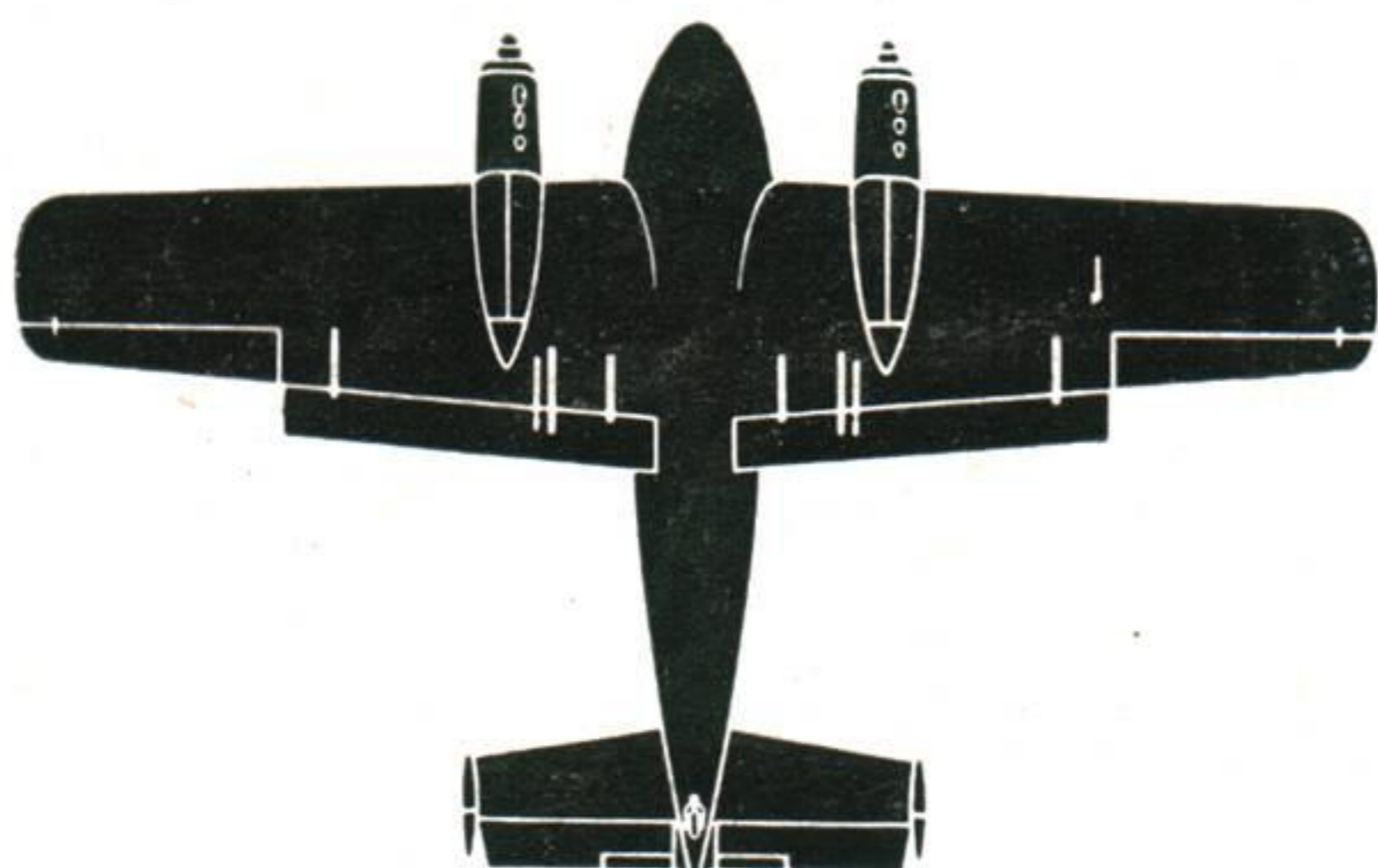


SILLOGRAPHS

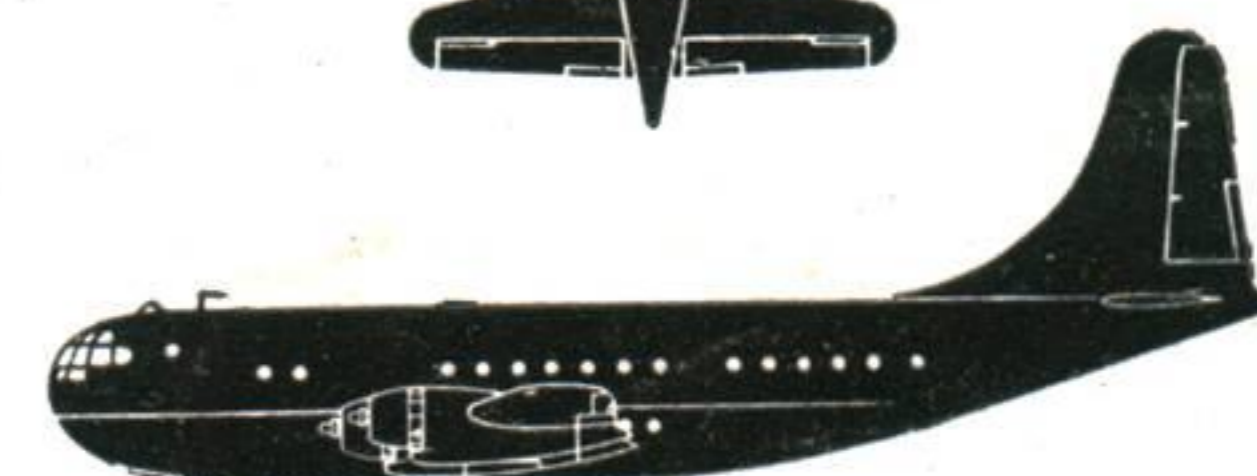
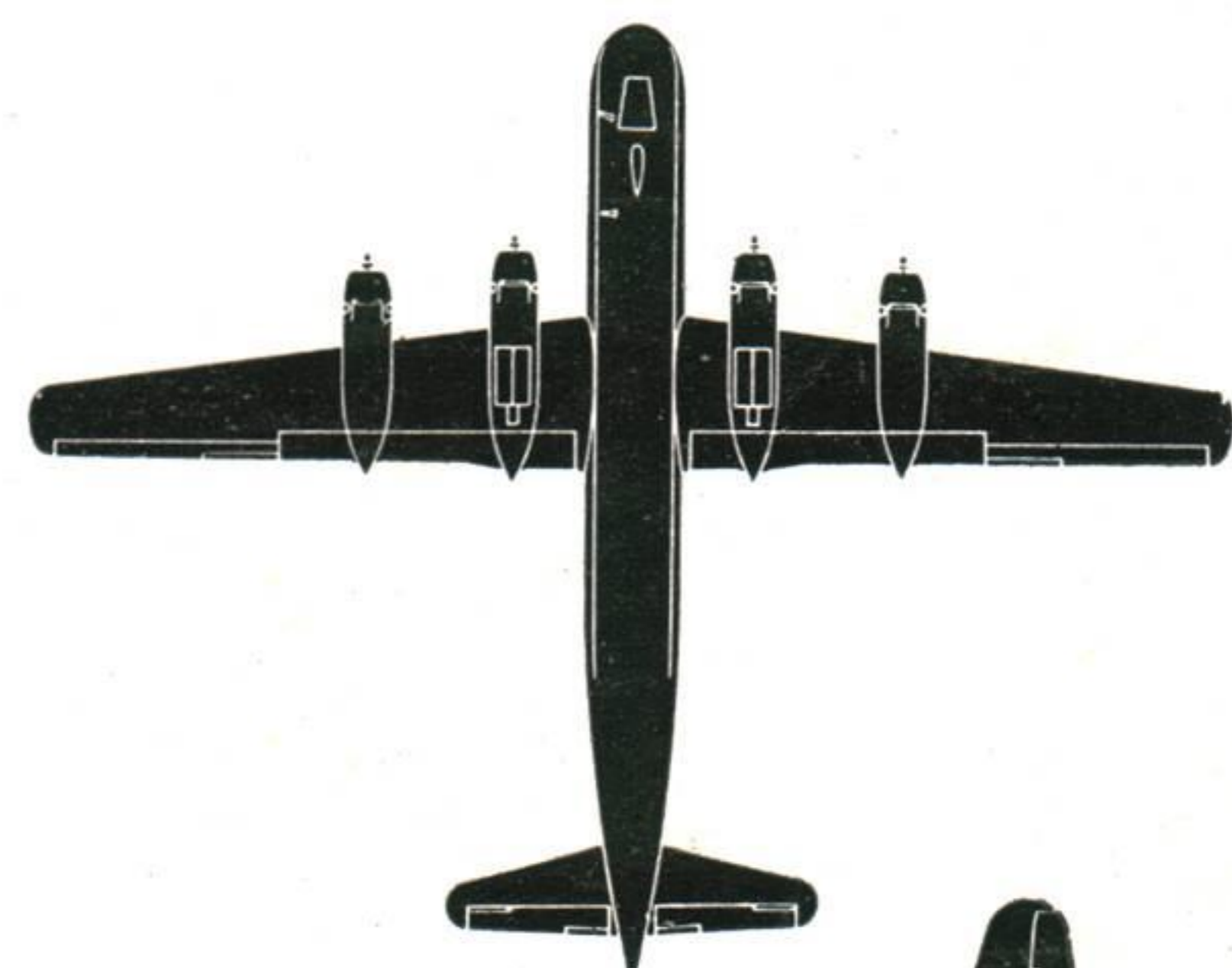
 96	 97	 98	 99	 100
 101	 102	 103	 104	 105
 106	 107	 108	 109	 110
 111	 112	 113	 114	 115



**SHORT SUNDERLAND V**  
British Reconnaissance Flying Boat.  
(4 Twin Wasp) Span 112 ft. 9 ins.



**MILES GEMINI**  
British Civil Transport  
(2 Cirrus Minor) Span 36 ft. 2 ins.



**BOEING STRATOCRUISER**  
American Civil Transport  
(4 Wasp Major) Span 141 ft. 3 ins.

## SOLUTIONS TO RECOGNITION TESTS IN THIS ISSUE :

### No. 14 (ADVANCED SPOTTING):

- |                        |                         |
|------------------------|-------------------------|
| 97. C-97 Stratocruiser | 109. Consul             |
| 98. Lincoln II.        | 110. P-80               |
| 99. Marathon.          | 111. Viking             |
| 100. PE-2              | 112. Hornet I           |
| 101. Seafang 32        | 113. LA-5               |
| 102. Dove.             | 114. Firefly IV.        |
| 103. Meteor IV         | 115. Wayfarer           |
| (Clipped)              | 116. Hamilcar X.        |
| 104. Buckmaster I.     | 117. Fury I (Sabre)     |
| 105. Hastings c.l.     | 118. Firebrand V        |
| 106. C-82 Packet       | 119. Lancastrian (Nene) |
| 107. YAK-3             | 120. Vickers E. 10/44   |
| 108. Vampire II        | 121. FR-I Fireball      |

### No. 15 (ELEMENTARY SPOTTING) :

- |                   |                         |
|-------------------|-------------------------|
| 73. Lincoln II    | 82. Viking              |
| 74. Sea Hornet XX | 83. TU-2                |
| 75. Brigand I     | 84. Vampire II          |
| 76. Gemini        | 85. Prentice            |
| 77. Firefly IV    | 86. Firebrand V         |
| 78. Meteor IV     | 87. Firefly Trainer     |
| (Clipped)         | 88. Mosquito PR 34      |
| 79. Wayfarer      | 89. Warwick III (Sabre) |
| 80. Dove          | 90. D.H.108             |
| 81. Aerovan       |                         |

### No. 16 (SILLY-GRAPS) :

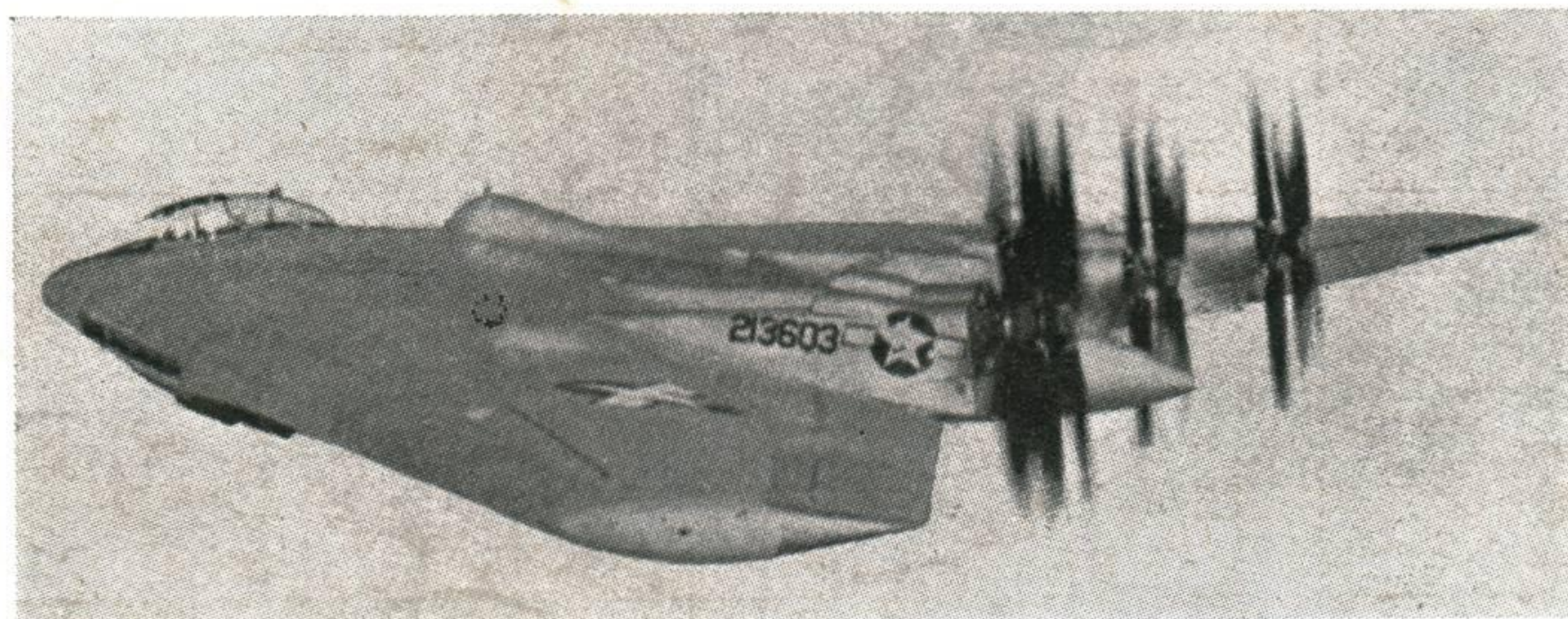
1. Heston A.O.P.
2. Halifax A.IX
3. Dakota
4. Auster V.
5. Hadrian
6. Auster VI
7. Hamilcar X
8. Horsa II.
9. Messenger (Monty up)

### No. 17 (SILLOGRAPHS) :

- |                     |                      |
|---------------------|----------------------|
| 96. Messenger       | 106. P-47            |
| 97. D.H.86 B        | 107. Tudor II        |
| 98. Piper Cub Coupe | 108. F7F-3N Tigercat |
| 99. Monitor II      | 109. Avro XIX        |
| 100. LA-5           | 110. P-51H Mustang   |
| 101. Mosquito PR 34 | 111. Lockheed 10     |
| 102. Autocrat       | 112. Viking          |
| 103. Lincoln II     | 113. Magister I.     |
| 104. C-82 Packet    | 114. Aerovan         |
| 105. B-50 Superfort | 115. Hornet I.       |

### ROYAL OBSERVER CORPS GAZETTE Solutions to the Post Views Recognition Test No. 2 in the October issue :

- |                       |                 |
|-----------------------|-----------------|
| 16. Avenger           | 24. Auster IV   |
| 17. Skymaster         | 25. B-29        |
| 18. Tempest II        | 26. C-82 Packet |
| 19. Warwick V         | 27. Dove        |
| 20. Spitfire VIII.    | 28. Mitchell    |
| 21. Lincoln I         | 29. Ju 88G.     |
| 22. Martlet (Wildcat) | 30. Messenger   |
| 23. Hurricane         | 31. Seaford I   |



DUCK ! The airman who couldn't face it—or perhaps he couldn't recognise it. Can you?  
It's a Fairey Firefly Mk. IV.

WINDMILL FORMATION. An unusual aspect of the contraprops of the Northrop XB-35, an experimental four-engined long range bomber for the U.S. Army.

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