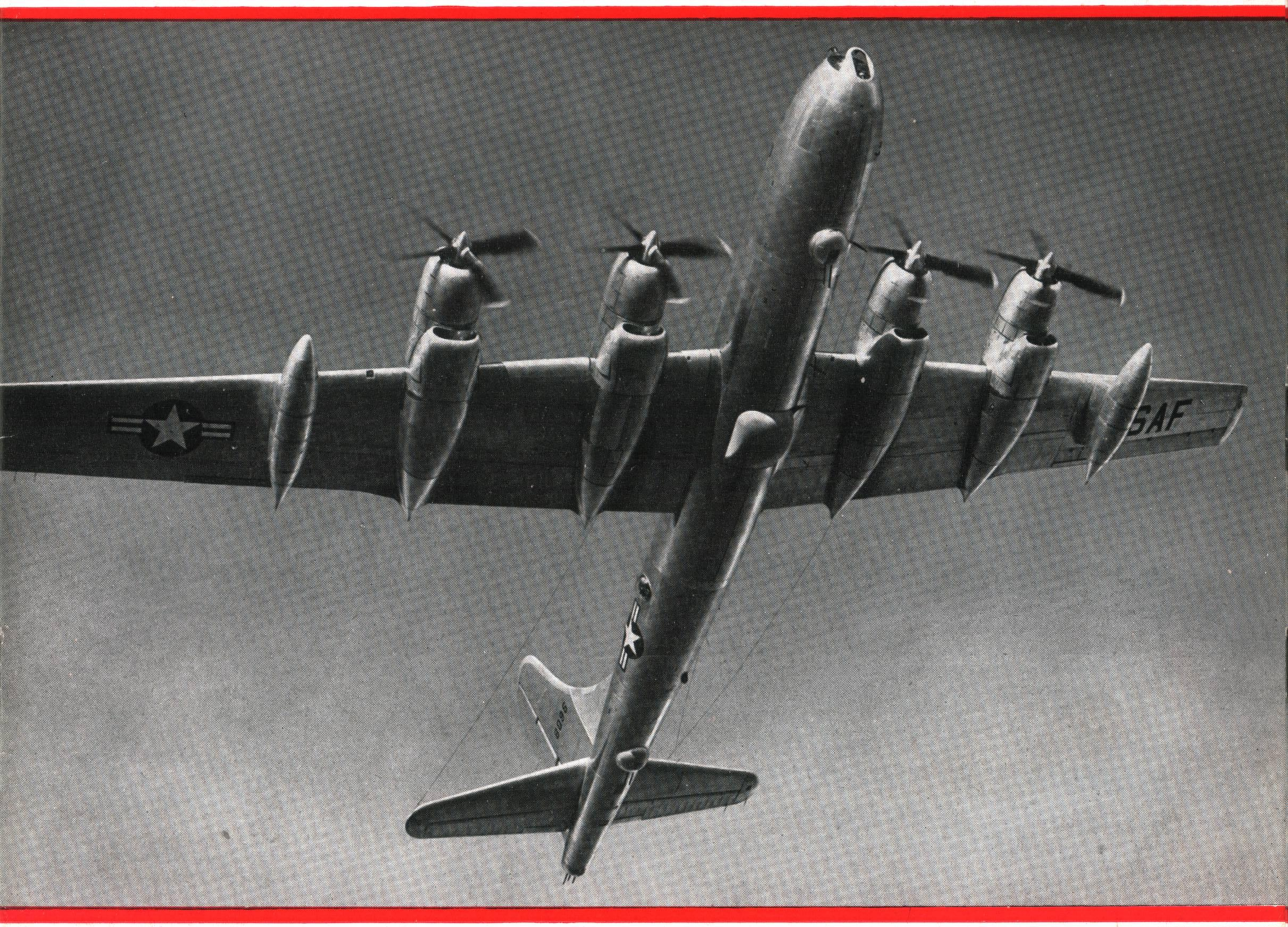
THE INTER SERVICES

AIRCRAFT RECOGNITION

Journal

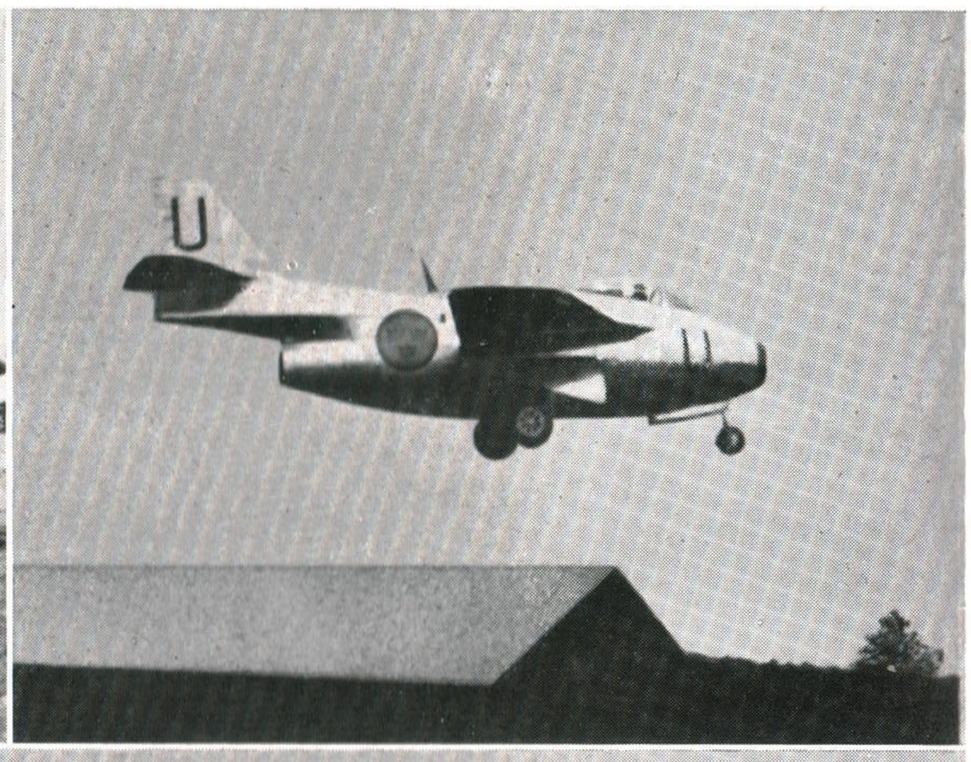


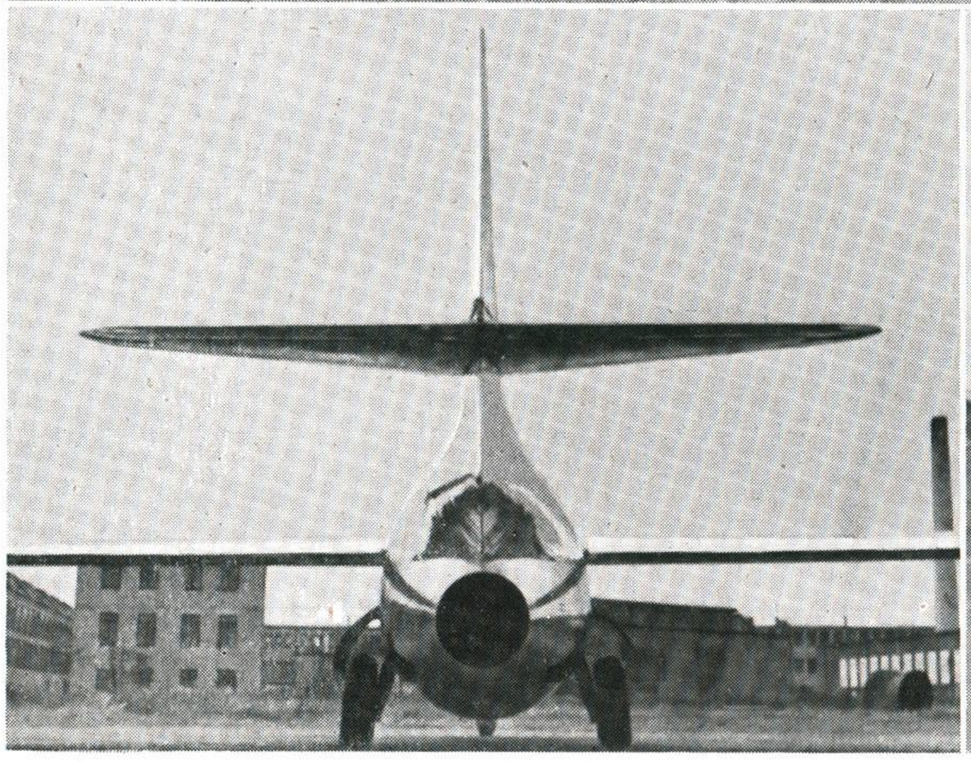
Vol. 4 DECEMBER 1949 No. 4

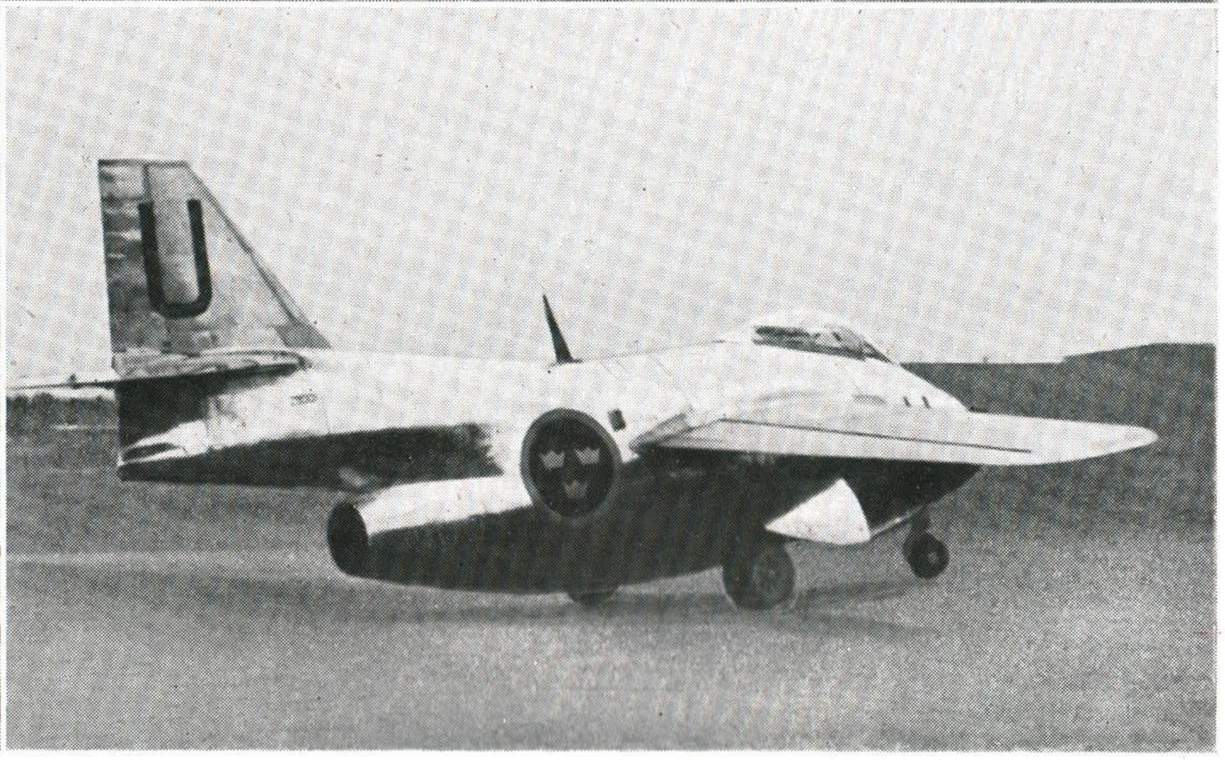
The SAAB J 29

SAAB ROLLS OUT THE "BARREL"

NICKNAMED, aptly, the "Barrel", the Swedish SAAB Aircraft Company's R.1001 jet fighter (Swedish Air Force designation J-29) has a swept wing, and tail surfaces which, by reason of sharp leading-edge tapers and straight trailing edges, are akin to being swept. The fuselage form of the J-29 is not uncommon, recalling that of the YAK-15, MIG-9, and Grumman Panther. This form, a container for turbojet and pilot, with a boom to support the tail unit, has, as one object, that of keeping the jet-pipe short and clear of the ground, without using a long undercarriage. The J-29 illustrated here is one of several prototypes now undergoing flight tests, and is powered by a de Havilland built "Ghost" turbojet of 5,000 lb. s.t. The production models of the J-29 will use Ghost turbojets built under licence in Sweden. The top speed of the J-29 is expected to be near 650 m.p.h. Its wing span measures 36 ft. 0 ins., and its length is 33 ft. 5 ins.







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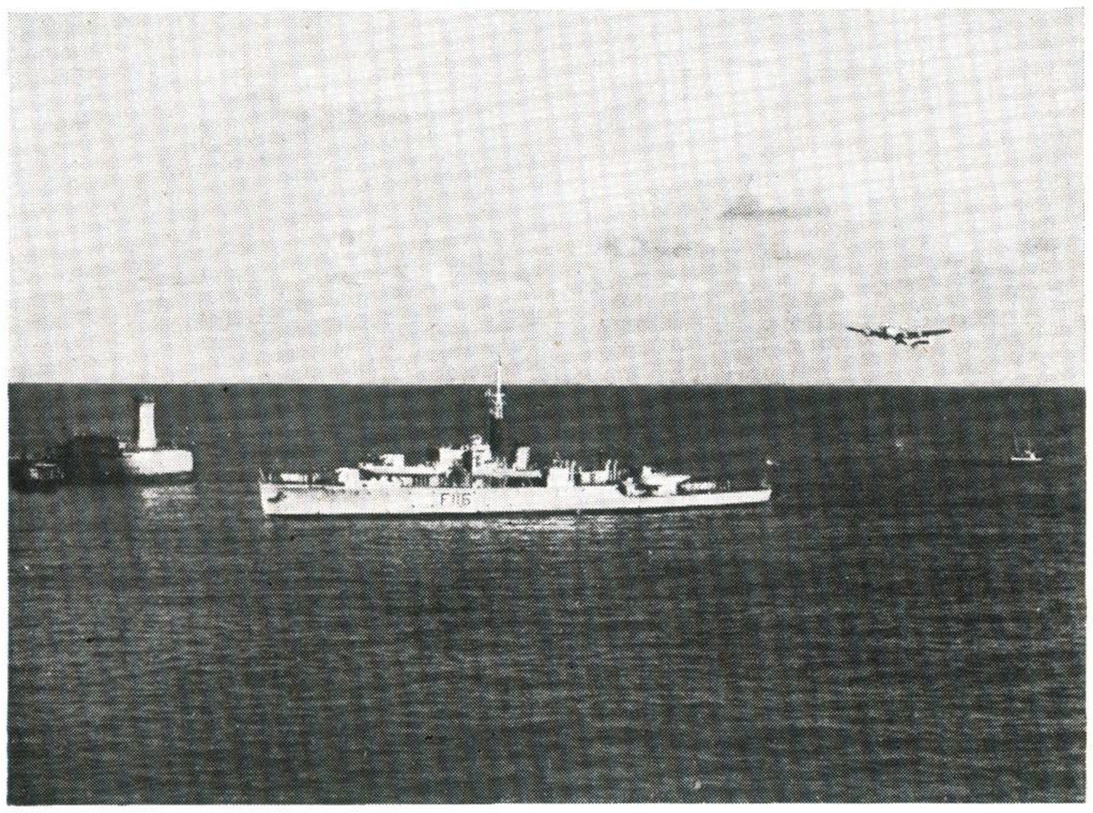
Amethyst and Comet

THESE TWO WORDS have figured large and long in the headlines during the past few months and stirred and thrilled British people everywhere. They give rise to pride in events redounding to the credit of Britain throughout the world. They also serve to remind all those who might have begun to think otherwise that the things of the spirit upon which the British Empire was founded remain as strong as ever.



The physical characteristics of the two events, the escape of the Amethyst down the Yangtse ; and the first flight and successive surprises sprung weekly upon the world by the Comet, differ as widely as they were geographically separated. Nevertheless, they each called for the same careful planning, the same bold acceptance of necessary risks, and the same skilful judgment and execution.

The Royal Navy is used to pulling things out of the bag, unheralded and with a modest playing down of ballyhoo, and the way the Comet was produced and immediately proceeded to exceed all expectations unaccompanied by brass bands, beauty queens, and bombast, was a pleasant surprise.

Breeding counts. The Royal Navy is bred to tradition and is self-assured and confident. The breed of the Comet will repay study ; its ancestry is revealing, and details of its pedigree appear in the following pages. The rapidity with which the Comet has blossomed forth from its first hop of 500 yards on July 27th to its return flight from London to Castel Benito three months later is really astonishing, and by the time these words appear in print we shall inevitably have been more astonished by its run of achievements.

These two occasions, each unique in its own way, have caused the world to sit up and take notice. Both will go down in history, but whereas the Amethyst has completed its chapter, the Comet is just beginning to write its own.

Good luck and best wishes to the designers, constructors and air and ground crew of the Comet, and thanks and unstinted admiration for the Captain and the crew of H.M.S. Amethyst.

When the favourite game of the world is Twisting the Lion's tail, it is a source of great satisfaction to be able to produce a couple of sharp teeth.

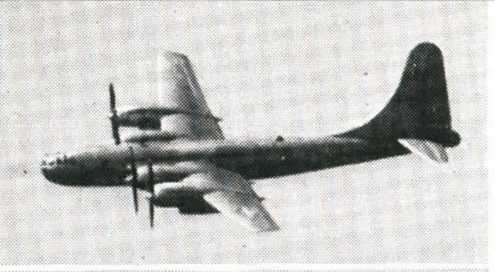
WHAT'S THE DIFFERENCE?

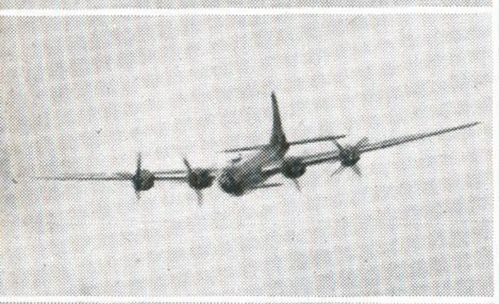
B-29 and B-50 in comparative views

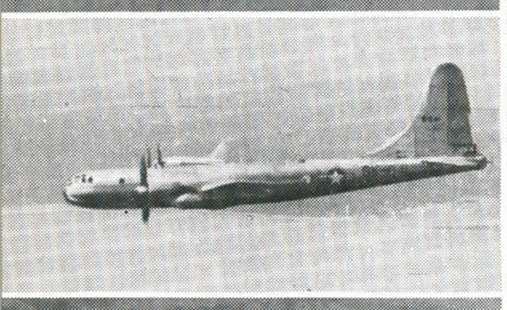
The **B-29** has a large fin; clean, barrel-like engines and nacelles, of which only the inner pair extend beyond the trailing edge.

The **B-50** has a huge fin; its radial engines jut out ahead of their large radiator scoops beneath; the inner wing sections have a wider chord, and all nacelle points break the trailing edge.

Detail: The upper nose turrets differ in shape, the B-50 carries a bulge on its belly, whilst there is a small wing-like structure on the B-29's. Read the article opposite, and then try the test on the left, the answers to which are given on the rear cover.

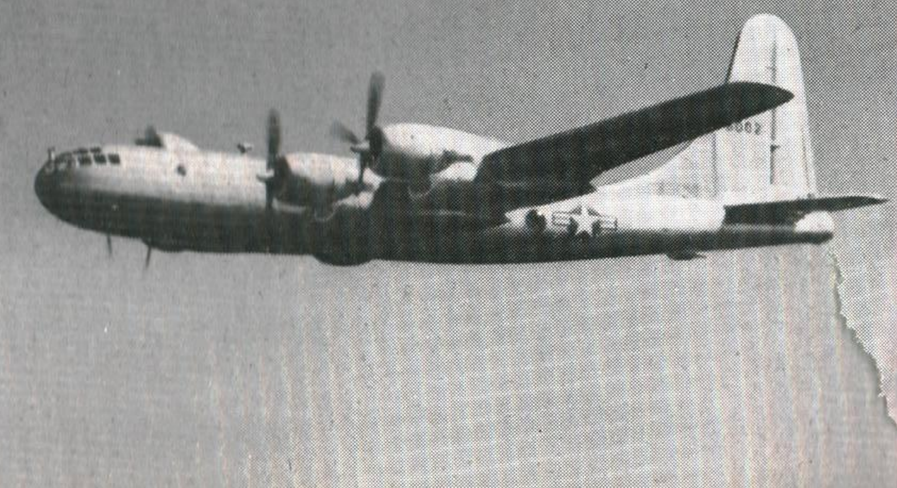






B-29

B-50



The B-29 and B-50 are both in service with the U.S.A.F. The Soviet Air Force has a number of B-29s built by the Soviet Aircraft Industry. It is of great importance to be able to distinguish between these bombers, which the author calls

NON-IDENTICAL TWINS

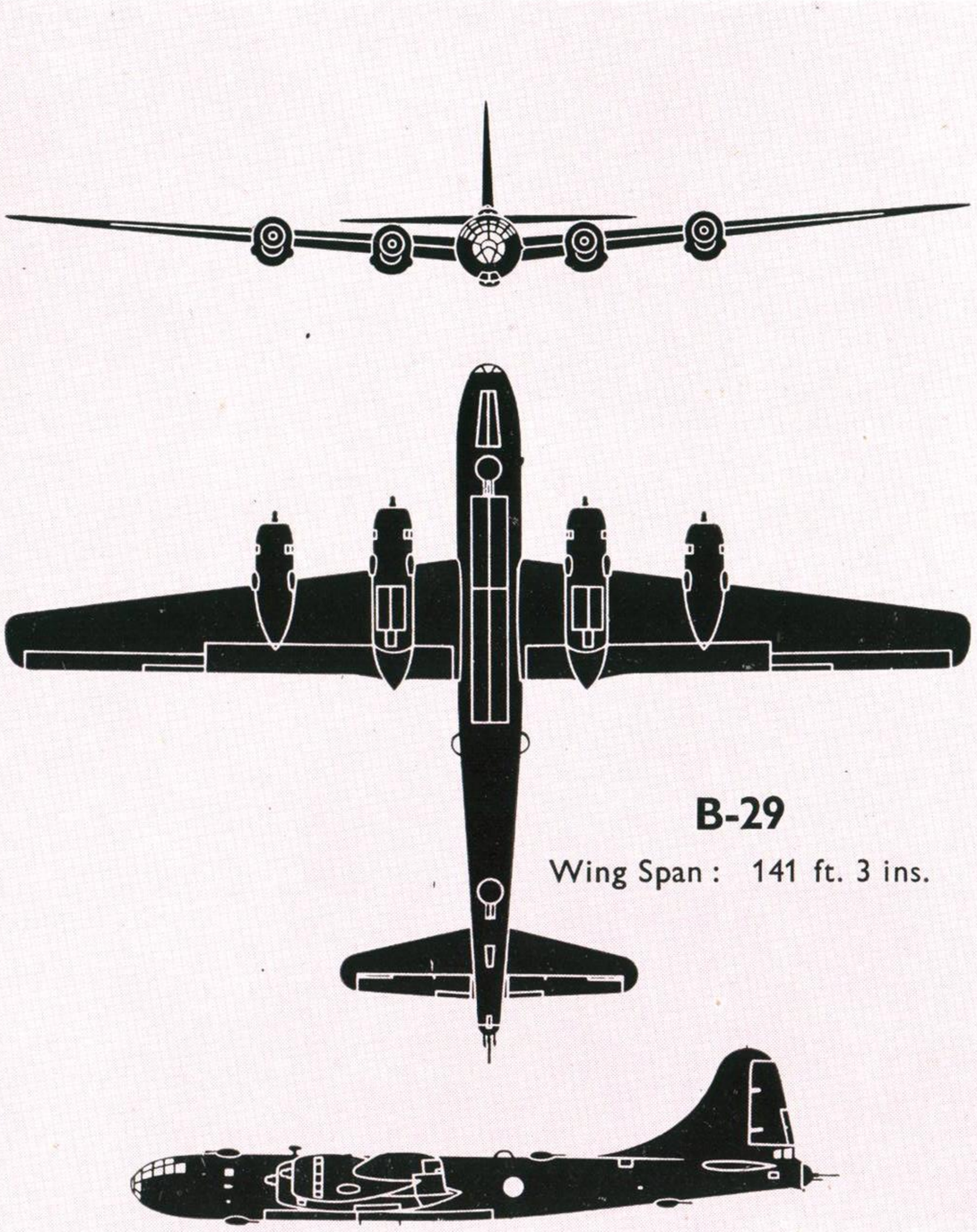
by C. H. GIBBS-SMITH

LADIES AND GENTLEMEN, this talk is a somewhat specialized one ; a talk about a narrow but vital problem involving no glamour but much concentration of attention. It is about two aircraft, the B-29 and the B-50, virtually one aircraft which screws up its face in two or three different expressions. The words " Atom Bomb " sit ominously on its head.

Leaving aside all details, details of engine differences, and small bulges and dents, of performance figures and other not readily visible data, we must ask the question, what are the substantial differences, if any, between these two aircraft ? The first answer is—the fin and rudder. The B-50 has a huge affair, the B-29 a large, but not a huge, affair. (By the way, if anyone has difficulty in remembering which aircraft is which, just remember 50 is larger than 29, as in the tail.) Number two difference is the four lengthy nacelles on the B-50. Number three difference, which will be almost invisible to any who have to deal with these aircraft, is the protrusion, trailing-edge-wise, of the four nacelles and the deeper wing chord that embraces them. Luckily for the competition entrant, at least one of these features is immediately evident in any silhouette.

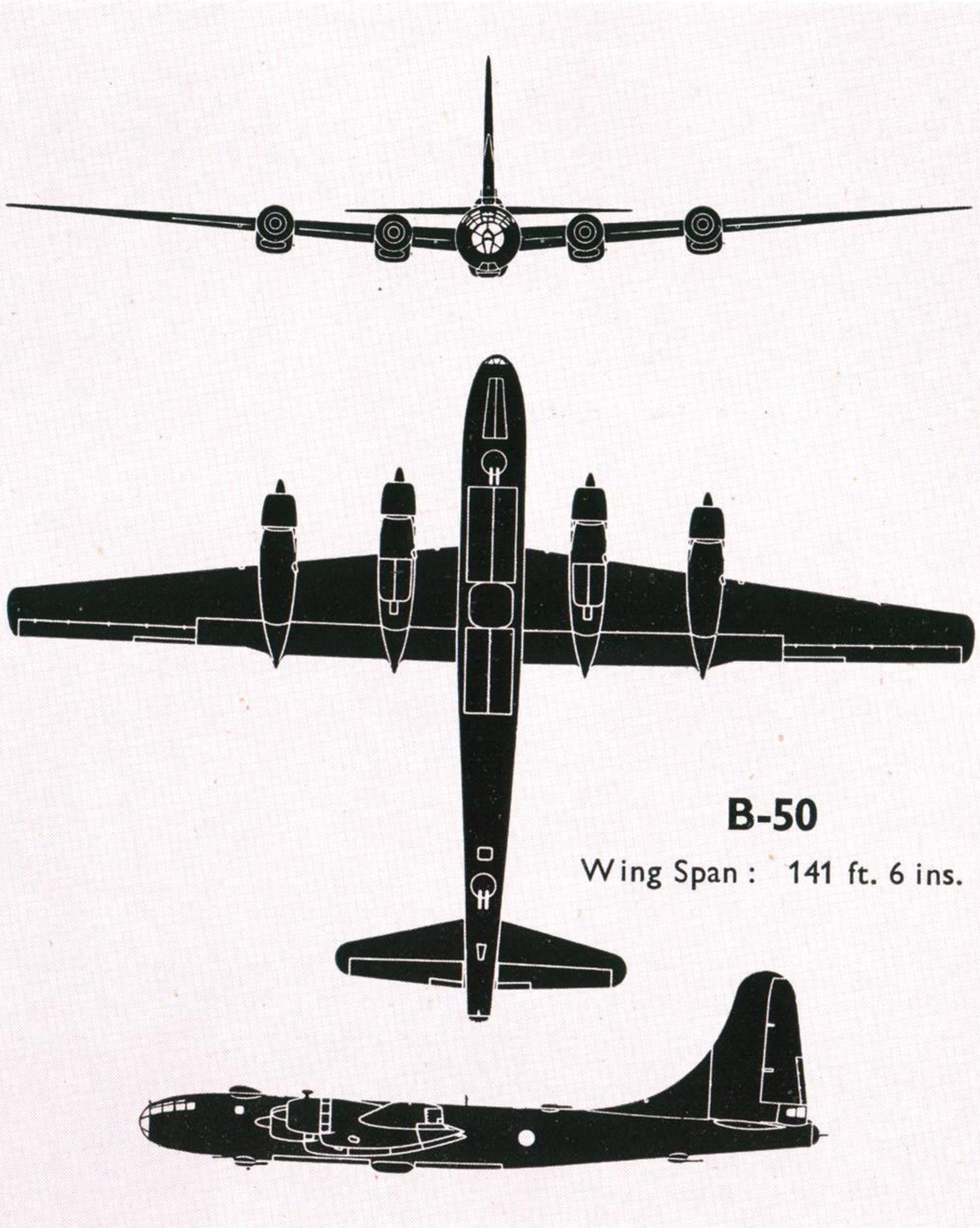
This problem of the B-29 and B-50 is a practical problem which becomes nonsense unless looked at all the time from a severely practical point of view. And at the outset you will, I am sure, agree that the ground-to-air spotting of these machines is a totally different business from the air-to-air problem. If these aircraft are not flying at least at 25,000 feet, they will be of little concern to the spotter—they will, in fact, be landing, taking off, crippled, or falling on your head. We all know what an aircraft looks like at 25,000 feet, if the absence of cloud allows any sort of vision at all, and of course, telescopes or glasses are mandatory in such cases. It therefore remains to be discussed how much, even through glasses, will you see beyond the general plan of a four-engined aircraft, probably with vapour trails streaming away from the trailing edge and confusing the visual issue still further.

Clearly, the protruding nacelles beyond the widened wing chord will not be clear at all. Nor will the huge fin and rudder. Our only hope is the light and shade pattern built up by the lengthier under-shapes of the nacelles. As you see from the drawings—and shaded drawings are an essential aid—the four long nacelles beside the fat fuselage of the B-50 make a different kind of bulk from the bulk of the B-29's under-shapes. No one pretends this is an easy distinction to make, especially as the kind of diffused light illuminating the under surfaces of high flying aircraft is very indefinite—it is in capital letters DIFFUSED ; and the



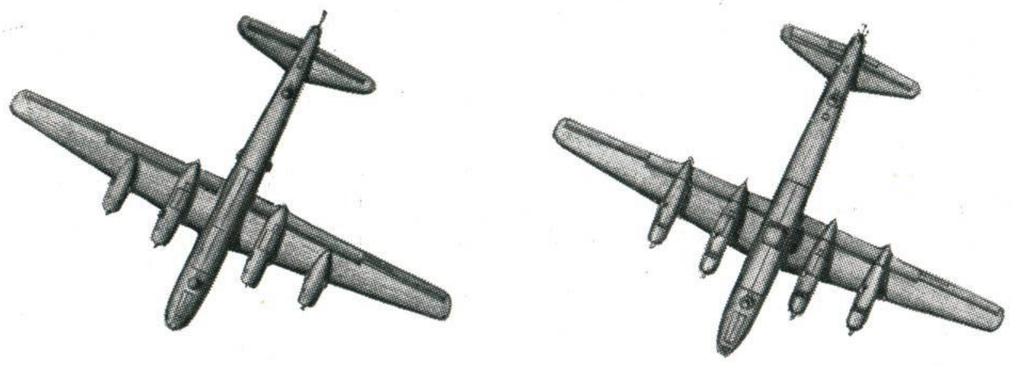
B-29

Wing Span : 141 ft. 3 ins.



B-50

Wing Span : 141 ft. 6 ins.



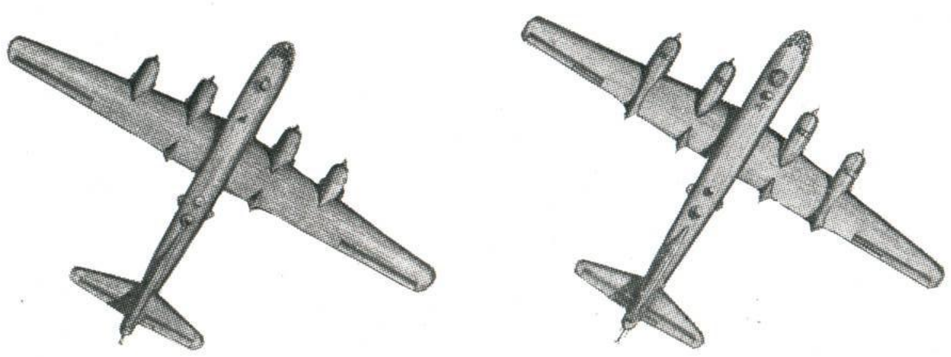
B-29 and B-50 showing patterns of light and shade as seen from underneath.

shapes it illumines will be comparatively vague. It is a very different story if the sun is low, when a perfectly distinguishable light and shade pattern will be formed. The way to learn the difference between these under-side "bulks" is to go over and over and over them, comparing the proportion of bulk to wing span and the difference between the bulk shapes. The differences will finally become automatic in the brain. For learning purposes use as large drawings, photos and silhouettes as possible; but for test purposes, the small differences of white lines should be obliterated and merged, the protruding nacelles painted out, and the two test drawings only shown on the screen in very small pictures. Anyone not able instantly — repeat instantly—to distinguish between the two machines should be detailed to make tea, or otherwise kept out of the way, on the days when the atom bombers are over.

The air-to-air problem, the fighter pilot's problem, is much easier, and centres round the nacelle shapes on the one hand and the tail on the other. Just as in the under view, so in the upper; there is a marked change of character between the two aircraft when the upper surfaces of the wings are seen from any angle. It is caused by the " bits and pieces " look of the B-29 contrasted with the two prominent mountain ridges stretching right across the B-50's wings, caused by the outboard nacelles, and probably casting bold shadows in most light conditions.

Now for the tail, not forgetting that it will a co-ordinated visual impact of both nacelles and tail that will spell the instant difference when seen from the air. Look first at the

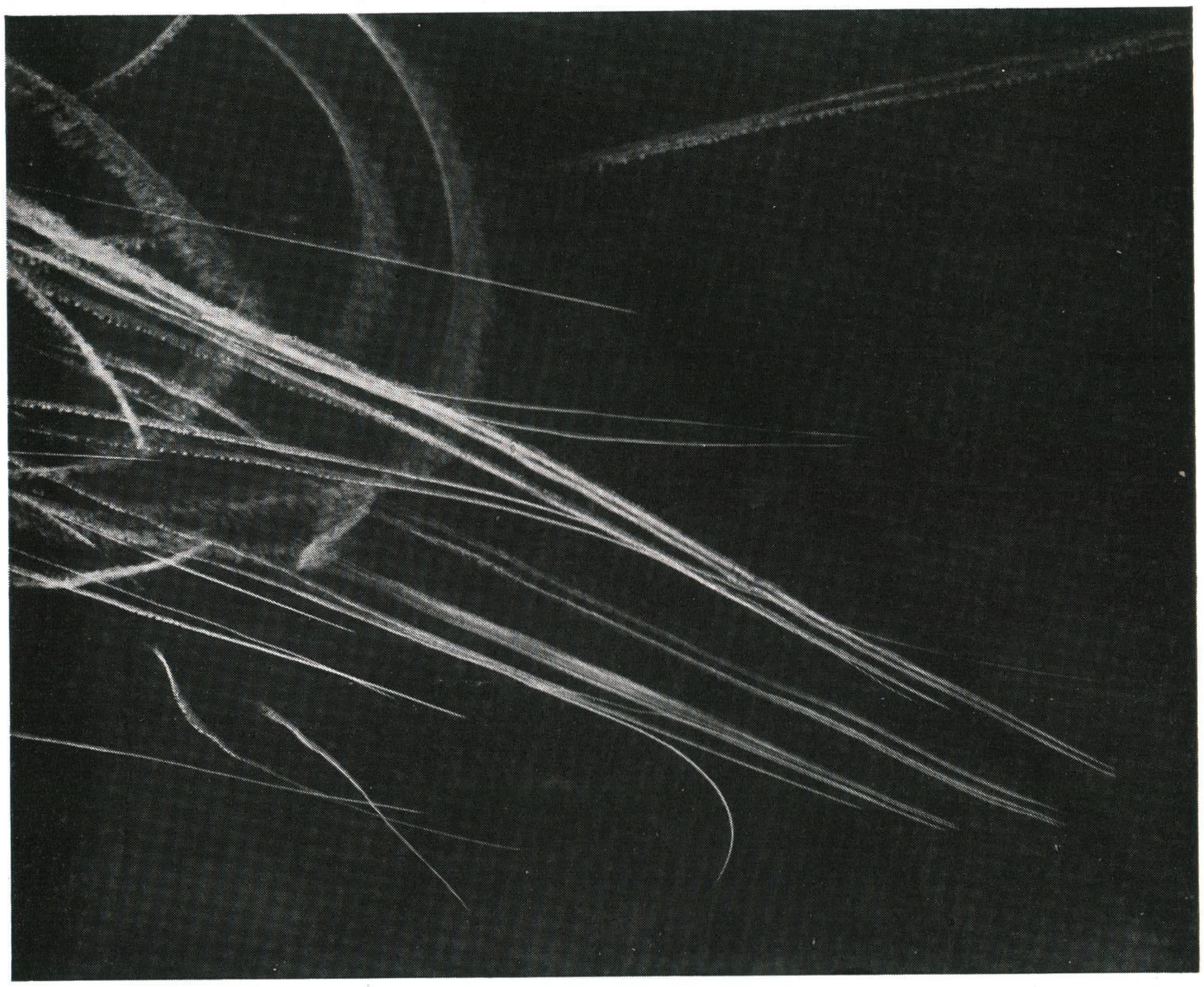
B-29 and B-50 showing patterns of light and shade as seen from above.



proportions of the fin and rudder and the tail plane. From behind or in front these members, in the B-29, look like three blades of a four-bladed propeller, and can be imaginatively regarded and remembered as such. This is owing to an optical illusion, because the fin and rudder is in fact shorter by far than each side of the tail plane. But it *looks* about the same, which is what matters. In the B-50 the fin and rudder is not only thicker but *looks* much taller than the tail plane sections, whereas in reality it is just about the same length. But it is sufficiently different from the B-29 to keep your imaginative *idea* of the B-29 " three propeller blades " intact and unconfused.

From the side, the problem is easy. Not only is the fin and rudder of the B-50 a great and visually disproportionate shape—the B-29's looks much more as if it belonged to the fuselage—but the shape is of a quite different character.

Interception Piece. A ground observer's view (without binoculars) of B-50s being intercepted by jet-fighters during Exercise Bulldog.

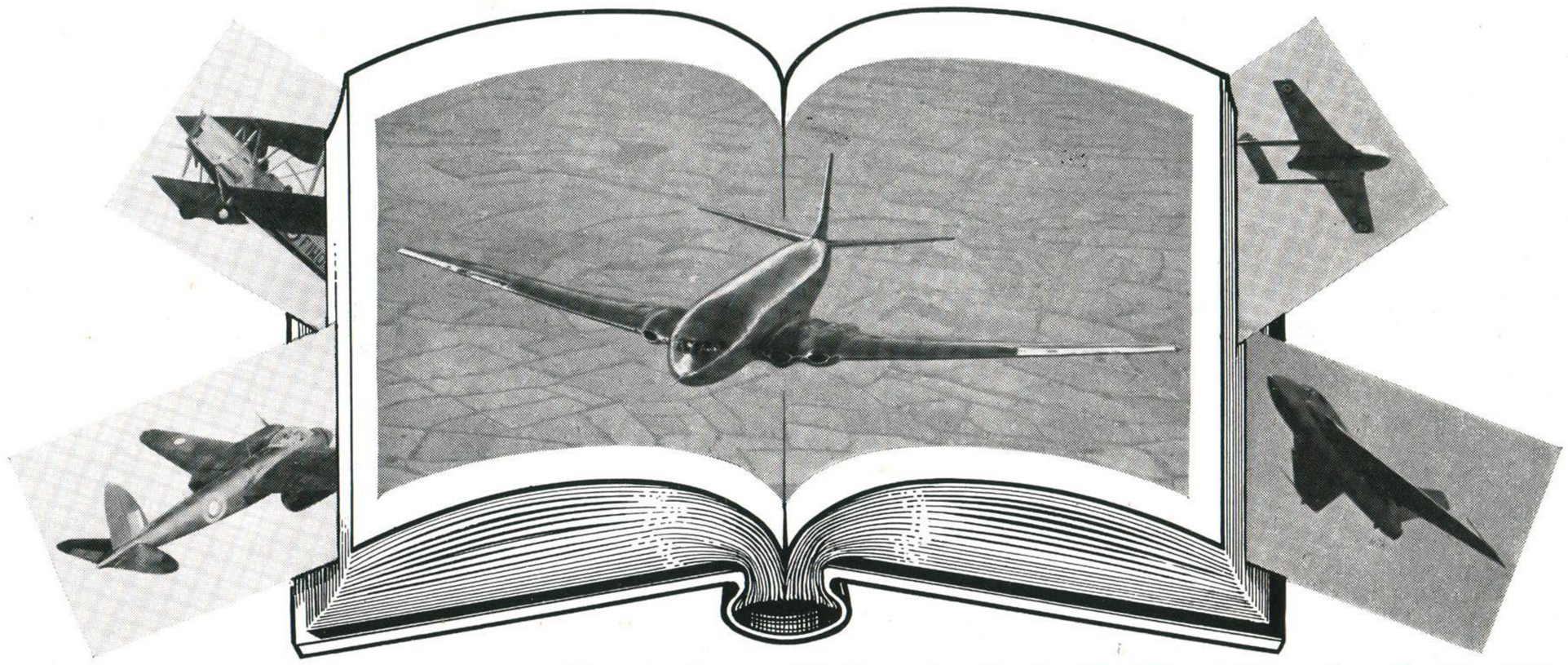


The B-50 sweeps sharply up to make it look as if in a "standing up" position ; the B-29 slopes gently up to reach and suggest a " sitting " position. Side views should therefore provide no trouble.

Air-to-air approach to these two features should then be a rapidly co-ordinated, total-vision, coup d'œil ; and training will not be complete till these two major identification points are automatically and unconsciously merged to form a recognition certainty.

DATA:

B-29	B-50
Maker: **Boeing.**	**Boeing.**
Duty: **Heavy Bomber.**	**Heavy Bomber.**
Wing-Span: **141 ft. 3 ins.**	**141 ft. 6 ins.**
Engines: **4 Wright Cyclones.**	**4 Wasp Majors.**
Top Speed: **350 m.p.h.**	**400 m.p.h. (approx.)**
First Flight: **21.9.42**	**25.6.47.**



ESPRIT DE HAVILLAND

by D. I. PUNNETT

THE aircraft rolling off the production lines at Hatfield today are thoroughbreds of pure de Havilland stock, and like all thoroughbreds they perpetuate many distinguishing features of their ancestors. The full significance of these features cannot perhaps, be appreciated without a glance at the pedigree of their owners.

Beginnings

It was in 1920 that Captain (now Sir) Geoffrey de Havilland started the now-famous Enterprise, when, with a decade of successful military designs behind him he launched himself with zest into the sphere of civil aviation, maintaining throughout the 'twenties a series of passenger biplanes which acquired a reputation of unparalleled economy and reliability with the pioneering airlines of the period. The most important design during those ten years was undoubtedly the Moth of 1925. Classed as a " light biplane ", it was more akin to many day bombers then in service than to current sports machines, and thus set a style in club two-seaters which has prevailed to this day. The Moth was built in thousands to cater for a world-wide demand, and earned the Company its " bread and butter " for many years thereafter. To make the Moth possible, Major Halford designed a special four-cylinder air-cooled engine named the Cirrus, the enormous success of which led to the formation of the Company's Engine Division for which Halford designed the Gipsy engine as an exclusively de Havilland product. Under Halford the design was developed into the world famous series of Gipsy engines which, with one exception, powered all de Havilland aircraft built from 1930 up to the outbreak of war, and continue to flourish on over thirty post-war designs (de Havilland and non de Havilland) including the Dove, Chipmunk and Devon. A near-astronomical number of Gipsies have been, and are being, used on various non de Havilland airframes all over the world.

From Puss Moth to Flamingo

During the thirties de Havilland created several new species of Moth ; the high-wing Puss and Leopard Moths ; the Tiger, Fox and Hornet Moth biplanes ; and the low-wing Swallow Moth and Moth Minor.

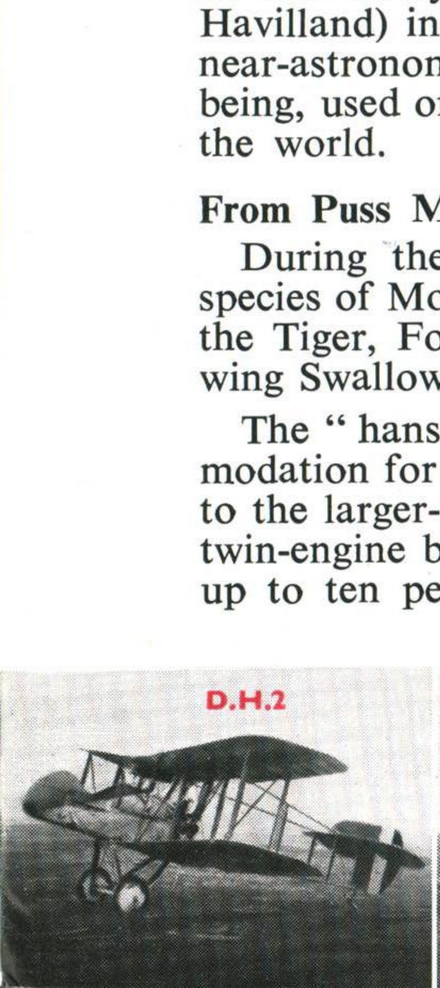
The " hansom-cab " Fox Moth of 1932, with its accommodation for a pilot and four passengers, pointed the way to the larger-capacity Dragon of the following year. This twin-engine biplane was remarkable for its ability to carry up to ten people, and to maintain height, fully loaded, on one of its 130 h.p. Gipsy Majors. Further multi-seat biplanes emerged as the twin-engine Dragon-Rapide and Dragonfly, and the four-motor D.H.86.

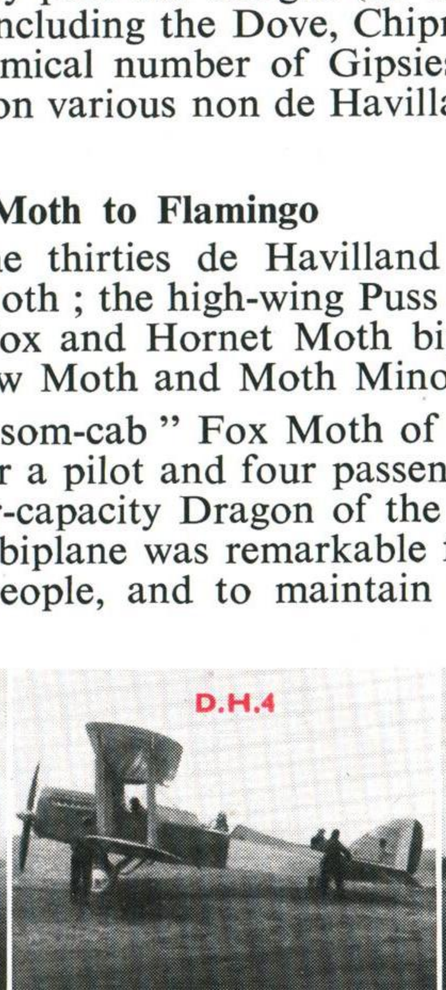
The three most outstanding designs of the 'thirties were, not unnaturally, all monoplanes with retractable wheels and of clean aerodynamic form. The first was the Comet twin-engine racer of 1934, one being Scott and Black's winner of the gruelling race to Melbourne ; the second, the Albatross air-liner of 1937 with its four 12-cylinder Gipsy-Kings, in service with Imperial Airways as the " Frobisher " class ; and the third, the high-wing, 20-passenger Flamingo of 1938, with two Bristol Perseus radials, which was orphaned in infancy by the War but was later used by the R.A.F. in small numbers as the " Hertfordshire ".

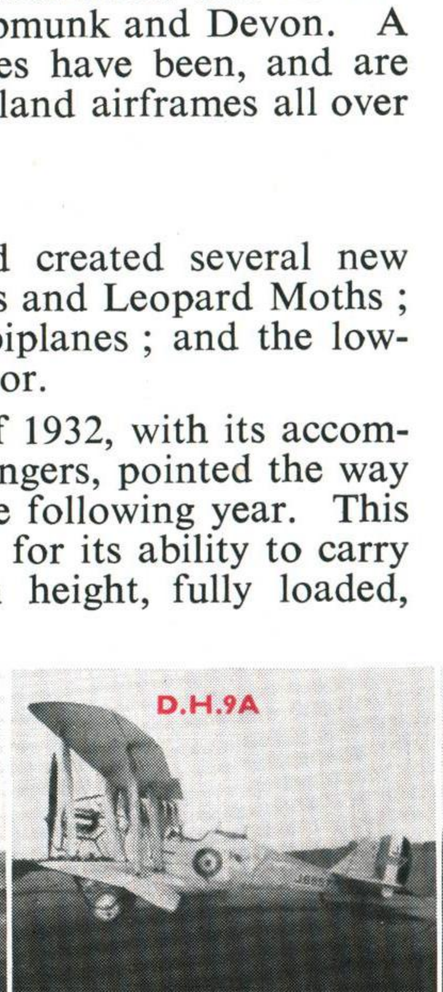
Chipmunk T. Mk.10 (1st production)

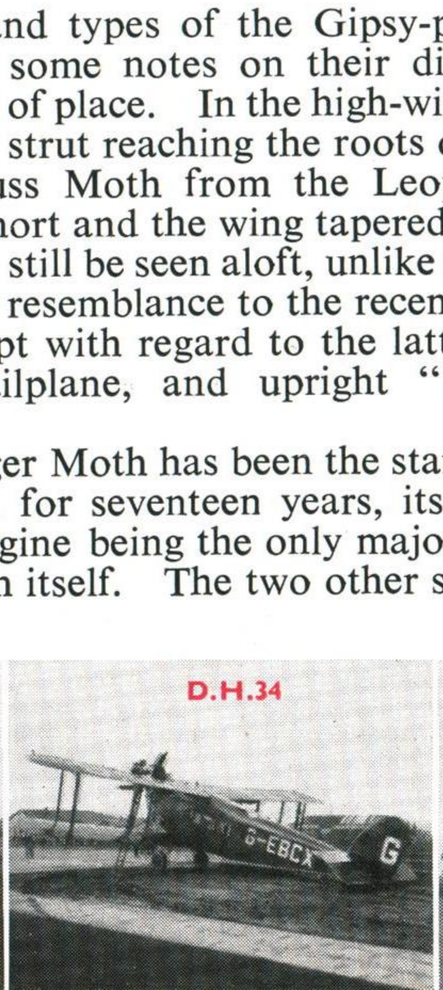
As most de Havilland types of the Gipsy-powered era are still flying today, some notes on their distinguishing features will not be out of place. In the high-wing category, the long undercarriage strut reaching the roots of the broad wing identifies the Puss Moth from the Leopard Moth, on which the strut is short and the wing tapered. The low-wing Moth Minor may still be seen aloft, unlike the Swallow Moth, and bears some resemblance to the recent Canadian-D.H. Chipmunk, except with regard to the latter's cockpit enclosure, straight tailplane, and upright " Mosquito " type fin and rudder.

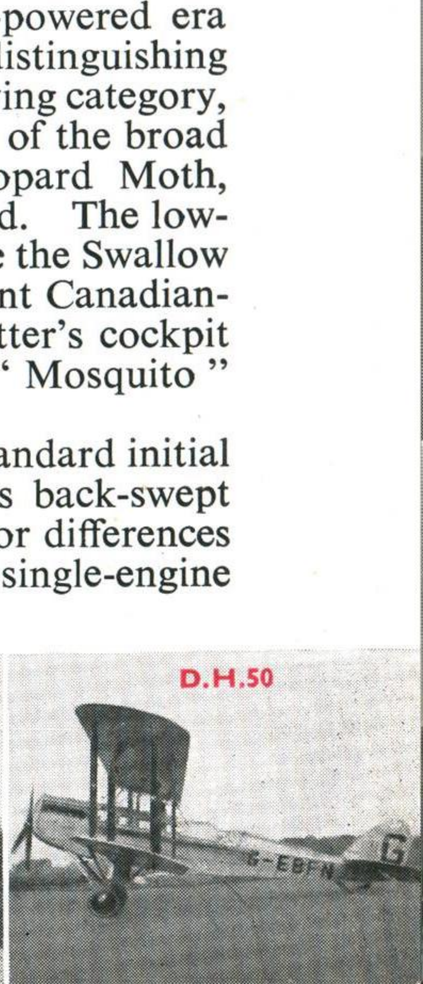
The tandem-seat Tiger Moth has been the standard initial trainer for the R.A.F. for seventeen years, its back-swept wings and inverted engine being the only major differences from the original Moth itself. The two other single-engine

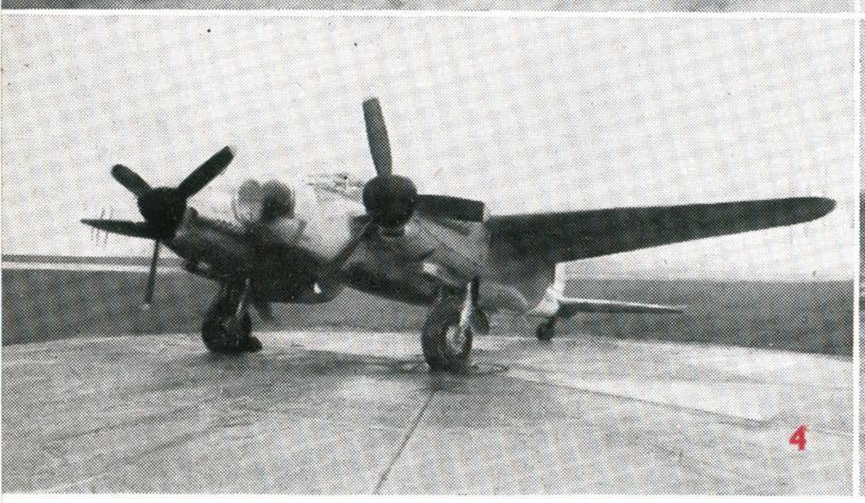


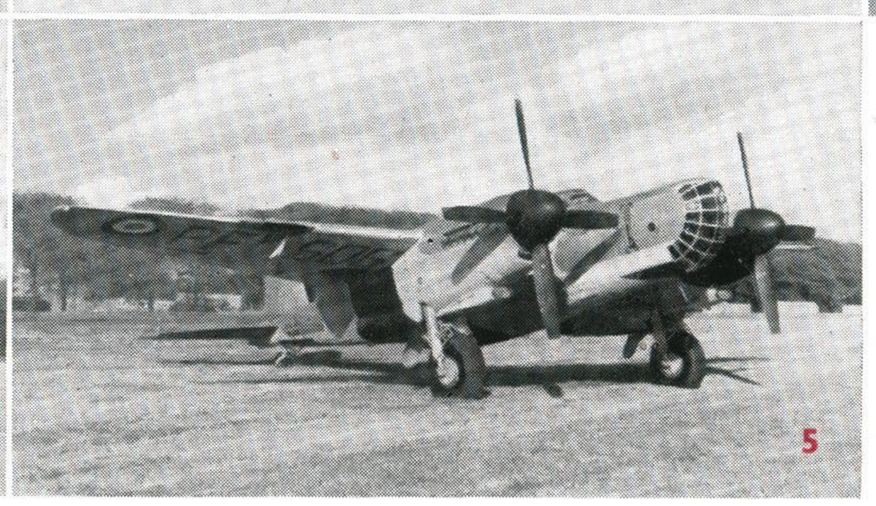












1. Mosquito T Mk.3
2. Mosquito B Mk.16
3. Mosquito PR Mk.34
4. Mosquito NF Mk.38
5. Mosquito TT Mk.39

biplanes are easily recognised ; the side-by-side occupants of the Hornet Moth are enclosed conventionally à la Puss Moth, but those of the Fox Moth languish entirely within the fuselage, which has side windows between wings. The pilot's position is above and behind the cabin, thus reverting to earlier practice. Still very much in evidence these days is the Dragon Rapide, many of which were in use with the R.A.F. during and after the war as the Dominie. Originally known as the Dragon-Six, due to its immediate derivation from the Dragon and its use of Gipsy-Six engines, the Dragon-Rapide possesses large " trousered " under-carriage fairings and pointed wing-tips—contrasting with the wheel spats and square tips of the aforesaid Dragon. The subsequent and lesser-known Dragonfly strongly resembles the Rapide, but has a more pointed nose and a short-span bottom wing.

Of the remaining pre-war designs, two are still flying ; the D.H.86, unique as a four-Gipsy biplane, and the Flamingo which, like the extinct Albatross, employed twin fins and rudders.

Nearly all de Havilland aircraft can, of course, be recognised from other families by their common empennage design, especially the typical swept ellipse (more upright since the Mosquito) that has given de Havilland's fin and rudder its distinctive appearance ever since he designed the BE-1 at Farnborough almost forty years ago, before starting his own series of type numbers as chief designer of Airco Ltd. in 1914. The only exceptions to this rule are the jet machines of today, whose very high speeds favour squarer surfaces for structural and aerodynamic reasons. It is interesting, however, to note that the later Vampire marks have tended to revert to the classic fin and rudder shape.

The Mosquito

As the clouds began to gather for the second World War, the company tendered a design for a twin-Merlin bomber the high speed of which was to render defensive armament unnecessary. Its construction was to be entirely of wood, following successful practice with the earlier Comet and Albatross. After some delays the type, named the Mosquito, went into large scale production for Bomber Command and later as a night-fighter for Fighter Command. These two variants formed the basis of the ten-thousand-odd Mosquitoes of over forty different marks which have been built.

Having performed as a bomber, day- and night-fighter, trainer, fighter-bomber, recce-photographer, minelayer, transport, rocket-attack, 6-pounder anti-submarine, weather-recce, and target-tower, the Mosquito probably holds an all-time record for versatility.

Of the dozen or so marks of Mosquito still flying, the latest, most distinctive and definitely the ugliest, is the Mk. 39 target-tower, of which the long, deep snout glazed with many flat panels has replaced the shapely nose of earlier models. Its lines are further broken by a dorsal cupola and a ventral step.

The Mk. 30, 36 and 38 night-fighters may be identified collectively by their deep, snub noses with opaque covering, but as their differences lie mainly in the mark of Radar equipment carried in the nose, and the mark of Merlin fitted, they cannot generally be distinguished from each other externally ; the inevitable exception being late production Mk. 38s, which have a perspex nose radome.

D.H.108 (3rd (P))

Burdened with Naval equipment such as a deckhook, wing folding mechanism and provision for an external torpedo, the Sea Mosquito Mk. 33 and 37, like the night-fighters, differ mainly in their Radar installations. In this case, however, the difference is outwardly visible, the American equipment of the Mk. 33 being housed behind a small " thimble " nose radome, whilst the British radar of the Mk. 37 employs a more bulbous extension faired into the nose contours.

The Sea Mosquito was evolved by way of the Mk. 6 fighter-bomber, the first mark to incorporate the stronger wing, adaptable to carry bombs, rockets or drop-tanks. Externally, the Mk. 6 closely resembles the original Mk. 2 fighter with full armament of four cannon and four machine-guns, the latter of which, on later fighters, have been replaced by radar equipment.

D.H.53 Humming Bird

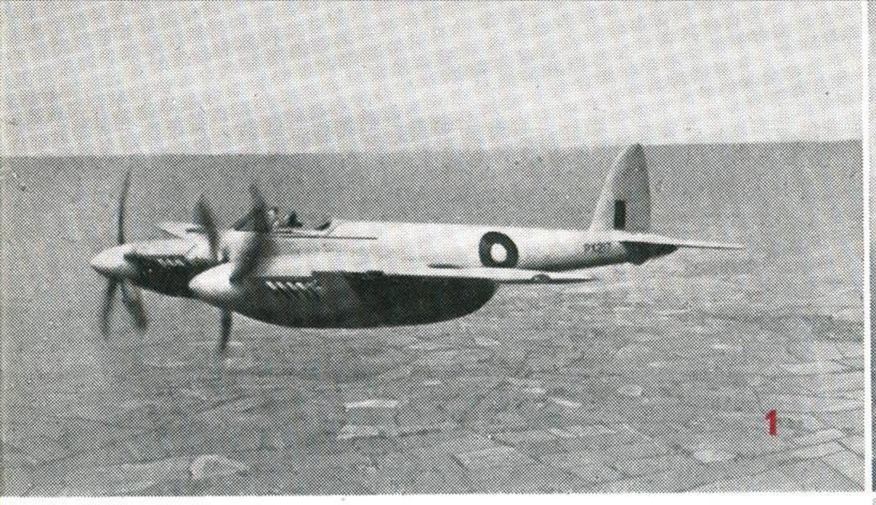
D.H.54 Highclere

D.H.56 Hyena

D.H.60 Moth

D.H.65 Hound

D.H.80 Puss Moth



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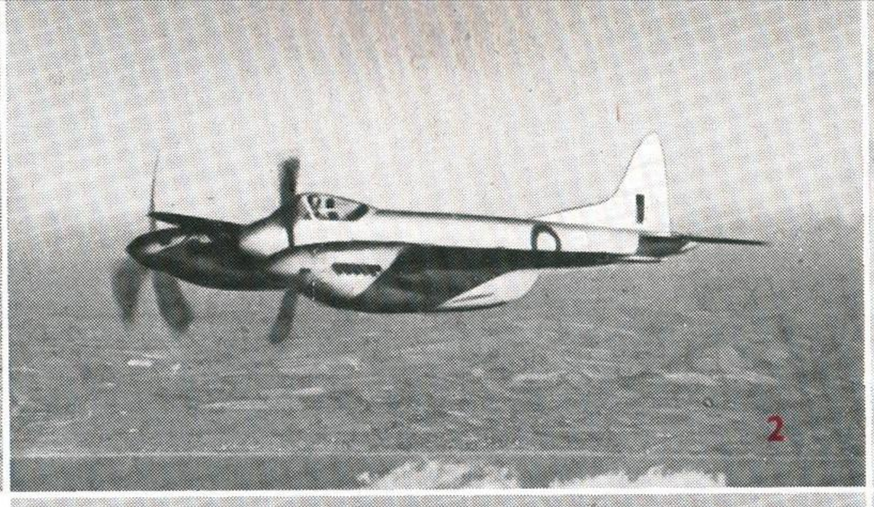

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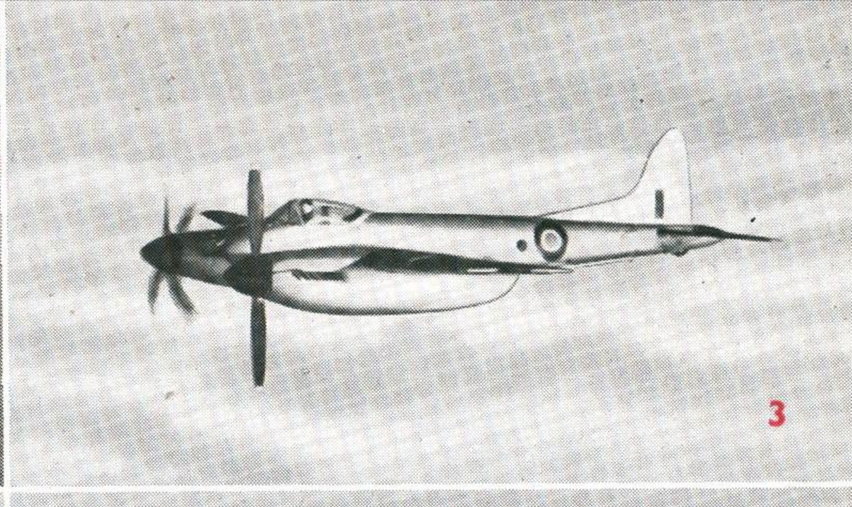
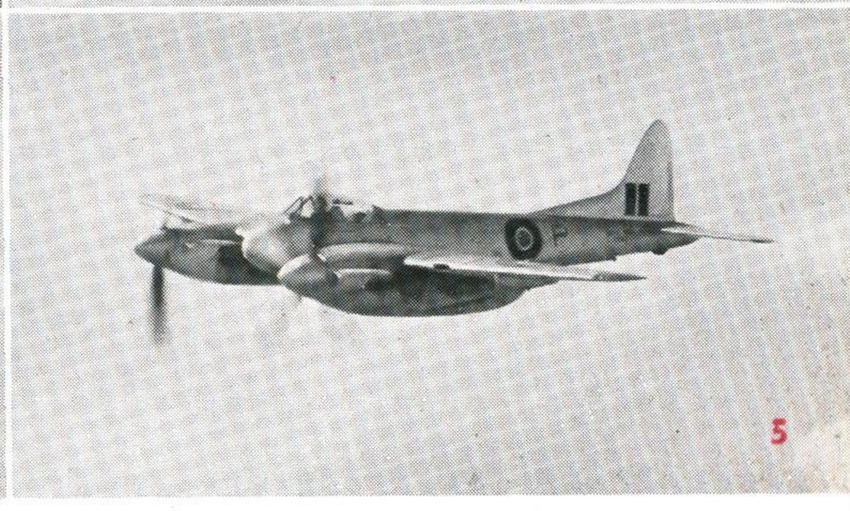


3

1. Hornet F Mk.1
2. Hornet F Mk.3
3. Sea Hornet F Mk.20
4. Sea Hornet NF Mk.21
5. Sea Hornet PR Mk.22

4



5

Still in production alongside the NF Mk. 38 ; the T Mk. 3 dual-control trainer also retains the " bullet " nose of the Mk. 2, although all armament has been removed.

Equipped purely for bombing, the Mosquito has a transparent nosecap with an optically flat panel, and on more recent marks, a conspicuously bulged bomb-bay for the accommodation of a 4,000 lb. bomb. In this form the design becomes the Mk. 16 and 35, according to the Merlins fitted. For bulges, however, the photo-reconnaissance Mk. 34 is the swollen limit. Not only is its camera-laden belly considerably deeper than that of the bomber versions, but the drop-tanks carried under the wings are much larger than those occasionally seen on other marks ; all adding up to 3,500 miles range at 30,000 ft. at 315 m.p.h. Further, there is a small but characteristic perspex blister on top of the cabin.

Devon

To leave the trees for a glimpse of the wood: the Mosquito is not a difficult aeroplane to recognise ; its nose is flanked by motors of equal length of which the radiators advance between them the straight leading edge of the sharply tapered wing. These features, together with the elliptical tail surfaces, have remained largely unaltered throughout the development of this highly successful machine. But whilst the Mossie was helping in no mean way to win the war, something was brewing at Hatfield.

The Vampire

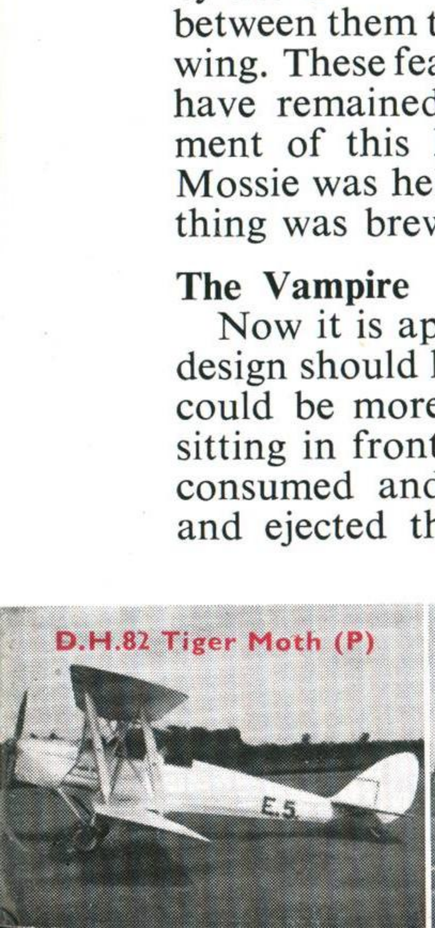
Now it is appropriate that de Havilland's one hundredth design should have been something revolutionary, and what could be more so than an elongated egg containing a man sitting in front of an advanced form of blow lamp, which consumed and burnt vast quantities of air and paraffin and ejected the residue violently rearwards with a force equalling some 5,000 h.p., causing the whole contraption to move at a speed approaching 600 m.p.h.! Admittedly, conventional wings were attached to this egg, but its unusual appearance is enhanced by twin tail booms and a nosewheel undercarriage. This, of course, was the Vampire, of which the conception and development was pretty well simultaneous with that of its Halford-designed turbojet, the Goblin. Having thus grown up together, the Vampire and Goblin have embarked on a married career of great promise, despite the fact that they arrived on the scene just too late to be able to win laurels in action. The family of Vampire variants is steadily growing, but at present only the Marks 1, 3 and 5 are in squadron service with the R.A.F., and the Mk. 20 with the Navy. For the individual recognition of these marks, the features to observe are the shape of the fins and rudders, and the shape of the wingtips. The former are squarish on the Mk. 1 and curved on the Mks. 3 and 5, whilst the latter are rounded on the Mks. 1 and 3, and clipped square on the Mk. 5.

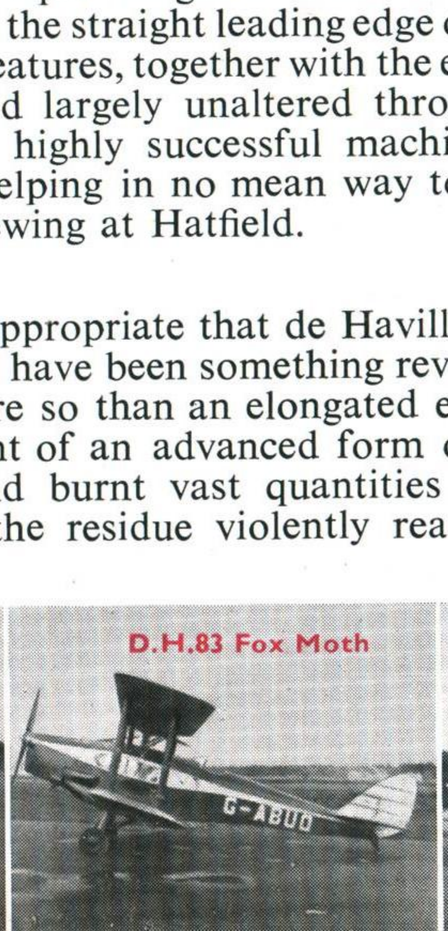
The fitment of curved fins and rudders has been made possible by the slight lowering of the tailplane, and has involved the addition of " acorn " fairings to smooth out the airflow at the junctions of tailplane and fins.

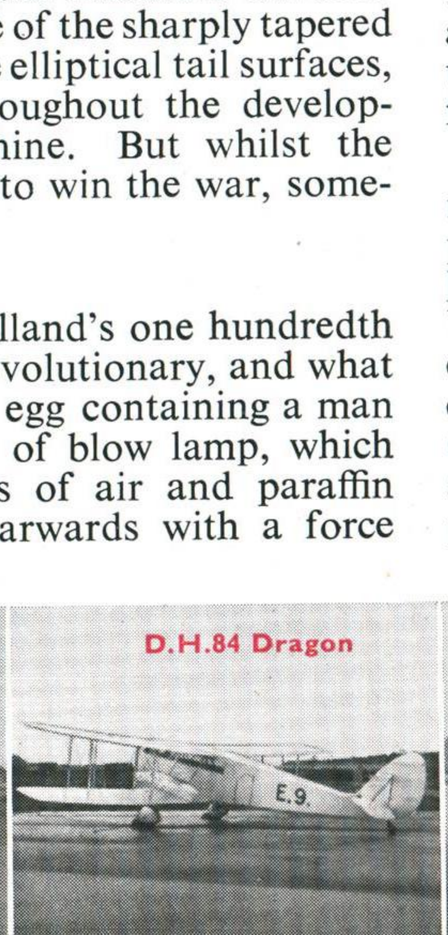
The Navy's Sea Vampire 20 is generally similar in appearance to the Mk. 5, but carries a pointed fairing immediately above the jet-pipe, housing a vee-type deck hook. Drop-tanks may be carried under the wings of all Vampire marks, but the Mk. 5 alone has provision for bombs.

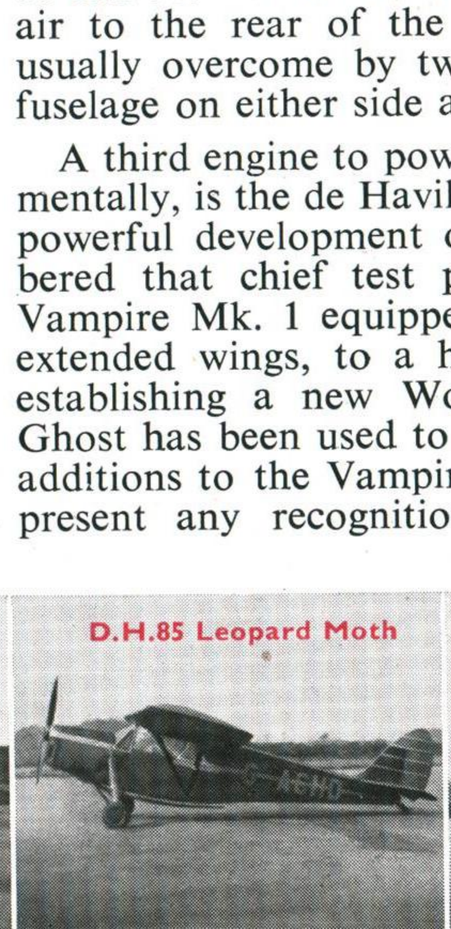
The Vampire is in great demand abroad, and many have been supplied to the air forces of Switzerland, Sweden, Norway, Canada, and France. The Rolls-Royce Nene, originally tried in the experimental Mk. 2 Vampire, is being built in quantity in Australia and France, and will power their respective home-produced Vampires, the Mk. 30 and 51. With the Nene-Vampire the problem of feeding air to the rear of the engine's double-sided impeller is usually overcome by two intakes mounted on top of the fuselage on either side aft of the cockpit.

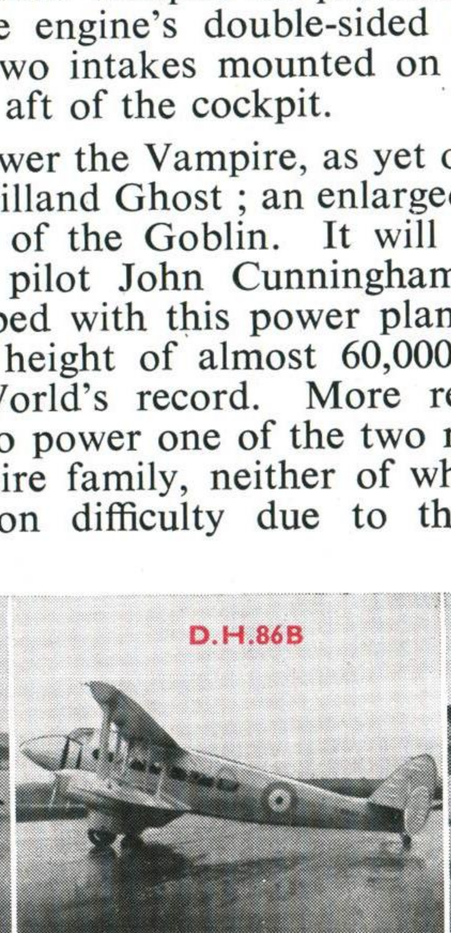
A third engine to power the Vampire, as yet only experimentally, is the de Havilland Ghost ; an enlarged and more powerful development of the Goblin. It will be remembered that chief test pilot John Cunningham took the Vampire Mk. 1 equipped with this power plant and with extended wings, to a height of almost 60,000 feet, thus establishing a new World's record. More recently the Ghost has been used to power one of the two most recent additions to the Vampire family, neither of which should present any recognition difficulty due to their radical

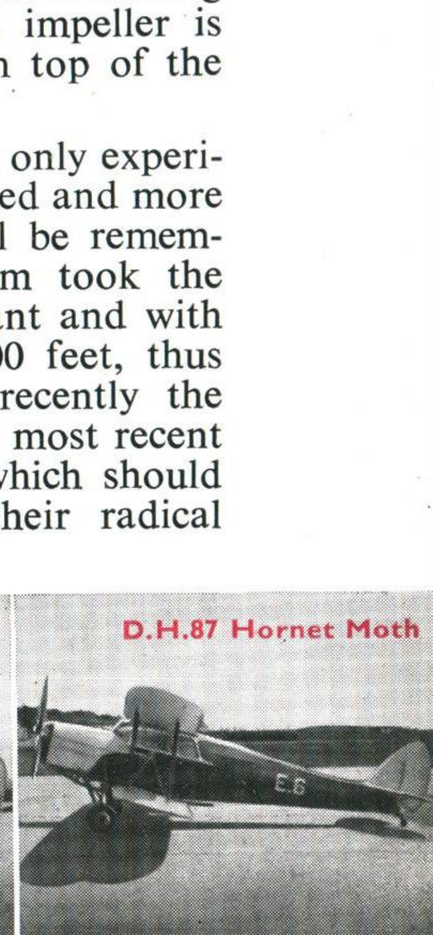












DE HAVILLAND

Comet

D.H.88 Comet

D.H.89 Dragon Rapide

D.H.90 Dragonfly

D.H.91 Albatross

D.H.93 Don

D H.94 Moth Minor

THE ROYAL OBSERVER CORPS GAZETTE

Vol. 3. No. 1 DECEMBER 1949

THE OFFICIAL ORGAN OF THE ROYAL OBSERVER CORPS

Second Camp

THE second of the Royal Observer Corps Camps is now a pleasant memory for some 2,500 members who were fortunate enough to attend. There are many, however, who could not get away from their businesses and can only learn of the activities by hearsay. These notes are for them : a short outline of the activities and pleasures of the Camp.

The essentials of a successful camp are : efficient organization ; good weather ; good companions ; and an attractive programme that provides for both the working and off-duty hours. Appreciative letters tend to show that these conditions have been well blended and served up in such proportions that everyone had a feeling of satisfaction and all agreed that the Camp has been outstandingly successful.

We were blessed with a remarkable run of fine weather for the five weeks stay at Thorney Island this year. The local people could tell you that when the wind blows from the Channel driving before it a dank sea mist, the island can be bleak and uninviting, particularly for a camp under canvas. During the whole time rain fell on only three days. The site for the Camp was a great improvement on that of last year, being well sheltered and easy of access, although the walk to the dining room was longer. The camp area was spacious enough; the tented lines neat and orderly in their setting, and the adjacent tarmac roadways a great help in getting about.

For men, the novelty and thrill of life under canvas is an ever present wish ; most men confess to a longing to have wanted to live in a tent at some time or other ; it is not hard to understand, therefore, why so many quickly acclimatized themselves and found the sleeping amenities so comfortable. Camp life is no less attractive to the women members of the Corps. To be accommodated in the W.R.A.F. quarters, sharing the room with girls unknown to each other until the night of assembly, on a modern R.A.F. Station, is a novelty in itself. Democracy is a word much used in the world today. but to see it at work in the R.O.C. is sufficient to make anyone feel both proud and humble. Where else would it be possible for farm worker, an ex-Squadron Leader of the R.A.F., a metal worker and a Brigadier of the World War I, to share conditions together, all as equals in the Corps pulling together in the closest harmony and companionship. One of the great features of R.O.C. camp life is the opportunity of meeting others from every corner of these Islands, discussing difficulties that we have experienced and learning from others how they have met and overcome similar problems.

During the stay at Camp, where so much is done to make everyone comfortable, the arrangements made for beds and bedding, meals and tea intervals do not obtrude, largely due to the R.O.C. equipment branch having turned their attention to the question of providing tents for the men, beds for the women and sufficient quantities of blankets

and sheets. It became commonplace to have 2,000 blankets and 100 sheets in use each week, with similar numbers at the laundry. The R.A.F. catering staff at Thorney Island having decided upon the daily menus had the responsibility of seeing that the full quantities of the different foods were delivered each day so that none of us should be hungry. The open air life at a camp creates larger appetites, as so many of us discovered.

The underlying purpose of a Royal Observer Camp is to improve our knowledge of the Corps and of its relationship to the Royal Air Force and the Air Defence of this country. To that end a programme of lectures was arranged on subjects that have a direct bearing on this purpose. Other subjects that appear have an indirect bearing and are based mainly on the all-consuming interest that Observers have in anything related to aircraft. Lecturers from Royal Air Force Fighter Command combined with those so willingly provided by leading aircraft manufacturers made up a programme of advanced training.

At this Camp the subjects covered were :—

" The Planning and Conduct of Royal Air Force Command Exercises " by Fighter Command Staff Officers.
" Fighter Command—Control and Raid Reporting System " by Fighter Command Staff Officers.
" The Problem of Low Altitude Defence by A.A. Guns " by Anti-Aircraft Command Staff Officer.
" Bristol Aircraft and the Brabazon " by Staff of Bristol Aeroplane Co.
" The British Aircraft Industry " by Aviation Staff of Shell-Mex and B.P., Ltd.
" Flight Refuelling " by Observer F. W. Free, 17 Group R.O.C.
" Review of the Viking—Valetta—Viscount Aircraft " by Staff of Vickers Armstrong, Ltd.
" Some aspects of Fighter Development " by Staff of Vickers Supermarine, Ltd.
" Weather and Observing " by Air Ministry Meteorological Department.
" Master Test Film 1949 Test " complete with Running Commentary.

This wide range of subjects appeared to satisfy the tastes of every member at the Camp. Although at times the lectures approached a highly technical standard the explanations cleared the air for the more uninformed of us and we were not left in doubt. As for the film which was made for the Master Test of 1949, it was considered in the plan stage of the programme that an opportunity to see this film should be given to every possible member of the Corps, so that they could have some idea as to what this class of test was like. It was an extremely happy thought to add a well balanced running commentary on each view. Judging from comments made at the time there are quite a number who were somewhat diffident in " having a go " at the last test, but who are determined not to miss the opportunity next year.

In the static displays we had two sections to view. One, the " live " aircraft which had been sent to Thorney Island for us to inspect from every conceivable angle (inside and outside) ; and for the second, the static show arranged in the central room of the Search and Survival building. It is not necessary to give a detailed review of each aircraft sent down by the different Commands of the R.A.F., except to say how greatly we appreciated the opportunity of being allowed to examine them leisurely and inquisitively. In the case of the static show set up for our benefit we must linger and learn the lessons that were (perhaps unwittingly) given to us. The finish and detail of the models, made by members of the Corps with something akin to genius, arrested attention. It was a striking demonstration of how members of the Corps can make use of the latest Training Aid, the Air Diagram Scale Model plans. Here surely is one way we can each apply ourselves at Training Meetings. To have a hand in the fashioning of a model of an aircraft is one of the most satisfactory ways in which to remember all that there is to know about its outline. How vividly they improve when they have been painted correctly with standard colourings and service markings! An impression of aircraft is more easily retained from a coloured model than with one in dull drab finish. How much more useful we can be in the training room in our home groups if we adopt the methods of mounting photographs and illustrations of aircraft so well displayed at the Camp !

In the Corps it is said that practically every vocation and profession is represented, certainly it is true of the world of art, for we have a cartoonist, all our own, who portrays in caricature those of us who fill all ranks of this Corps. At this year's Camp the cartoons on view showed that we differ little from our war-time brethren.

As usual a height judging competition was arranged. This year a distinct improvement was the broadcasting of a running commentary as each aircraft made its run over the airfield. Looking at the results submitted it is very obvious that each of us must practise the art of height judging. Nevertheless the winners (who received eminently suitable prizes) may well have been gratified by the knowledge that they had so many friends to share their good fortune.

The Model Display

One of the most popular attractions of the outdoor activities was the flight in the Dakota. A full 30 minutes' trip flying just off the coastline on both the outward and home journeys enabled passengers to see the coastline with Bognor, Littlehampton, Worthing and Brighton as guide points. On occasions a detour was made so as to take in Arundel Castle, whilst during the second stage of the Camp the Viking ship *Hugin* was seen off shore near Shoreham each day. It says much for the organization that, with possibly one exception, everyone who expressed a desire to fly had the opportunity. To each member of the crew who handled the Dakotas we owe thanks for working so hard and so cheerfully in order that our ambition could be realized with such a degree of comfort and security. Well over 2,000 men and women attending the Camp had flights and only half a dozen cases of air sickness were reported. As was to be expected quite an amount of good humour was experienced in this part of the activities. Who was the Observer who requested permission to make a parachute descent ? It is hoped that he was not too disappointed when approval for that was not forthcoming. Some misguided humorist had so regaled one of the girls with lurid stories of Dakota crashes that she asked to leave just as the aircraft was about to taxi to the runway. Everyone was keen to fly, and one man taller than most caused much amusement during the parachute fitting when he volunteered to " go horizontally " if there was not sufficient head room in the vertical position. Certainly this " Air Lift " was most popular. We look forward to the next Camp for similar experience.

For the first time a large scale effort has been made to record the different activities of the Camp. The Air Ministry film photographer became a familiar figure as he

wandered round watching with experienced eye for the kind of " shot " that would have a permanent place on the Royal Observer Corps Camp Film of 1949. When the film has been processed it will be issued to the Corps for general showing, and we shall all be able to " see ourselves as others see us ". The Press, too, were very active, photographing and describing the varied activities.

" All work and no play makes Jack a dull boy." It is time that Jill took her place in this old saying. With everything that characterizes the organization of the Camp sporting activities and entertainment of the lighter kind were planned with thoroughness and consideration. On the station itself arrangements were provided for cricket and football matches with many opportunities for tennis, hockey and baseball, for those whose activities lay in that direction. It was of more than passing interest to see how many visited the rifle range. This range is considered one of the finest of any R.A.F. station in the country. It takes quite a number of Observers (both men and women) to fire off 30,000 rounds of ammunition. The bathing parties to Hayling Island proved to be very well liked. So, too, were the coach parties. During the first two sections of the Camp nearly 700 went to see the first division football matches at Southampton and Portsmouth. What about the " rooting " by the Scots contingent when they visited the Speedway at Southampton, when their team from Edinburgh met the local team from Southampton. It would not be out of place here to offer an apology for our lack of foresight in not catering for a certain form of sporting activity. A Sessions cartoon shows how we erred when he depicted " Cecil " arriving at the Camp complete with riding whip and saddle. Enthusiasts who incline to that sport might bear it in mind for next year.

On the light side of entertainment on the Station itself we had choice of the Cinema, the Concerts, the " Observers' Arms " and, of course, the Station Dance. It was in these places where we had an opportunity to meet the Station personnel and, by entertainment, to show them the measure of our thanks, however inadequate, for all that they were doing for us. The Western Union Squadrons who were there at that time probably remember us for some time to come. The R.A.F. Cinema Corporation had been extremely helpful and kept us supplied with films enough to allow the programme to be changed frequently. Unfortunately they suffer from the common trouble—not having sufficient trained people to do all that was needed in the cinema, so with our now accustomed versatility we searched the various trades within the Corps until we discovered a trained cinema projectionist who could help the regular manager, and by selecting two of the girls as usherettes with the Operations Training Staff filling the roles of " Show Barker " and " Cashier " the show went on. It is in the field of Variety entertainment that we suddenly found ourselves shy and inarticulate. That side of the entertainment we hope to improve next year, yet oddly enough the impromptues in the "Observers' Arms" went with a swing.

The use of the blister hangar for our own pub was a good arrangement, so also was the choice of the name, " The Observers' Arms ", aforementioned. It was furnished with a stage, piano and loud speaker, and chairs and tables. It was here that our sing-song was staged every night and the N.A.A.F.I. produced refreshments. After the experience they gained last year as to the ways in which members of the Corps enjoy themselves they set out to meet all requirements by providing both dry and wet canteens. Both were in great demand. The symbol of our war-time pleasures the teapot and cup was still in being and that one room was set aside for those who preferred the time-honoured cup of tea. In the part set aside for those who enjoy stronger drink the demand, although heavy at times, was always well catered for. For those who are mathematically inclined we are informed that 16,000 bottles of ale and 7,000 pints of beer were consumed. In a few words: a good time was had by all.

Inside an organization such as ours, odd incidents arise which give pleasure to many. The first of these was the model of the Meteor—worked in metal and chromium finished, presented by a member in the Leeds Group for the benefit of the R.O.C. Benevolent Fund. It has been the means of providing a substantial sum to the fund, which as so many of us know, is still dispensing help to the less fortunate of our colleagues. The donor has already been thanked by our Commandant, but it is not out of place to repeat here—" Thank you ".

Then, there is the member of a Post in the Bury St. Edmunds Group who, at his own expense, transported a large packing case some 9 feet long through London, in order to demonstrate for our benefit his radio-controlled flying aircraft model. Here again, we should be failing if we did not record our thanks for his efforts to make a contribution to the Camp activities.

Finally we must mention the 160 Observers, both men and women, who volunteered to remain behind for the Saturday to help the R.A.F. Thorney Island meet the public during their " At Home ". That gesture of good will did much to strengthen the link between the Royal Air Force and the Royal Observer Corps. Thank you all.

A mention has been made earlier in this article of the great interest that is taken in the Corps and its people.

We were given tangible evidence of this regard, for during the period of this Camp we were honoured by visitors in the persons of the Right Hon. Arthur Henderson, K.C., M.P. (Secretary of State for Air) ; Air Marshal Sir Arthur P. M. Sanders, K.B.E., C.B. (Vice Chief of the Air Staff) ; Air Marshal Sir Basil Embry, K.B.E., C.B., D.S.O., D.F.C., A.F.C. (Commander-in-Chief, Fighter Command). Each spoke to the assembled personnel. The Commander-in-Chief of Fighter Command told us that we proved our efficiency during the last war, but today greater responsibilities had been placed fairly and squarely on our shoulders and to discharge these we must see that we reached a much higher standard of efficiency.

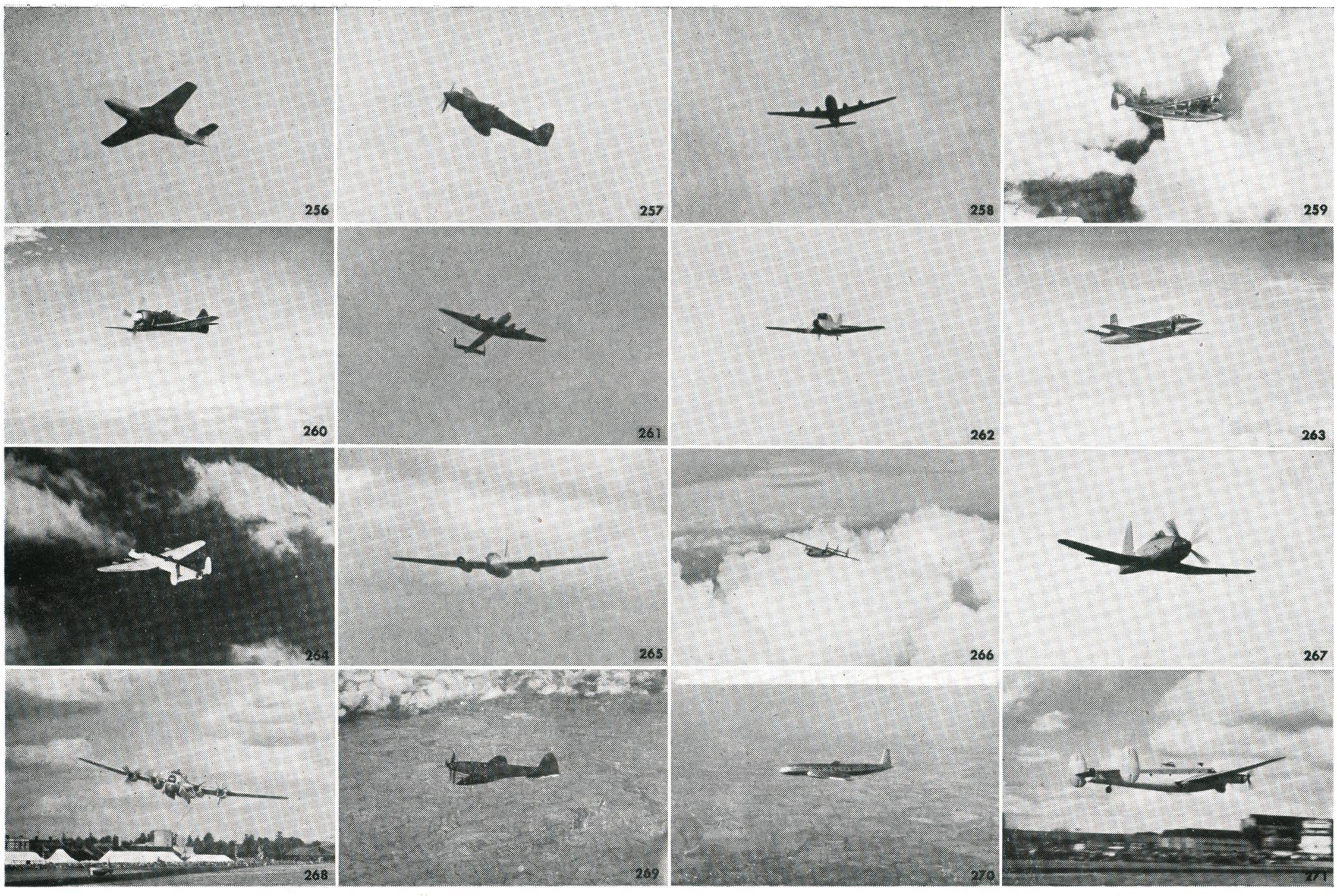
Going aboard the Dakota

In addition an unexpected visitor. The Emir of Saudi Arabia, who was visiting the Fighter Squadrons based on Thorney Island came to the Camp and was greatly interested in the R.O.C. activities.

In conclusion, it must be recorded that after the initial shyness of falling in for parade had been overcome, we soon became accustomed to moving to and from the different points on the Station in orderly columns of route. In the ordinary way we are so little used to drill and marching that we are conscious of our lack of training, but this feeling soon wears off, and by the end of the Camp period we moved off in flights like practised groups. It is quite invigorating when some of the more sturdy-hearted ones begin to whistle a marching tune and legs and arms move in unison. It was all well worth while.

AIRBORNE HEADACHES

No. 12



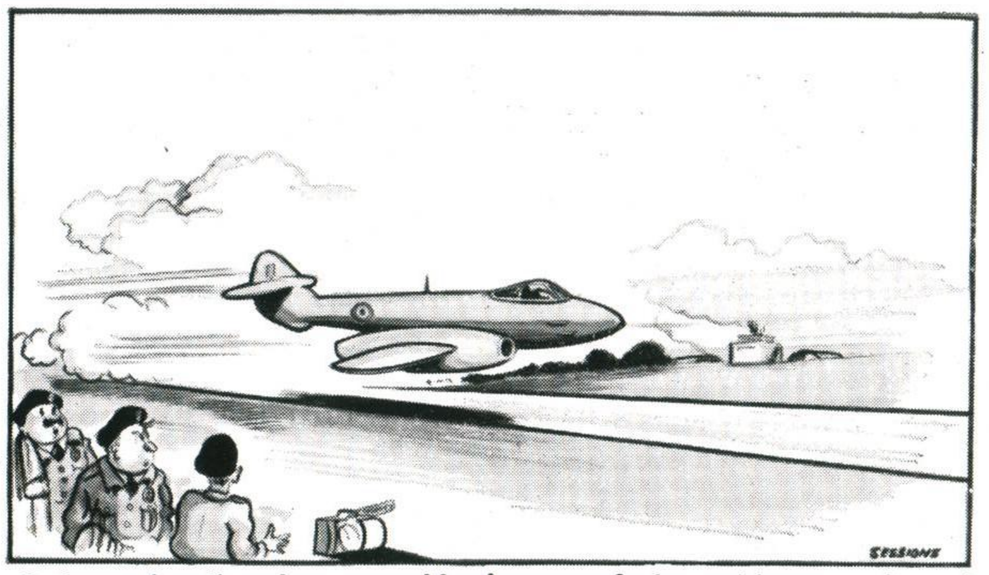
The answers, headed "Airborne Headaches No. 12" must be sent on a postcard to reach Group Headquarters by 15th January, 1950 Group Headquarters will forward answers so as to reach Area Training Officers by 22nd January 1950.

THE SECOND CAMP

by SESSIONS

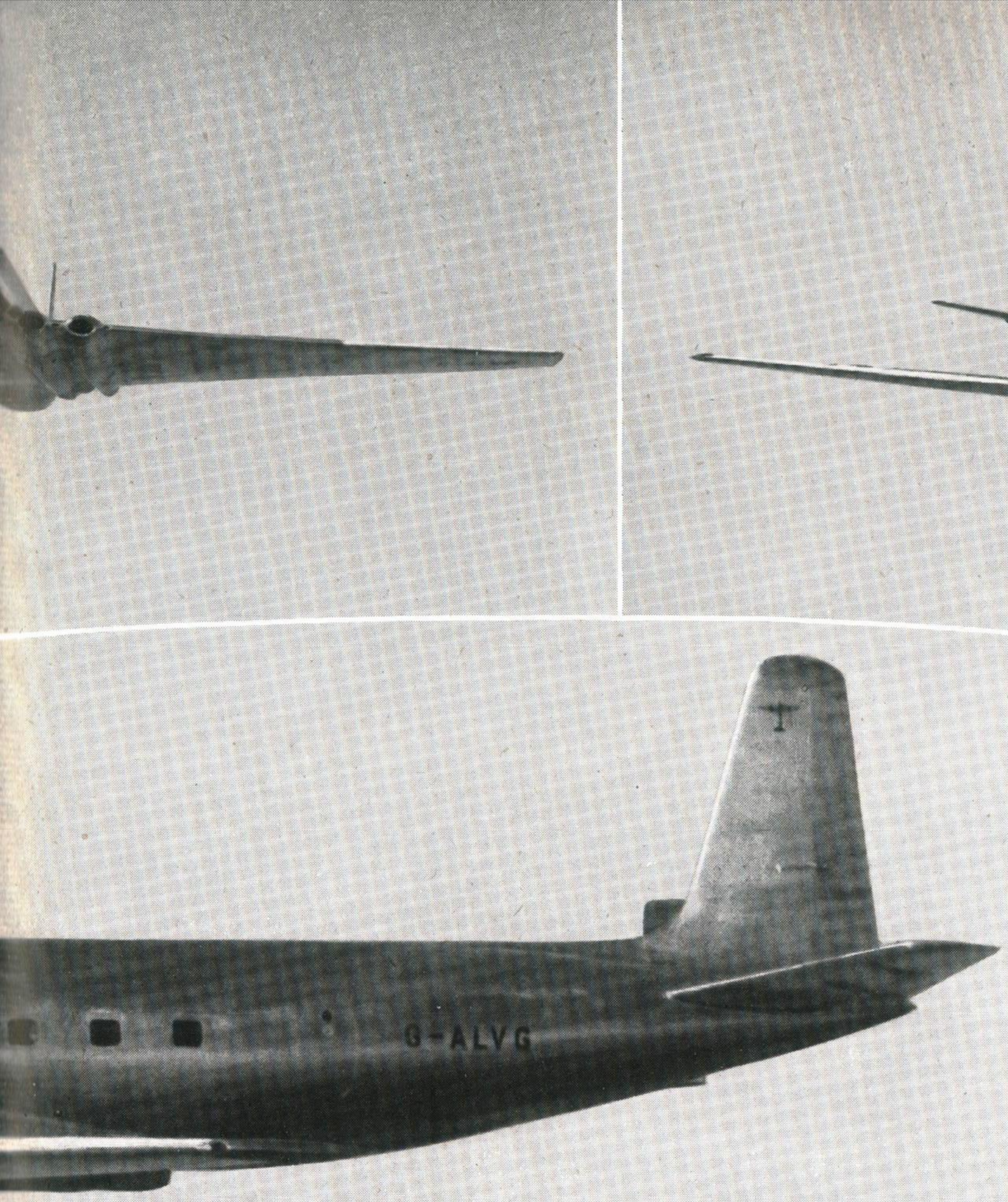
Now, ready, lads. Three verses of "Annie Laurie" and we'll show 'em where their "All thro' the Night" gets off!

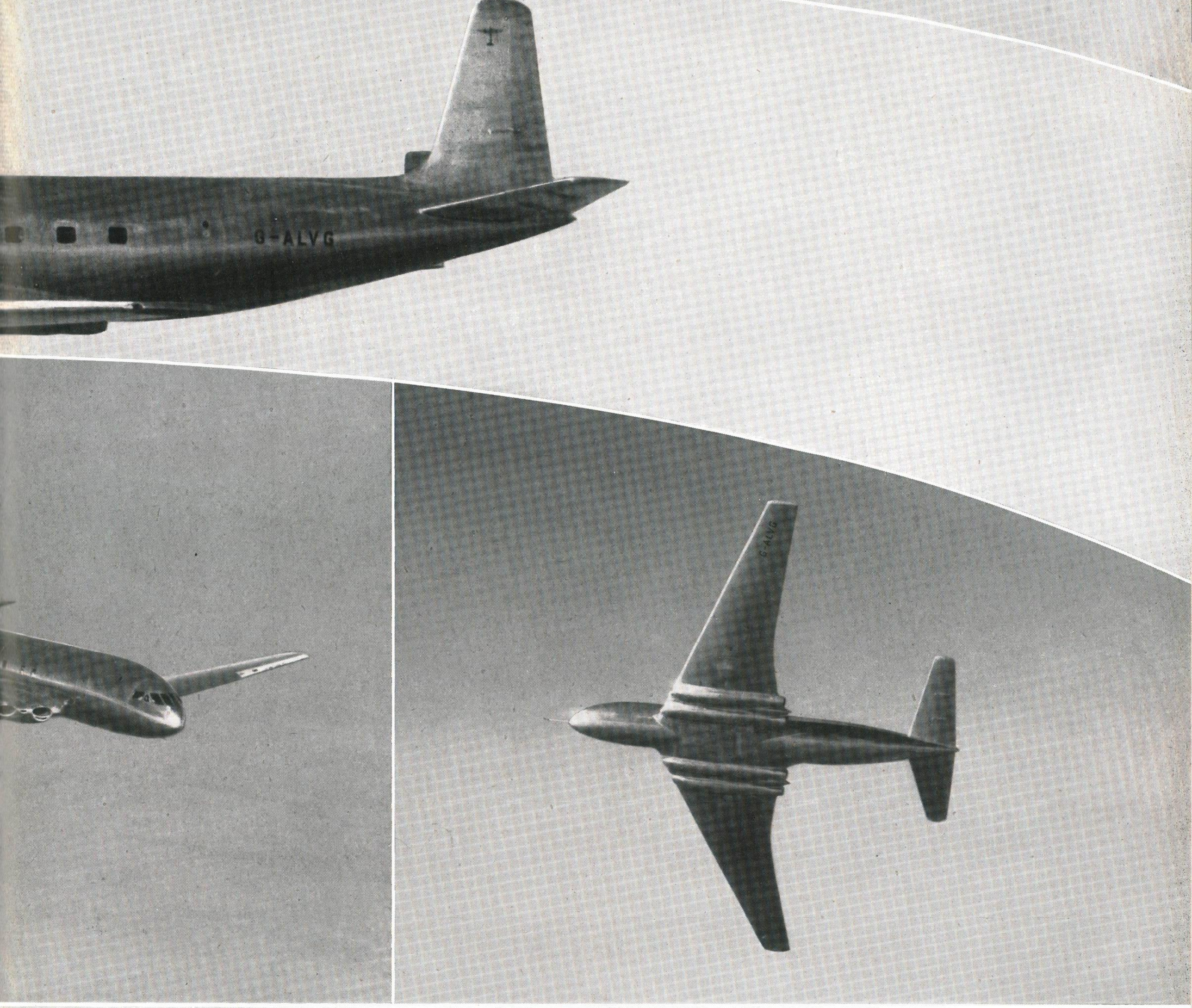
I'm afraid, Fotheringay, that we must just accept it as "one of those things"!



Och awa' wi' ye' mon. Yon's one of those Meters, y'ken!

Tell me, Sessions, where do you get your ideas and faces from?

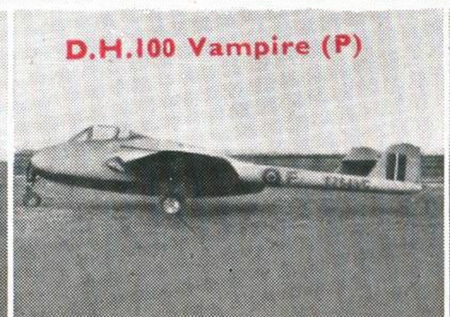




D.H.95 Flamingo

D.H.98 Mosquito (P)

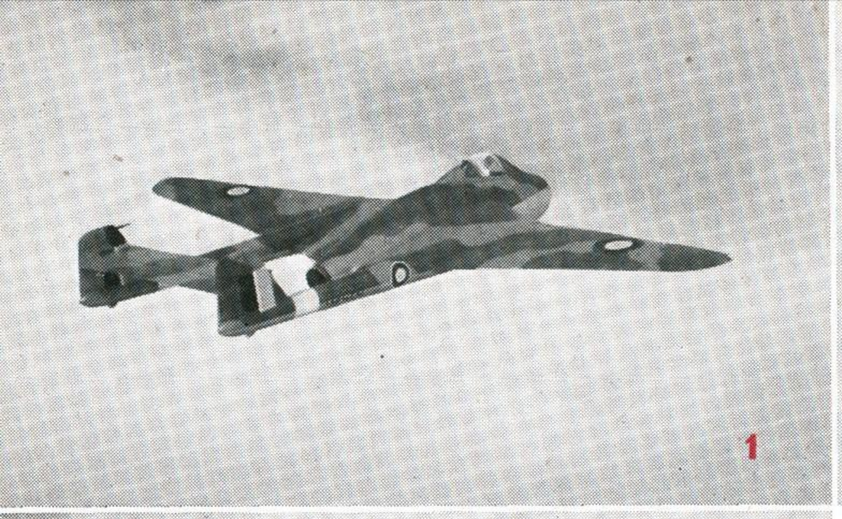
D.H.100 Vampire (P)



D.H.103 Hornet

D.H.104 Dove (P)

D.H.106 Comet (P)



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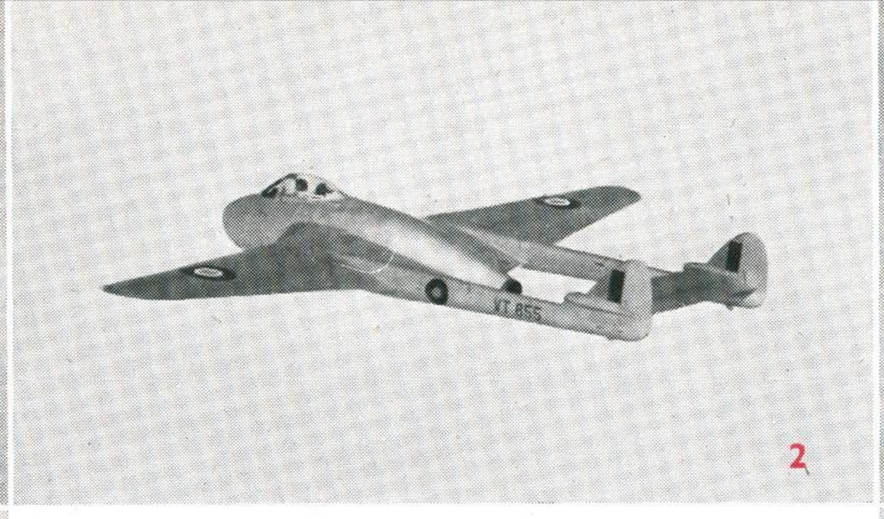

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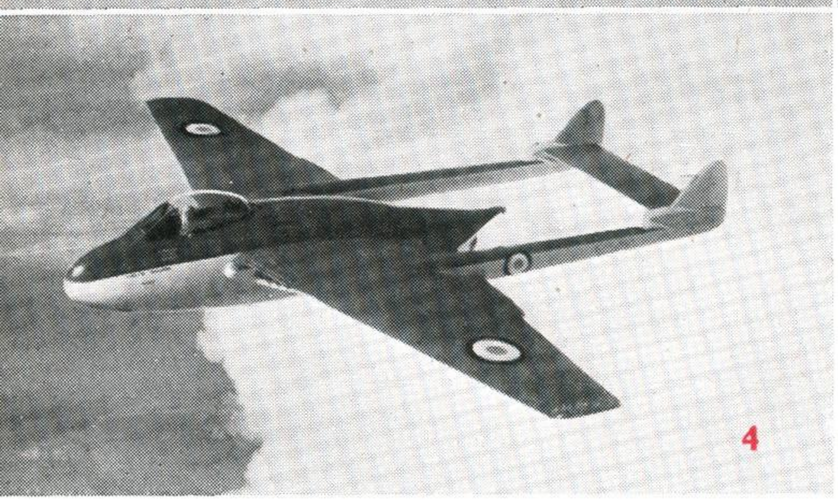

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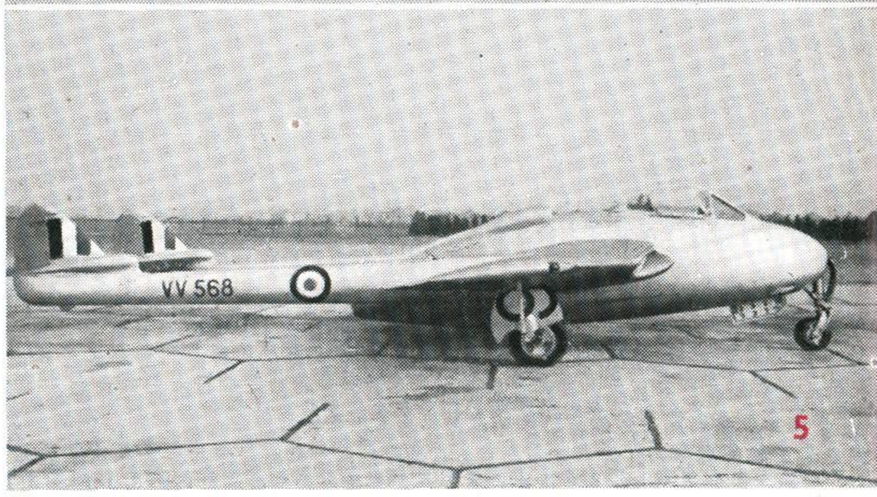
1. Vampire F Mk.1
2. Vampire F Mk.3
3. Vampire FB Mk.5
4. Sea Vampire F Mk.20
5. Vampire FB Mk.51 (Nene)



5

structural alterations. With the extra power thus offered, and its thinner back-tapered wings, the DH.112 Venom will sustain high speed and good manœuvrability to new tactical altitudes, even with its external wingtip fuel tanks fitted. In contrast, the DH.113 retains the Goblin engine and the full-span wings of the Vampire 3, but embodies a much longer nacelle with accommodation for a crew of two in staggered seats beneath a " Mosquito " type canopy. Radar equipment for its night fighting duties is housed in the extremity of its long, " snub " nose.

In bringing the Vampire up to date, mention must be made of the model installed with jet-pipe re-heat equipment (more happily known as an afterburner) which, like the DH.112 and 113, made its debut at the great display at Farnborough last September. Were it not for its unmistakable "three-boom" aspect caused by the long extension of the jet-pipe, this machine might have given rise to some confusion, possessing as it does the tail unit of the Mk. 1 and the wingtips of the Mk. 5. The higher tailplane of the Mk. 1 was found necessary to clear the extra-violent jet efflux; and to prevent the jet-pipe coming into contact with the ground, conspicuous tail-bumpers are faired into the booms. This aircraft is a single experimental example for engine research.

It is, perhaps, unnecessary to generalise on the recognition features of the Vampire, since its appearance is unique in the skies of Britain today and can be named on sight by even the most disinterested layman.

The Hornet

Following so closely upon the heels of the Vampire, the appearance of a piston-engined fighter might seem something of an anti-climax. The Hornet, however, need not be ashamed of its twin Merlins, as with its maximum speed of 472 m.p.h., remarkable manœuvrability, handsome range, and beautifully clean lines, it is probably the finest airscrew-driven fighter in existence, and on September 19th established a Gibraltar to London speed record of 435 m.p.h. proving its ability to reinforce an Air Force in the Mediterranean in $2\frac{1}{2}$ hours from bases 1,000 miles or more away. In appearance the Hornet retains several features of the Mosquito, but being a single-seater is somewhat smaller. Square wing-tips, short nose, straight tapered tailplane and dorsal fin extension all serve to distinguish the Hornet from its bigger brother.

The Mk. 1 has been largely replaced in R.A.F. service by the Mk. 3 of which the redesigned wing has a greatly increased fuel capacity. The Navy's interest in the type is due mainly to its eminent suitability for carrier operation, and, equipped with deck-hook and folding wings, the Sea Hornet 20 is the sea-going equivalent of the Hornet 3. In night-fighting garb the Sea Hornet 21 is unmistakable for its slender inquisitive-looking nose radome, and the dorsal canopy for the second crew member. To complete the Naval trio the Sea Hornet 22 carries cameras for its PR duties instead of the usual four cannon, and but for its large exhaust shrouds would be indistinguishable, in most views, from the FR Mk. 20.

The Dove

As the War approached its successful conclusion, the attention of the de Havilland design office was turned once again to the needs of civil operators, whose requirements in days of peace were met by the firm as soon as they arose, but who perforce had to be neglected during six years of hostilities.

Venom (P)

D.H.113 (P)

In the light of wartime developments, something superior in speed and comfort to the biplane Rapide would obviously be demanded, and the Company set to work on a design which emerged in 1945 as the low-wing, twin-engine Dove, with a greatly improved model of the pre-war Gipsy-Six, and a retractable tricycle undercarriage. Nearly three hundred of these sleek eight- to eleven-seaters are now in service with airlines, charter companies and private owners both at home and abroad. The Mark 2, an executive model with a de luxe interior, has also found a market. A small number of Doves have been equipped for military usage, and several have been supplied to the R.A.F. for communications work as the Devon C.1.

D.H.108 1st (P)

D.H.112 Venom (P)

D.H.113 (P)

D.H.C.1 Chipmunk

D.H.C.2 Beaver

D.H.A.3 Drover

The Comet

Just as the DH.71 racing monoplane of 1927, and the more famous DH.82 training biplane of 1931 both received the name Tiger Moth, so another racer, the DH.88 Comet of 1934 has unaccountably passed its title to a design that is currently the cause of much speculation. This, of course, is the DH.106 four-jet airliner, which has been universally acclaimed as the most advanced of its class in existence. An exceptionally graceful aeroplane, the Comet provides for 36 passengers and is powered by four D.H. Ghost turbojets mounted close to the roots of the low-mounted, swept-back wing. The long, pressurised fuselage tapers to a comparatively small, angular fin and rudder dividing the (dihedral) tailplane. As originally conceived, the Comet was of semi-tailless design, its wings and vertical surfaces carrying strong sweepback. It was to investigate the flying characteristics of this design formula that a small experimental aircraft with swept-back wings attached to a Vampire body was promptly designed and built. With its Goblin engine, the single-seat DH.108 has since provided valuable data concerning airflow behaviour over swept wings at both extremes of the speed scale, and has been the first British aircraft to exceed the speed of sound. Of the three DH.108 prototypes built, the first and third are still engaged on low and high speed research respectively, whilst the ill-fated second prototype met with disaster in 1946, dealing a double blow to the Company by causing the untimely death of Mr. Geoffrey de Havilland, son of the founder of the Enterprise and the Company's chief test pilot.

Overseas

Mention must finally be made of the activities of the Canadian and Australian de Havilland Companies, both of which have recently built aircraft of their own design. Established in 1929, the de Havilland Aircraft Co. of Canada have lately produced the highly successful Chipmunk referred to earlier in this article. It is in quantity production for the R.A.F. in England, as well as in Toronto for other World markets, replacing at last the ageless Tiger Moth elementary trainer. Their second design is the Beaver, a high-wing seven-seater powered by a Wasp Junior radial, especially aimed at fulfilling the requirements peculiar to territory such as the Canadian North. In a land of so much water, snow and ice, interchangeability of undercarriage is an essential item, and the Chipmunk has already appeared with skis, and the Beaver with wheels, skis or floats. Furthermore, following a practice dating from the beginning of the Canada Company, the Toronto factory has engineered the Dove for floats.

The de Havilland Aircraft Proprietary of Australia have designed and constructed a three-motor utility transport named the Drover. Coming between the Dragon-Rapide and the Dove in payload and performance, this eight-seater has a fixed, tailwheel undercarriage, angular fin and rudder, and Gipsy Major engines mounted on wings and nose.

To-day, the de Havilland Enterprise holds a very strong position in the British aircraft industry, and incorporates design and construction facilities not only for airframes, but for engines and propellers as well. The Company also boasts a technical school, which, before the war, designed and built a series of Gipsy-powered light planes of unusual merit, and today has 1,000 students. Among the many associated Companies are those located in Australia, New Zealand, Canada, South Africa and Southern Rhodesia ; whilst at home, the parent company in 1943 acquired controlling interests in Airspeed Ltd. of Christchurch, and has thus become directly concerned with the development of the Ambassador.

BOOK REVIEWS

by JOHN W. R. TAYLOR

General Sir Frederick Pile makes several references to aircraft recognition in **Ack-Ack,** and few of them are complimentary. There is, perhaps, some excuse for the gunners who shot at a " Dornier " wh'ch turned out to be a Hampden, but Sir Frederick's description of how " Time and time again in the Humber area our own Swordfish machines were mistaken for enemy bombers " shows just how bad recognition could be at times.

Ack-Ack will not be a popular book in some quarters, for General Pile is outspoken in his criticism of people and happenings in high places. For the average reader, this makes the book unusually fascinating, for he is given intimate sketches of famous personalities with whom the author, as General Officer Commanding-in-Chief Anti-Aircraft Command, came into contact. But the central characters in the book are the gunners and searchlight crews, both men and women, who triumphed over natural difficulties and official disinterest to destroy 1,972 flying bombs and 822 enemy aircraft, with another 237 " probables ". Had the war continued, General Pile believes that they would also have beaten the V.2 rocket with special radio proximity-fuse shells. In a lighter vein, he describes many " inventions ", including " A new design of shrapnel like a boomerang that, if it missed the target, came whizzing back for a second attempt."

General Pile obviously feels that his troops received little of the honour due to them for their achievements. After reading **Ack-Ack** many people will agree with him.

Another branch of the Forces whose accomplishments went largely unsung during the war was the Special Air Service, which is natural enough as most of its work was carried out behind enemy lines. **Six Friends Arrive To-night** takes its title from a B.B.C. code message advising Resistance groups of new " arrivals " and is the true story of Lieutenant Kirschen's adventures as a Belgian member of the S.A.S. It is an exciting, almost unbelievable account of how small groups of gallant men and women performed acts of sabotage and radioed to London invaluable intelligence data right under the noses of the Germans. It tells how they trained for the job, were parachuted into Occupied Territory, how they lived, and how many of them died there. It has already won the Continental " Grand Prix Bibliotheque " and, less spectacularly, a place on my bookshelf among the war's classics.

Finally, a book about the Battle of Britain. **Engines over London** has been written by one of the many pilots who flew Hurricanes in 1940, and one who lacks the literary polish of Richard Hillary or John Llewelyn Rhys. But Lewis Whitnell has the rare gift of being able to recapture the seemingly unimportant happenings and remarks which alone can turn past history into living experience. There is much humour in its pages, written against a background of machine-gun fire, vapour trails, the shrill whistle of bombs, and Air Ministry Communiques, whose terse, stereotyped sentences concealed a thousand and one stories of sacrifice and heroism.

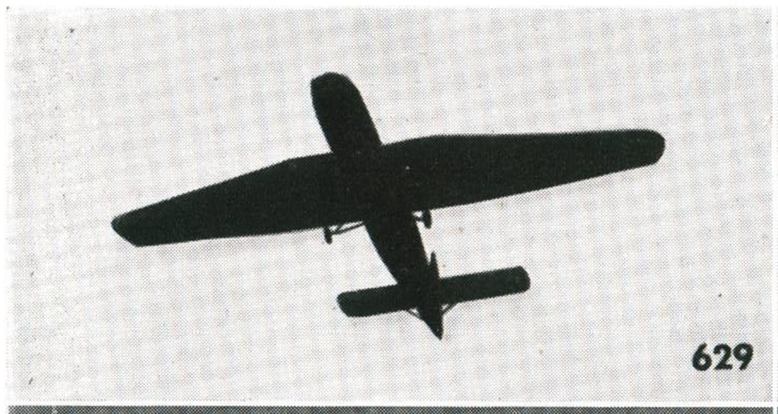
The reader can become so engrossed that he almost feels he has a ringside seat up in the clouds among the vast German formations that were treated so hardly by Lewis Whitnell and his fellow-pilots. **Engines over London** is well worth reading, if only to remind us of those glorious days when Britain was alone, but supreme and unconquerable.

" ACK-ACK—BRITAIN'S DEFENCE AGAINST AIR ATTACK DURING THE SECOND WORLD WAR ", by General Sir Frederick Pile. George G. Harrap & Co. 410 pp. 18s. net.

"SIX FRIENDS ARRIVE TO-NIGHT", by Gilbert Sadi Kirschen. Nicholson & Watson. 160 pp. 8s. 6d. net.

" ENGINES OVER LONDON " by Lewis Whitnell. Carroll & Nicholson. 164 pp. 9s. 6d. net.

SILLOGRAPHS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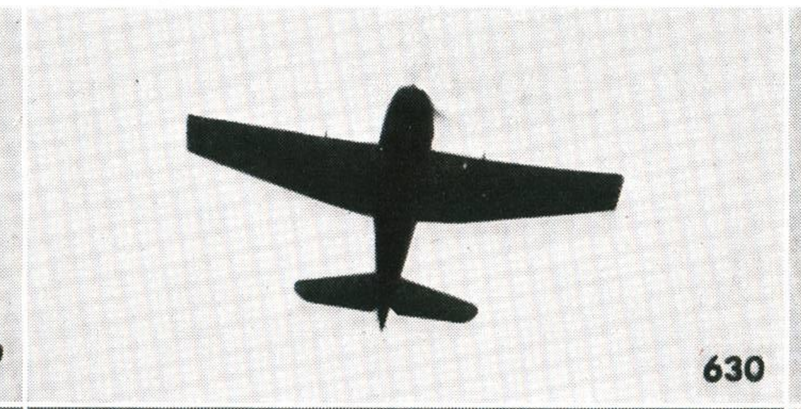
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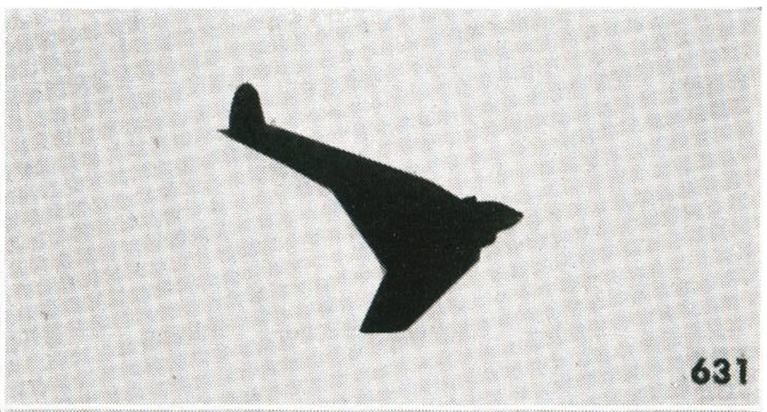
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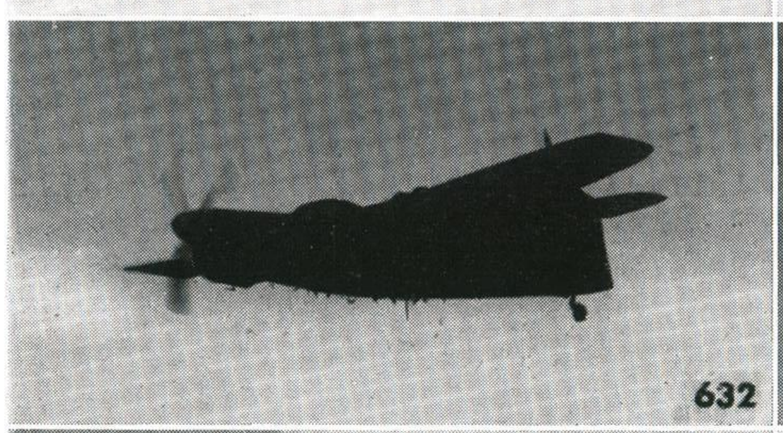
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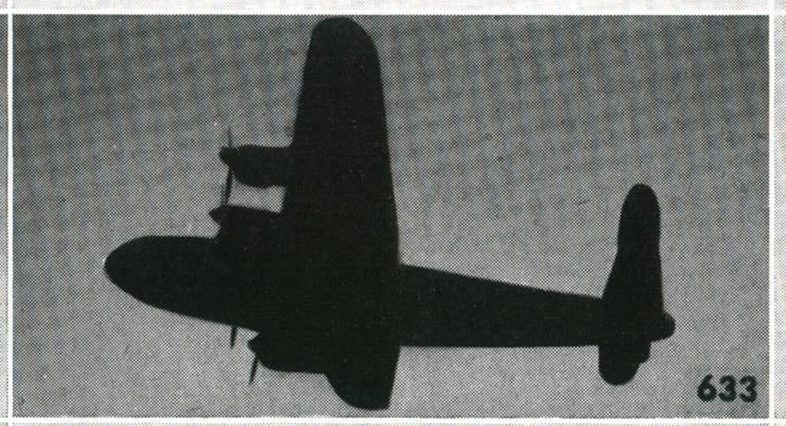
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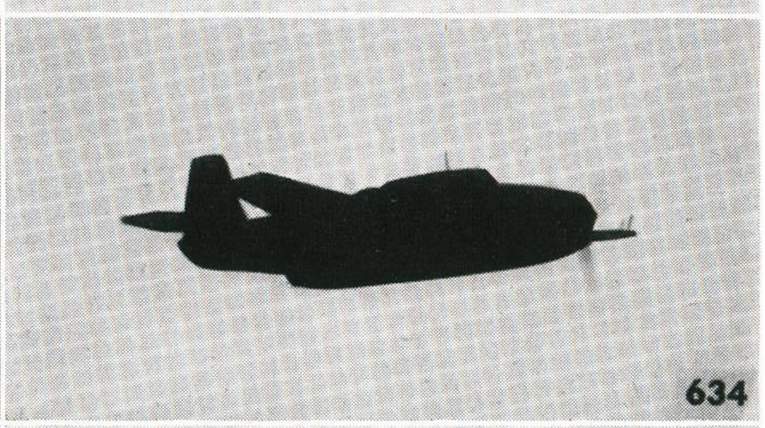
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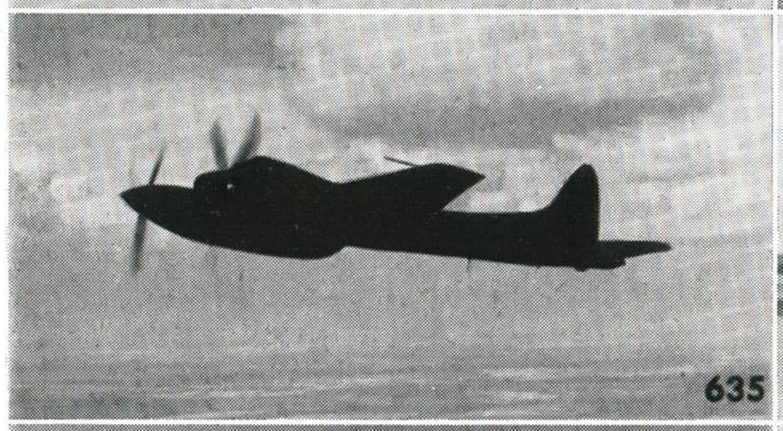
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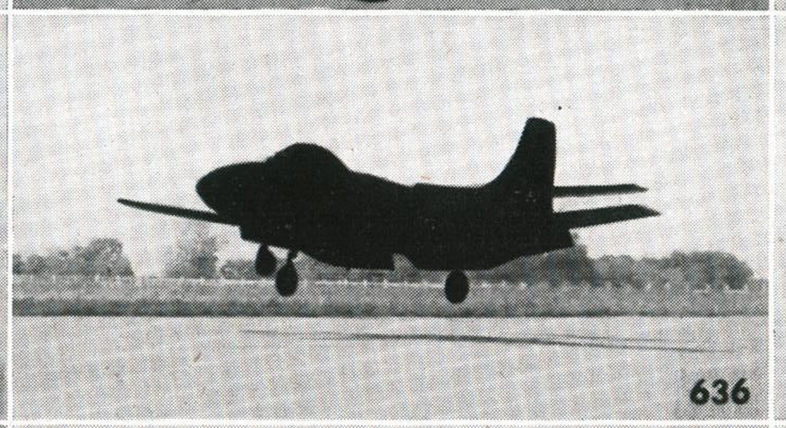
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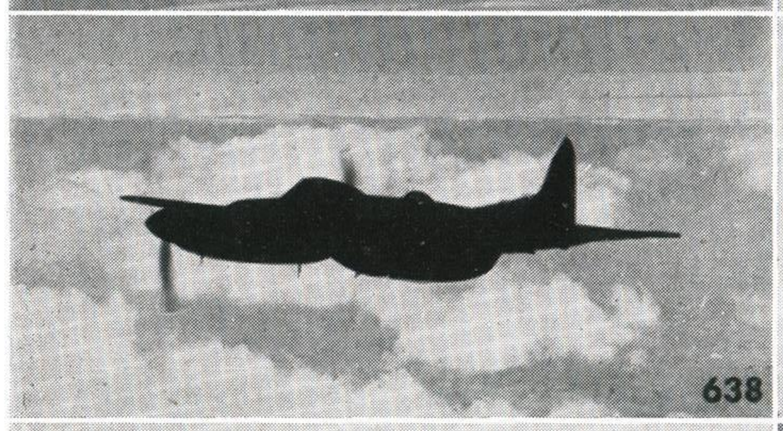
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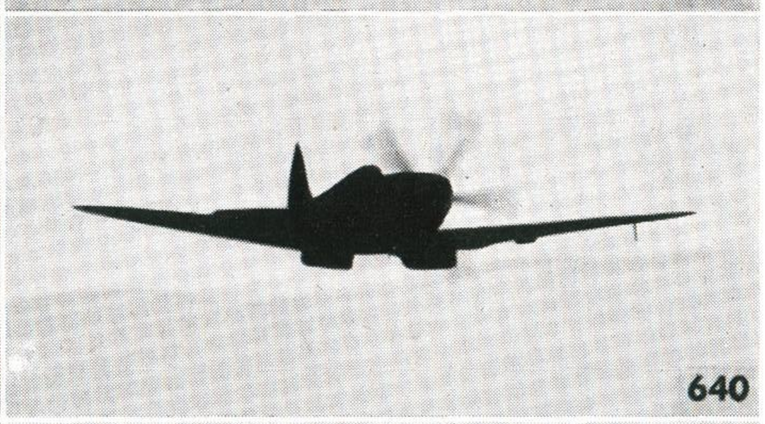
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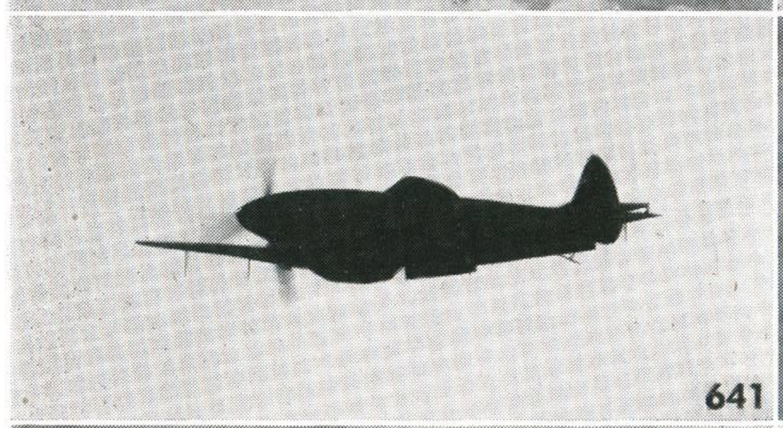
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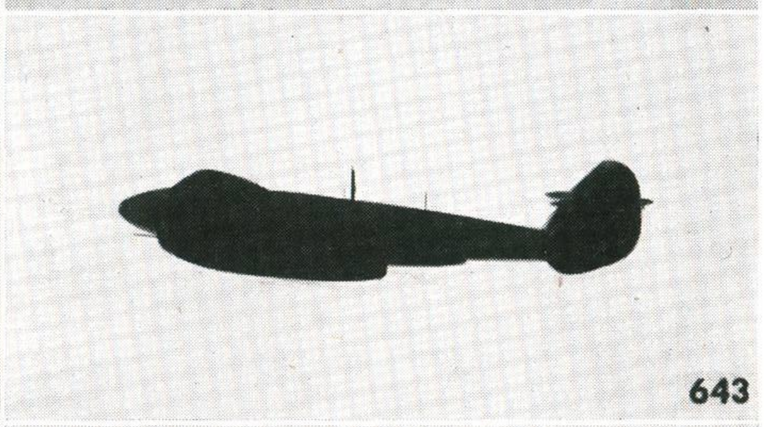
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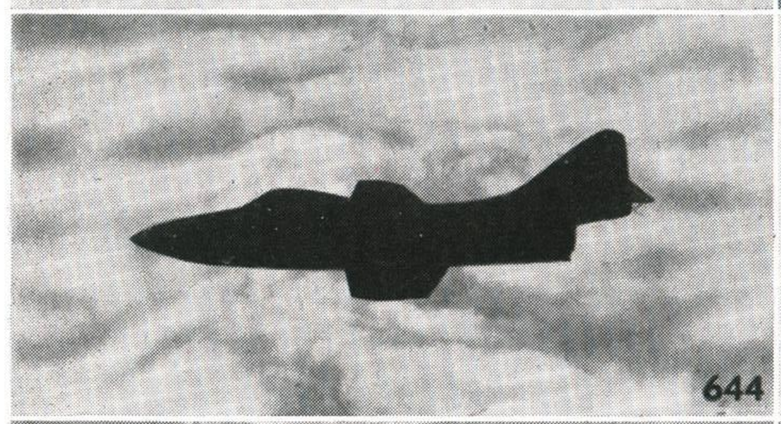
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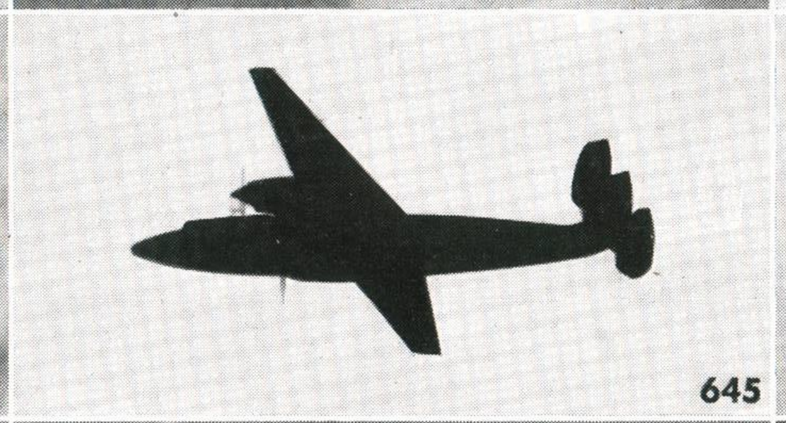
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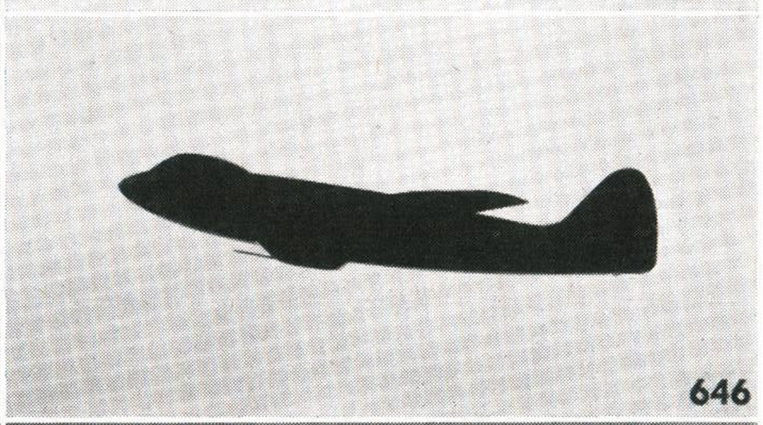
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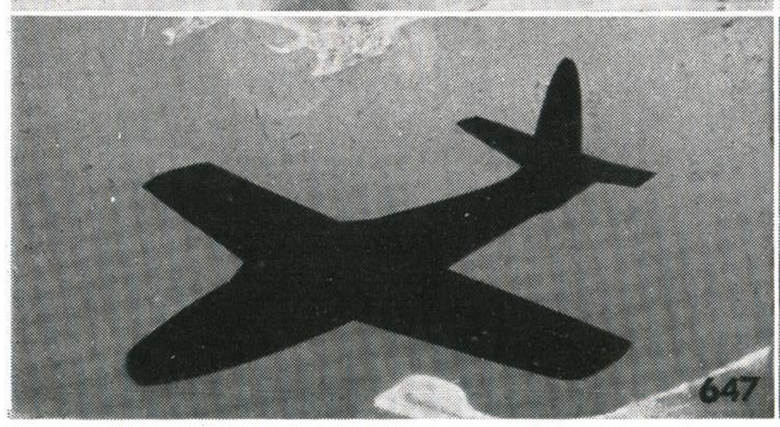
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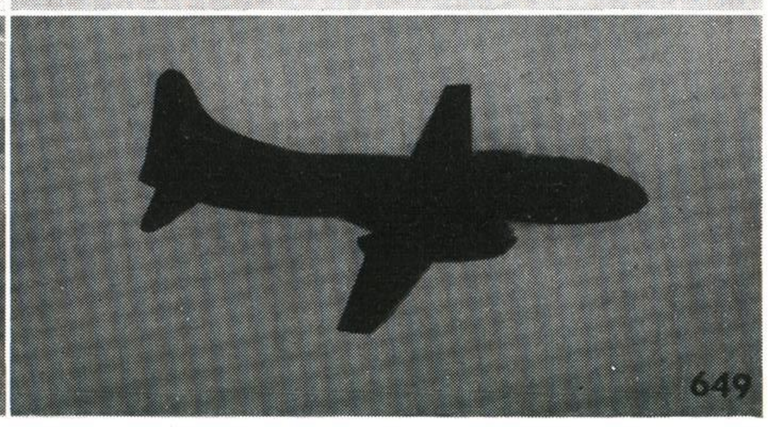
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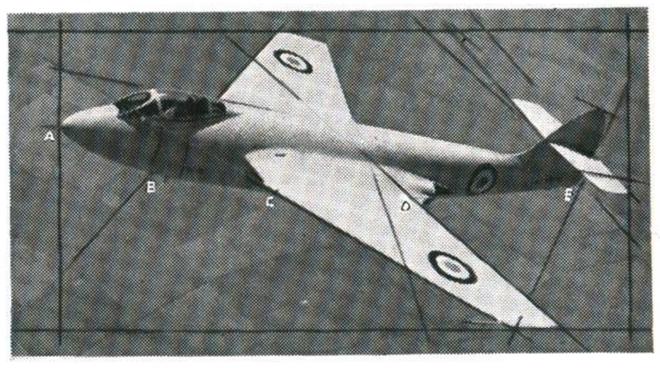
STUDY FORM!

by FRANK WOOTTON



Square-up frame round extremities and carry all main lines through border.

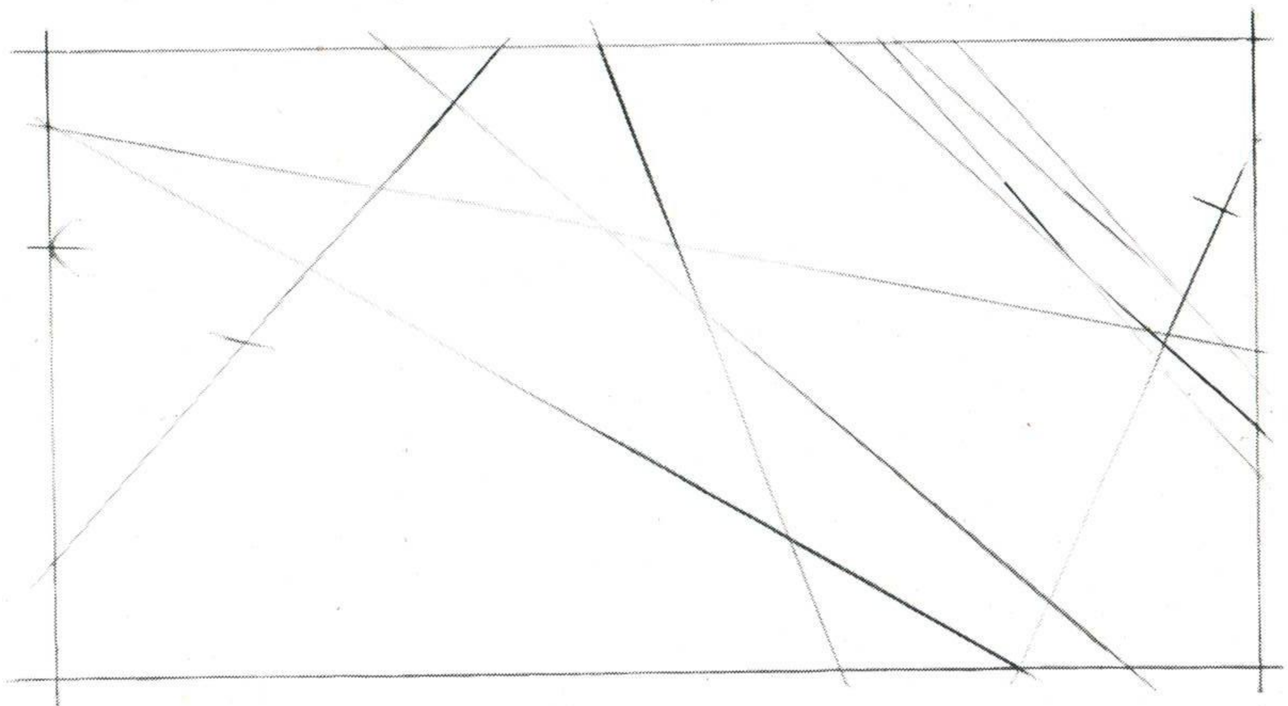
We felt many readers would like to extend their efforts from simple side-views to drawing aeroplanes at other angles of view. This is not easy unless one is experienced in perspective drawing. We could not teach it in a Recognition Journal, so we asked Frank Wootton to help us. He at once agreed to do so, and produced three practical and constructive methods of obtaining third dimensional sketches of aeroplanes. He says they are not methods of learning to draw, though they add interest and help to breed familiarity with aeroplanes, which is, after all, our objective. The first method—a method of enlarging small pictures—is reproduced herewith: the others will follow at intervals.

I AM GOING TO ASSUME that the majority of readers are not artists and have never had any serious instruction on drawing. Furthermore, I don't suppose you have an aircraft available at the moment from which to draw. You have the *Journal*, of course, with its innumerable photographs of aircraft to study the art of recognition, and to help you memorise and appreciate the different forms of individual aircraft. I feel that in the circumstances it would be a good plan to make sketches from photographs. As the photographs are necessarily small, I will explain a simple method of enlarging from them. For an example I have selected a photograph of the Hawker P. 1052.

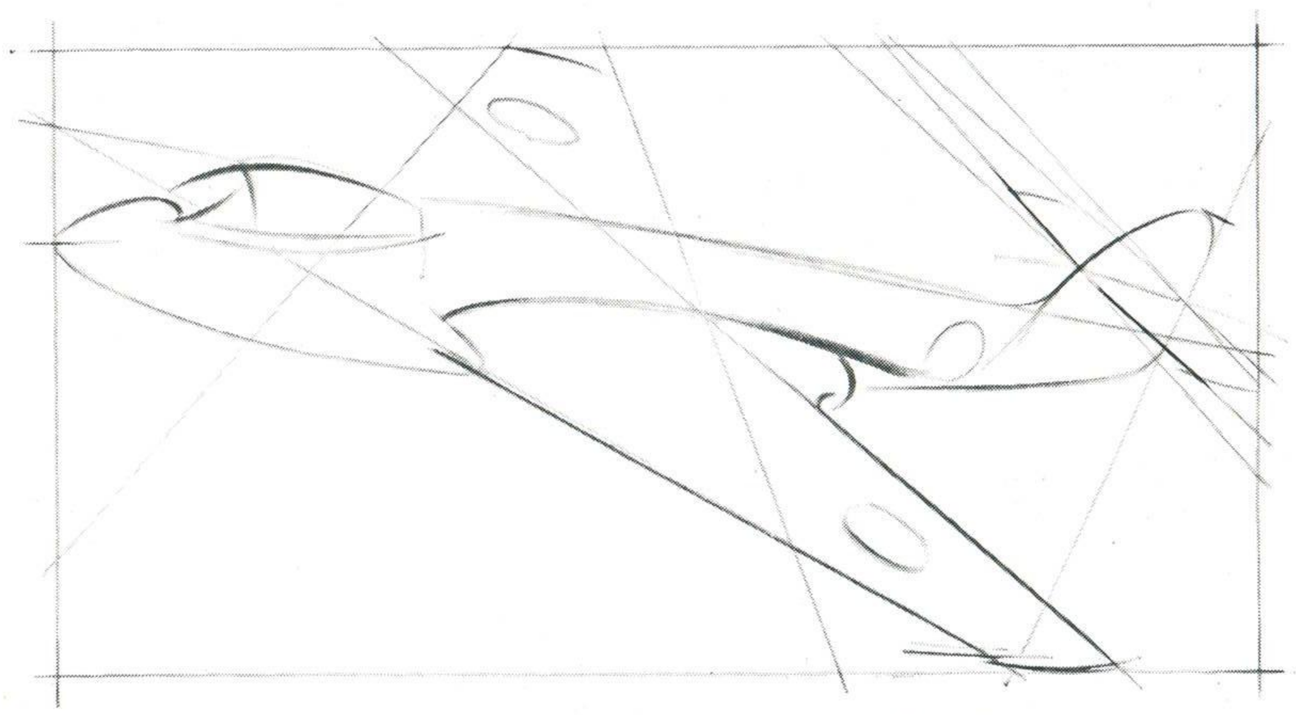
The first step is to square-up the photograph by drawing on it lines that just touch the extremities of the aircraft. It is essential that these lines form a rectangle with 90° at each corner. Having done this, enlarge the rectangle to any proportion suitable on your drawing paper. You can do this with a pair of dividers; if you haven't any then I suggest you mark off the sizes along the straight edge of a piece of paper and transfer accordingly. I have made my illustration exactly twice the size of the photograph.

When you have reproduced the proportion of the squared-up shape of the photograph the next step is to carry through all main lines on the photograph of the aircraft until they cut the borders of the rectangle. The intersections of these lines with the rectangle should be measured off and transferred proportionately to your drawing. It should be quite clear now that all that remains to do is to develop the true shape of the aircraft from these lines which form the main structure. Certain curves will look after themselves if you watch the way they intersect other lines. For instance the curved underside of the fuselage on the Hawker P.1052 in my illustration is clearly determined at points A, B, C, D, E, which a little freehand work will connect into the required curve.

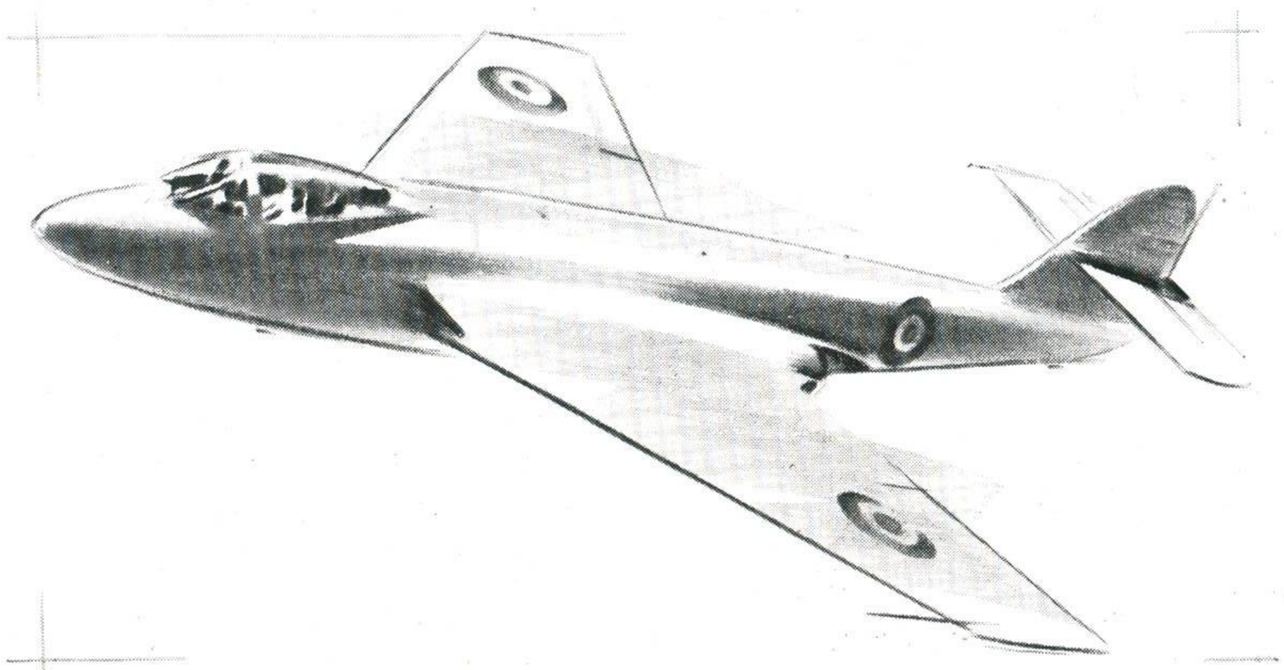
Clean up the drawing by removing surplus lines and apply some tone to give a feeling of solidity and form.



Scale-up the squared shape to size required and mark off main lines proportionately.



Complete with free-hand delineation of outline.



Add tones to give feeling of solidity and form.

ADVANCED SPOTTING

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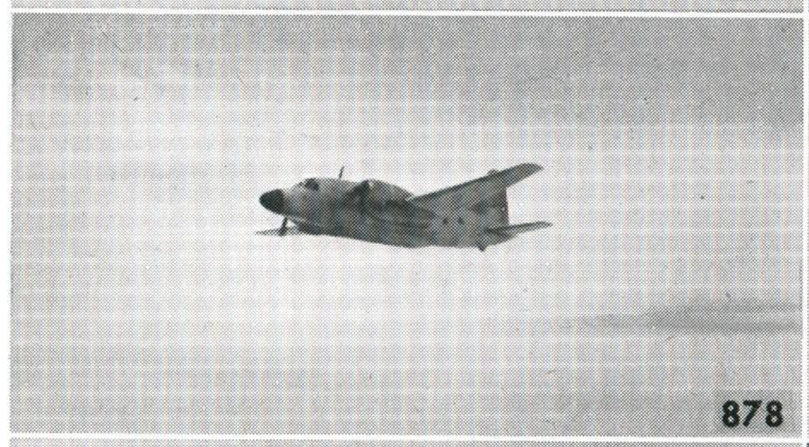
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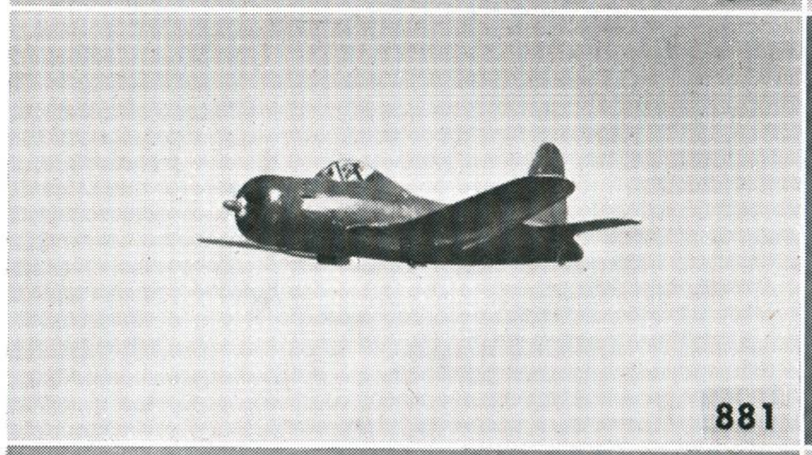
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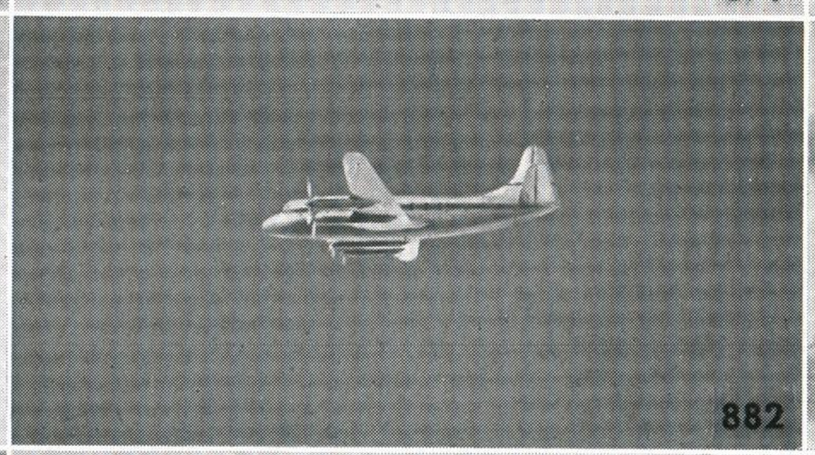
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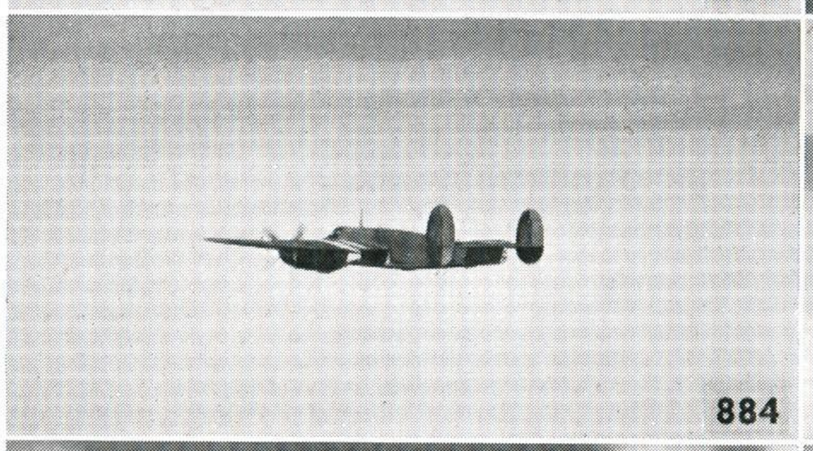
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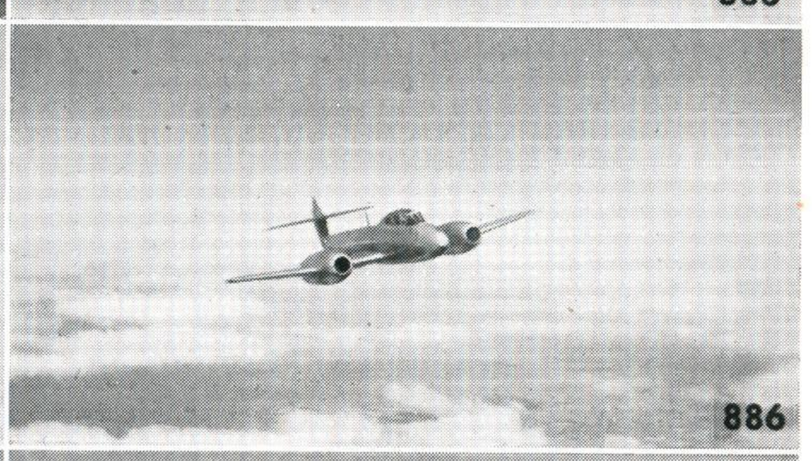
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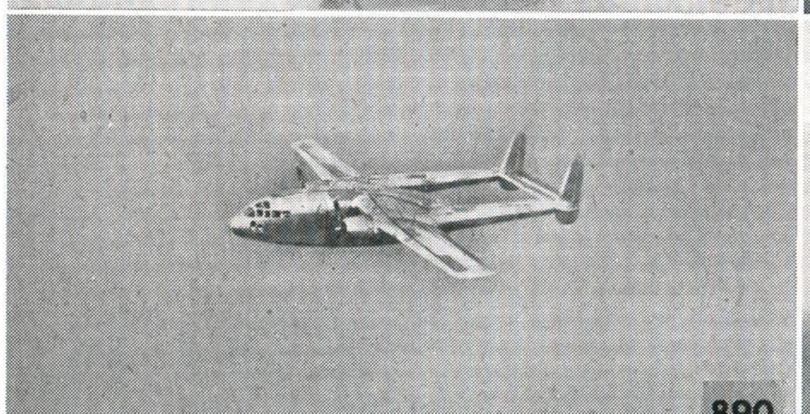
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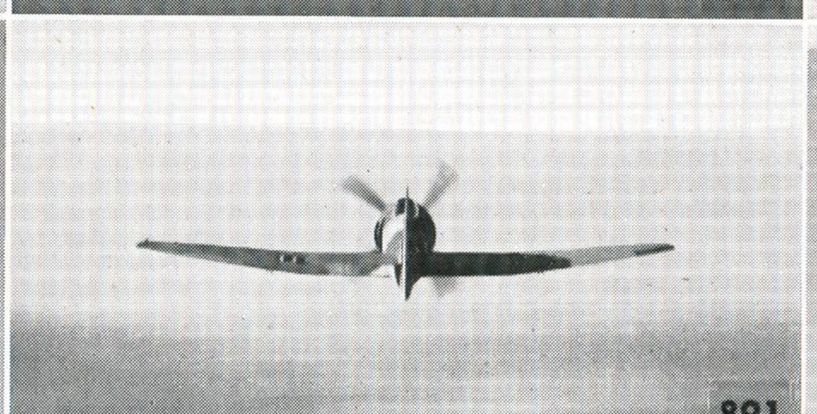
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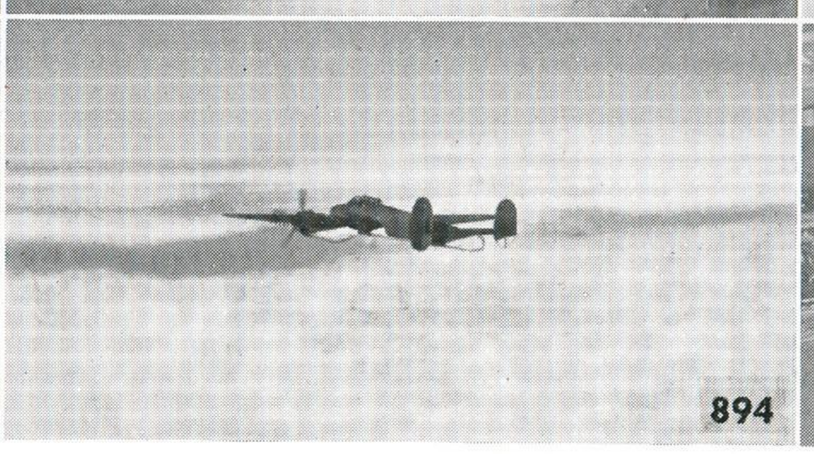
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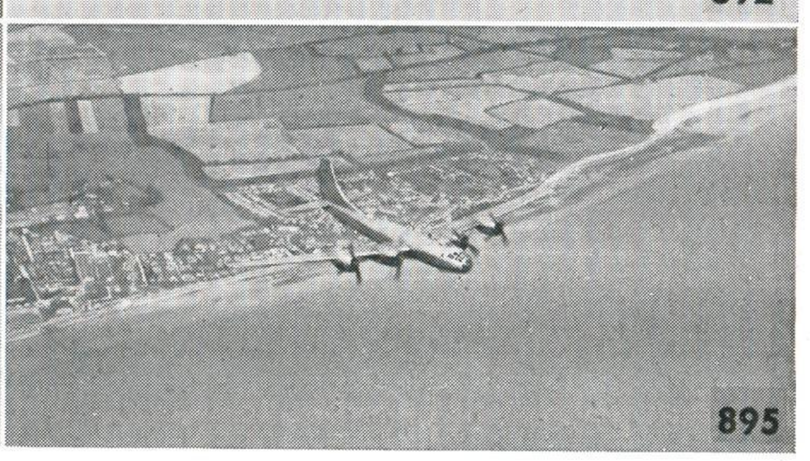
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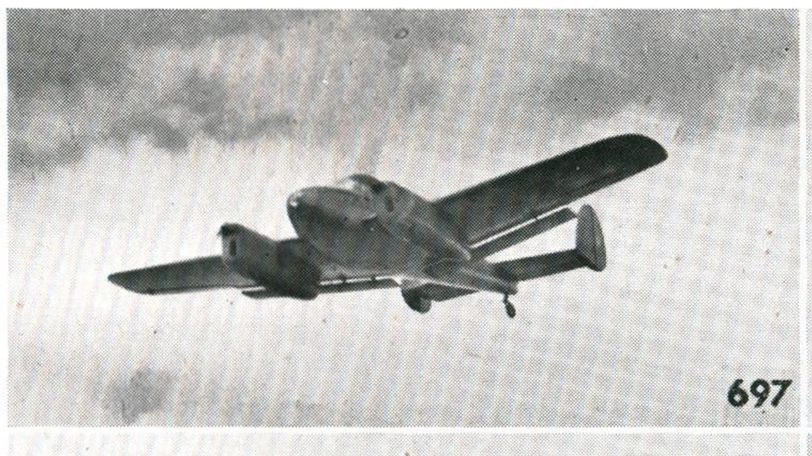
ELEMENTARY SPOTTING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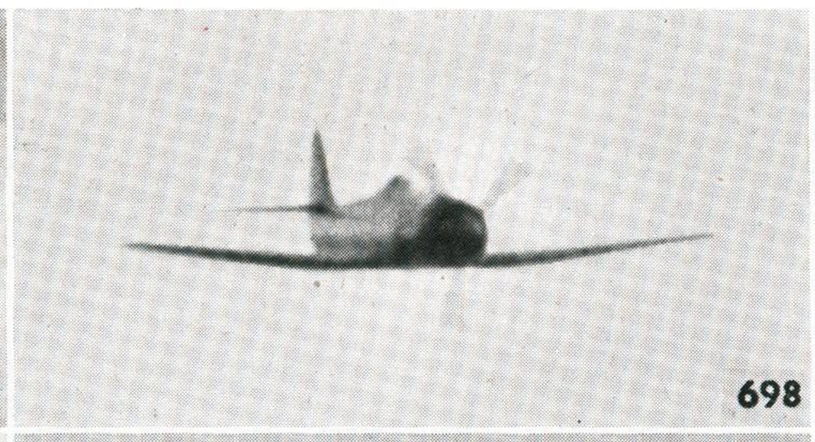
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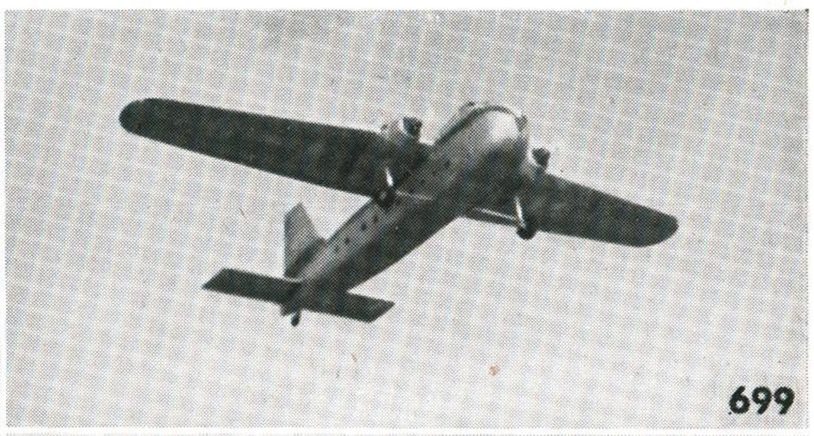
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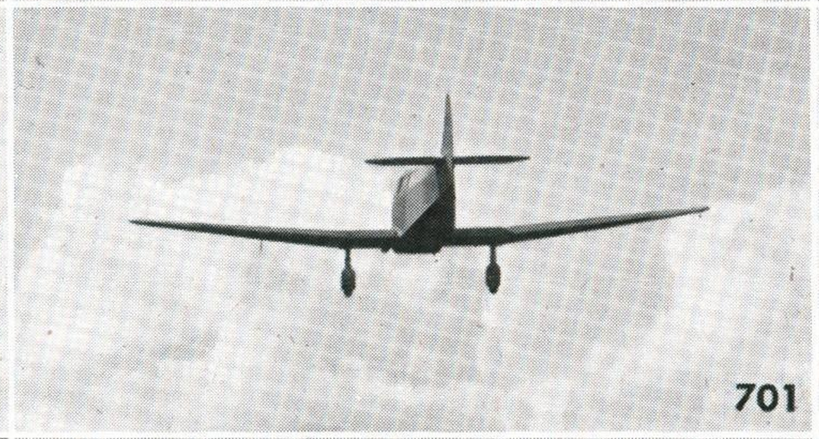
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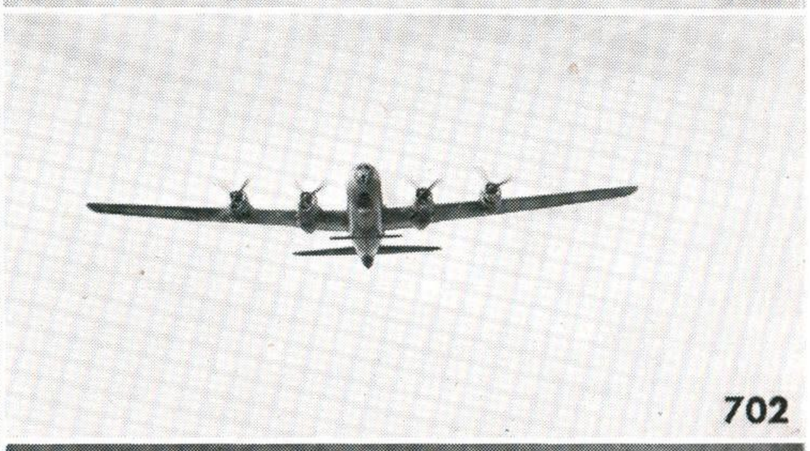
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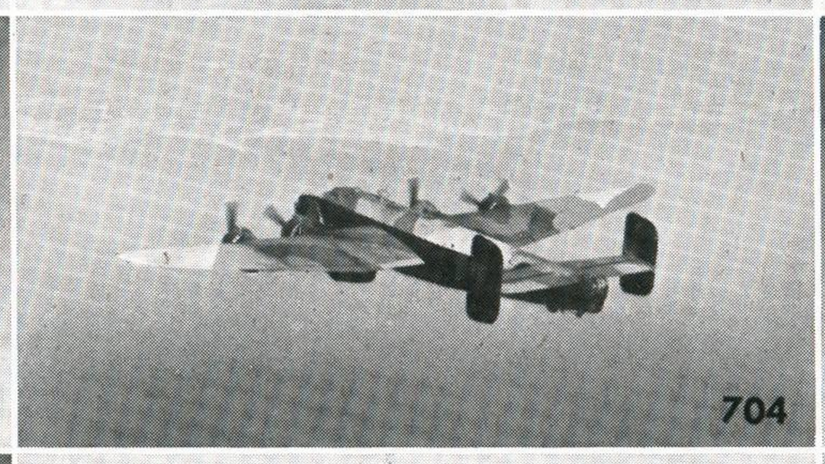
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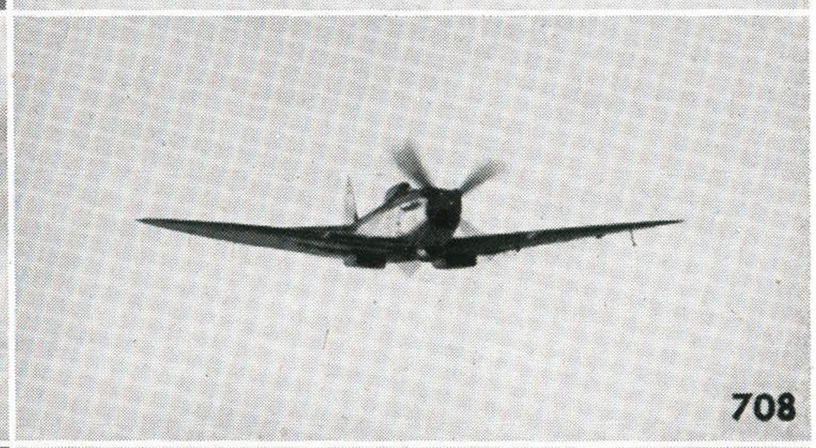
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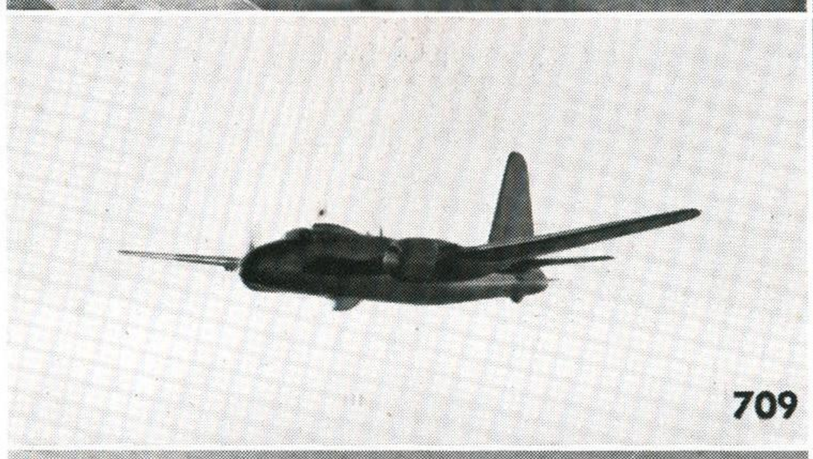
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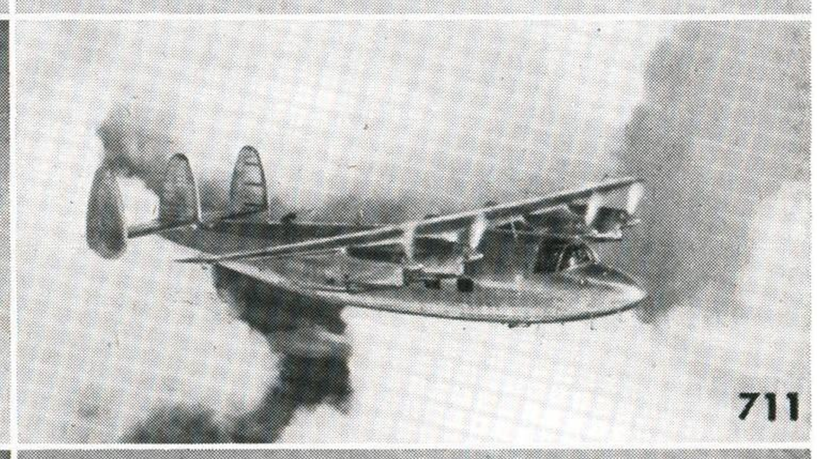
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IN PASSING . . .

Britain's Spotting Possibles

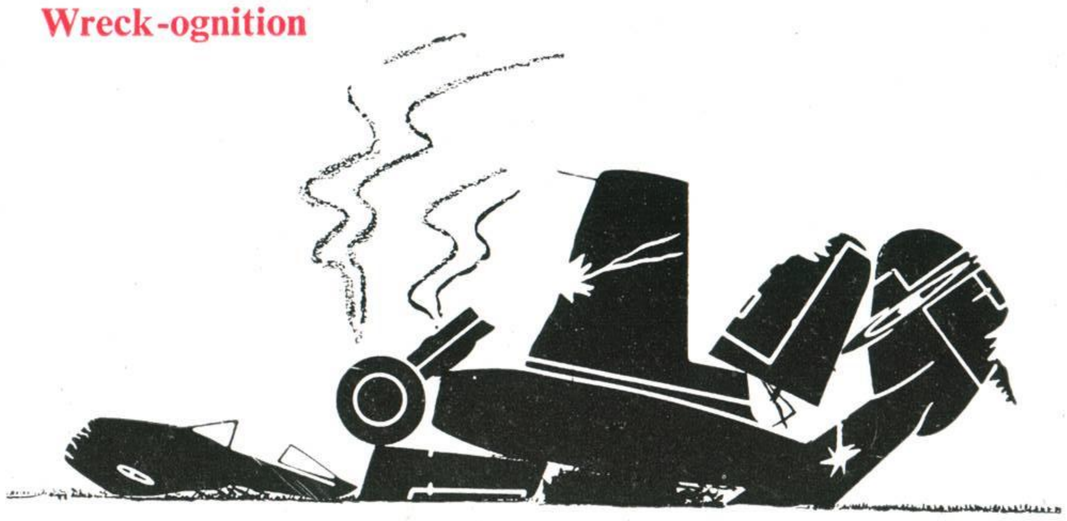
THIS long list of aeroplanes has been compiled from the extracts from readers' spotting logs sent to us in response to our mention of them in the July edition. Log extracts have reached us from observers as far apart as Perth, London, Dover, and Exeter. The list is useful as a guide as to what types will provide us with our daily spotting practice in Great Britain. Unfortunately for the rest, the southern half of the Country has the more intense air traffic, and of that part the South Eastern quarter is easily the busiest.

This list results mainly from ordinary everyday dash-to-the-window spotting and not from special visits to airfields or to displays such as that held at Farnborough by the Society of British Aircraft Constructors in September. It is far from exhaustive and if readers can add further types to it, we invite them to send us particulars.

Meantime we wish to thank all those who have sent any extracts of their spotting logs and hope that they will continue to keep them going and that many others will join in this excellent way of keeping a keen edge on spotting ability.

Aeronca
Aerovan
Ambassador
Anson
Argus
Athena
Auster
Avenger
B.A.Swallow
Barracuda 5
Beaufighter
Brigand
Buckmaster
Canadair DC 4M
Canberra
Comet
Constellation
Consul
Convair-Liner
Cygnet
Dakota
D.C.6
Dominie
Dove
Ercoupe
Expeditor
Firebrand 5
Firefly 1, 4, and 5
Fox Moth
Gemini
Globemaster
Goëland
Hadrian
Halifax 9
Harvard
Hastings 1
Hawker P.1052
Hermes 4
Hornet
Hornet Moth
Horsa
Hoverfly
IL-12
Lancaster
Lancaster (Python)
Lancastrian
Lancastrian (Avon)
Languedoc
Lincoln
Lockheed 12
Magister
Marathon (Mamba)
Martinet
Me 108
Mercator
Merganser
Messenger
Miles Falcon
Miles Monarch
Mitchell
Mosquito
Neptune
Newbury Eon
Norecrin
Oxford
Packet
Piper Cub
Prentice
Prince
Proctor
Puss Moth
Sandringham
Seafire 47
Sea Fury
Sea Hornet
Sikorsky S.51
Skymaster
SM.95
Shooting Star
Siebel 204
Solent
Spitfire
SR/A. 1
Stratocruiser
Sunderland
Super Ace
Superfortress
Tempest
Tiger Moth
Tudor 2
Vampire 1 and 3
Viking
Viscount
Wayfarer
Wellington
Wyvern 2
York

Wreck-ognition



(Answer on rear cover).

Aerogram

Remote (Answer on rear cover).

Flash Trainer Mods

DURING the War, some flash trainers were purchased from America and distributed throughout the R.A.F. These are known as Flash Trainer Mk.1 (Stores Reference 114C/2), and they used transparencies mounted in cardboard frames for projection,

A British Flash Trainer Mk.2 (Stores Reference 14C/4544), has now been produced and distributed. This trainer uses unmounted 35mm. transparencies for projection, the transparencies being placed between two pieces of glass in a metal film-holder.

In order to modify the American Mk.1 Trainer, to take the unmounted transparencies produced for the Mk.2 Trainer, the following items have been provided.

(a) 14C/4620 Slide Carrier Mk.2;

(b) 14C/4635 Slide Carrier Mounting Mk. 2;

(c) 14C/4619 Metal Film (Transparency) holder.

Items (a) and (b) should be demanded to the scale of one each per Mk.1 Flash Trainer and Item (c) to the scale of 48 per Mk.1 Flash Trainer.

To modify the Mk.1 Flash Trainer, remove the push-pull carrier complete with mounting and insert items (a) and (b) above by unscrewing the knurled knob at one end of the carrier and replacing it when the carrier and mounting are in position.

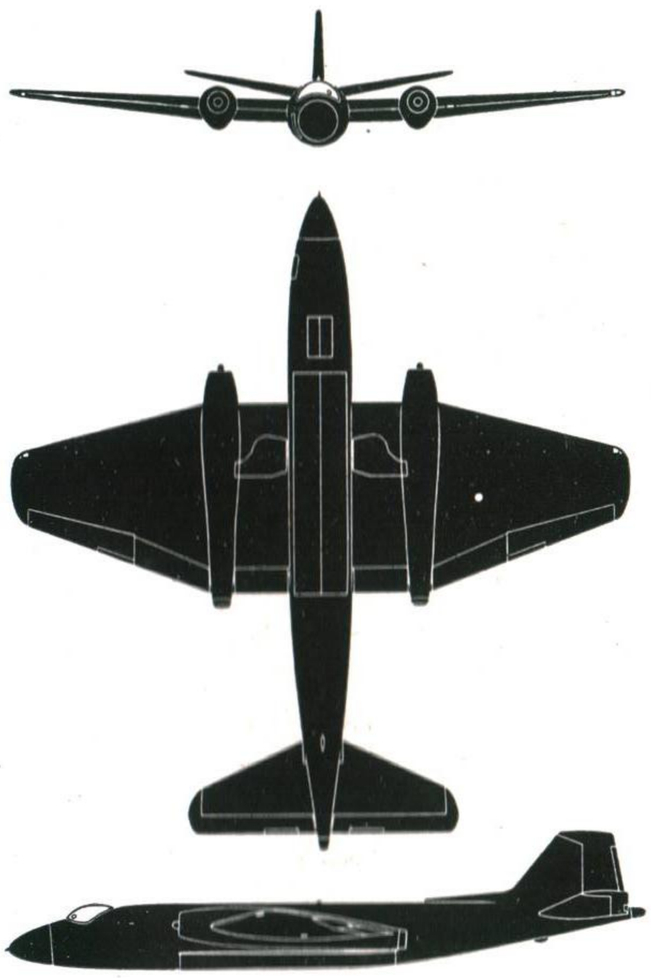
Trainers so modified are to be marked by a spot of white enamel, $\frac{1}{4}$" in diameter, painted on the lamp-house below the manufacturer's identity plate.

Made to Measure

WE are often asked how it is that we always manage to get all the text and all the pictures arranged so that they just fit into the pages. Well, it is perfectly simple ; we just measure up the space available and subtract so much space for pictures. Then work out how many words will go into the space left over. We then write the required number of words and send them off to the printer. In a few days he sends back our words set up in type and all we do is

SILHOUETTES — JET TRIO

CANBERRA B Mk.1



British Bomber

Engines : Two R.-R. Avon turbojets

Span : 64 ft. Length : 65 ft. 6 ins.

Recognition Points :

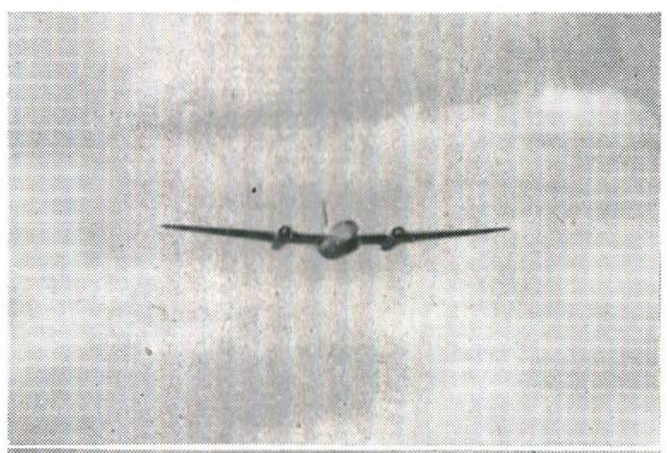
Wings : Mid-set, shallow dihedral, wide chord centre-section, marked taper on outer panels, broadly, an elongated hexagon.

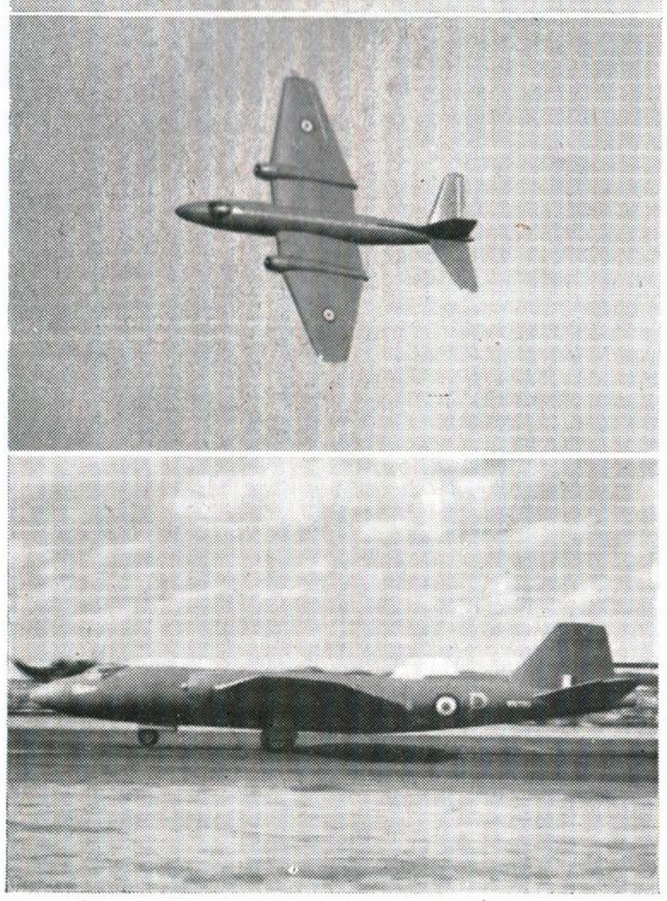
Engines : centrally-mounted close inboard, long slender nacelles little longer than wing-chord.

Fuselage : cylindrical, long drooping pointed nose, upswept tail-cone.

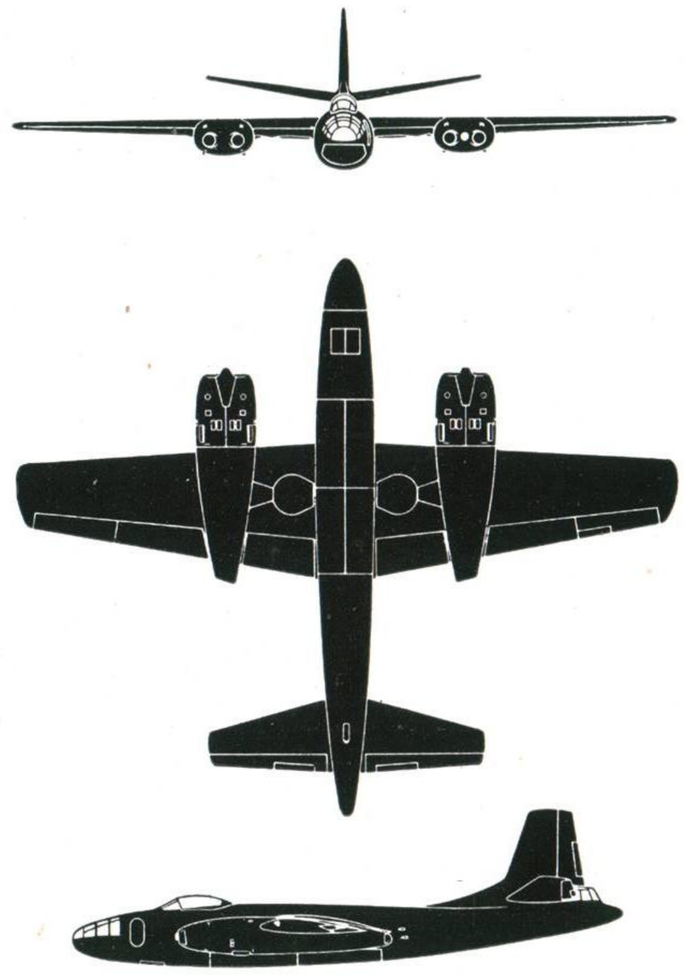
Tail Unit : fin and rudder: squat, sawn-off, tapered back. Tailplane : broad triangle, with straight trailing edge, marked dihedral angle.

Detail : large " bubble " cockpit canopy on nose, tail bumper under fuselage, fuselage tail-cone extends slightly beyond tail unit.





B-45A TORNADO



American Light Bomber

Engines : Four TG-190 turbojets

Span : 89 ft. 6 ins. Length : 74 ft.

Recognition Points :

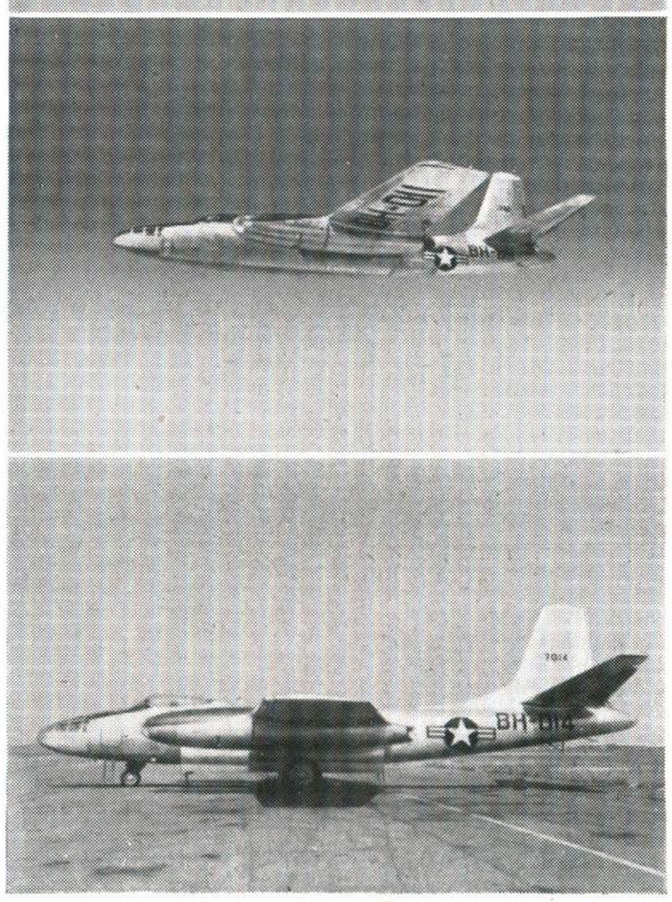
Wings : High mid-set, drooping aspect, straight taper in plan view more marked on trailing edge, blunt tips.

Engines : underslung, twin-jet pods set well out on wing forming large "twin cigar" nacelles.

Fuselage : cigar-shaped, up-swept tail cone.

Tail Unit : tailplane high on fuselage, straight taper in plan more marked on leading edge, marked dihedral ; tall square cut single fin and rudder with curved fairing to fuselage.

Detail : " bubble " cockpit canopy forward of wing, transparent upper nose, tail-gun position at base of rudder, fuselage tail-cone projects well beyond tail unit.



METEOR T Mk.7

British Trainer

Engines : Two R.-R. Derwent turbojets

Span : 37 ft. 2 ins. Length : 43 ft. 6 ins.

Recognition Points :

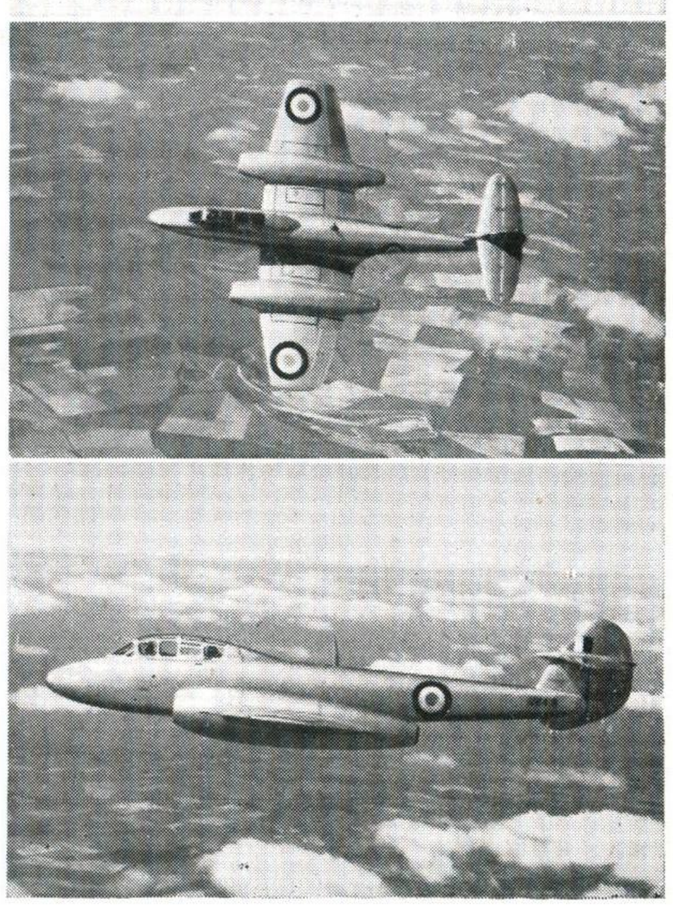
Wings : Low-set, dihedral on short outer panels, slight equi-taper on outer panel edges, blunt tips.

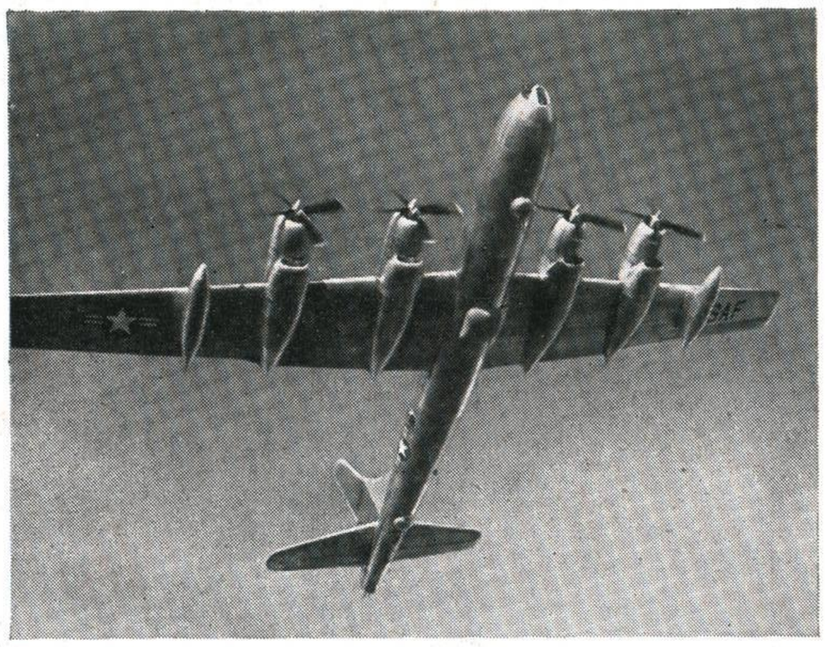
Engines : centrally mounted. large streamlined nacelles protruding fore and aft of wing.

Fuselage : "stirrup" section, slender, long pointed nose.

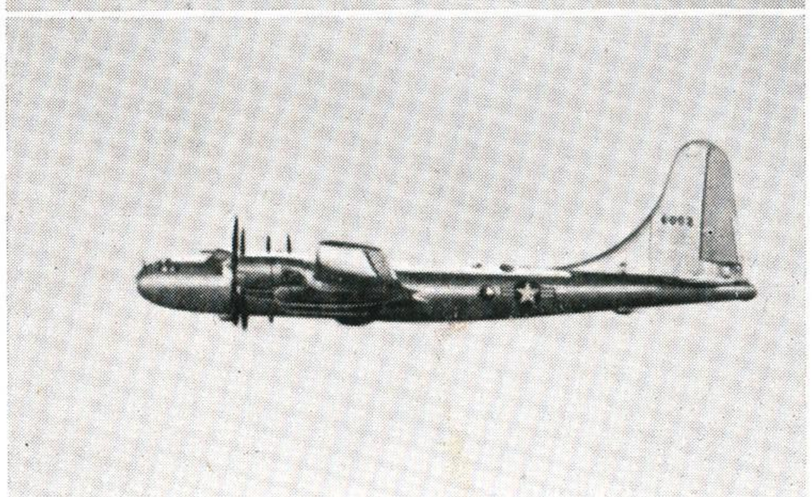
Tail Unit : " cross-tree " type, tailplane equi-tapered, rounded tips ; rounded fin and rudder with streamlined fairing projecting ahead of leading edges, small under-fin.

Detail : long glass cockpit canopy set forward on fuselage ; radio mast half way along fuselage.





Cover Photo. Boeing B-50 D fitted with long-range tanks. Other views of the B-50 appear below.



SOLUTIONS TO RECOGNITION TESTS IN THIS EDITION:

ELEMENTARY

697. Gemini
698. Sea Fury F Mk.10
699. Freighter Mk.21E
700. Meteor F Mk.4
701. Proctor T Mk.4
702. B-29 Superfortress
703. C-47 Dakota
704. Halifax A Mk.9
705. Prentice T Mk.1
706. Hermes Mk.4 (P)
707. Hastings C Mk.1
708. Seafire F Mk.17
709. P2V-2 Neptune
710. Barracuda TB/R Mk.5
711. Marathon Mk.1
712. Chipmunk T Mk.10
713. Attacker (P)
714. Ambassador (P)
715. Seagull ASR Mk.1
716. Anson Mk.19
717. Dove

ADVANCED

875. Athena T Mk.1 (P)
876. Mosquito T Mk.3
877. Harvard T Mk.2
878. Varsity T Mk.1 (P)
879. SR/A1
880. B-47 Stratojet
881. FR-1 Fireball
882. Viscount
883. Sea Hornet NF Mk.21
884. Buckmaster T Mk.1
885. Proctor T Mk.4
886. Meteor T Mk.7
887. York C Mk.1
888. Sikorsky S-51
889. Hastings C Mk.1
890. C-119 Packet
891. Tempest FB Mk.2
892. Marathon 2 (P)
893. FJ-1 Fury
894. Brigand TB Mk.1
895. B-29 Superfortress

SILLOGRAPHS

629. Horsa 2
630. F6F Hellcat
631. A.W.52
632. Barracuda TBR Mk.5
633. York C Mk.1
634. TBM-3 Avenger
635. Sea Hornet PR Mk.22
636. F2H Banshee
637. Constitution
638. Sea Hornet NF Mk.21
639. B-29 Superfortress
640. Spitfire PR Mk.19
641. Seafire F Mk.17
642. Sunderland GR. Mk.5
643. Meteor F Mk.4
644. F9F Panther
645. Ambassador
646. P.1052
647. F-84 Thunderjet
648. F-82 Twin Mustang
649. Convair-Liner

WRECK-OGNITION

METEOR 4

AEROGRAM

REMOTE = METEOR

TRICKY TRIO

Left to right: Boeing B-29 ; Convair B-36 ; Boeing B-50

What's the Difference? B-29 B-50

B-50, B-50, B-29, B-29, B-50, B-29, B-29, B-50, B-29, B-29, B-50 and B-50

R.O.C. Gazette—Airborne Headaches

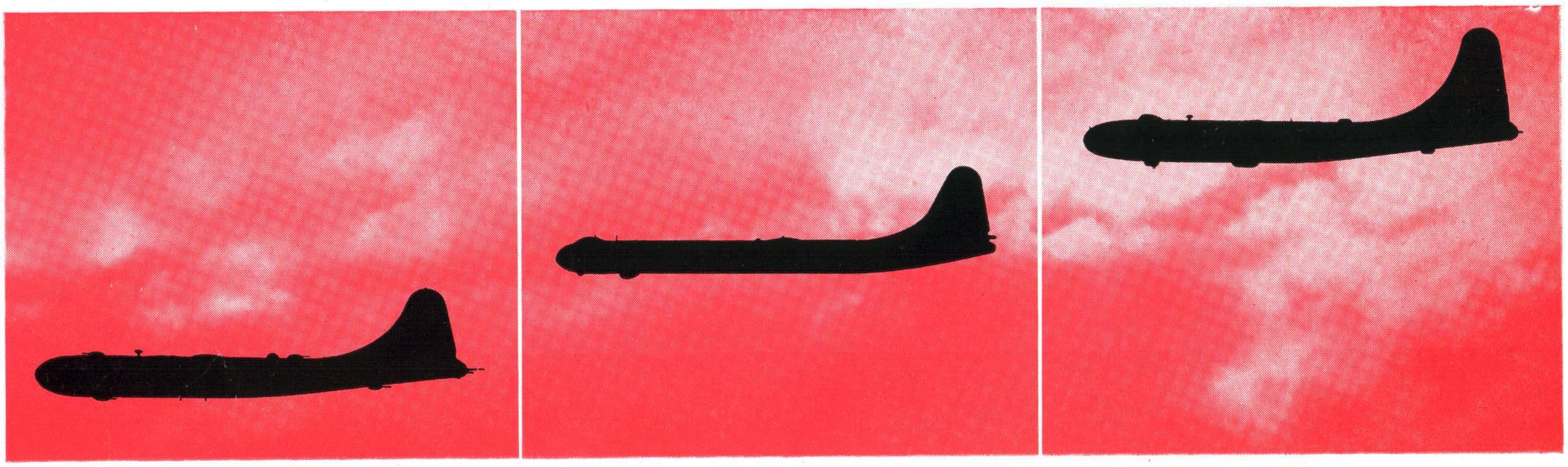
Airborne Headaches No 12 contains aircraft not included in the current intermediate R.O.C. training list. This is due to a misunderstanding in the Editorial Office. We are informed, however, that as so many all-correct solutions to this test have been reaching Headquarters, it may not be such a bad thing after all; and many observers will welcome an opportunity to try their hands—and eyes—on some different aircraft. The next edition of Airborne Headaches will revert to selections from the current training list.

Addition to November Journal

The names of the aircraft illustrated under the title "Get into Line!" were omitted. They were, in sequence: head-on views of nose of Sea Fury; side-views of Seafire 47; side-views of F-80 and Attacker.

Vickers Armstrongs 510 alighting.

TRICKY TRIO



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