THE INTER SERVICES

AIRCRAFT RECOGNITION

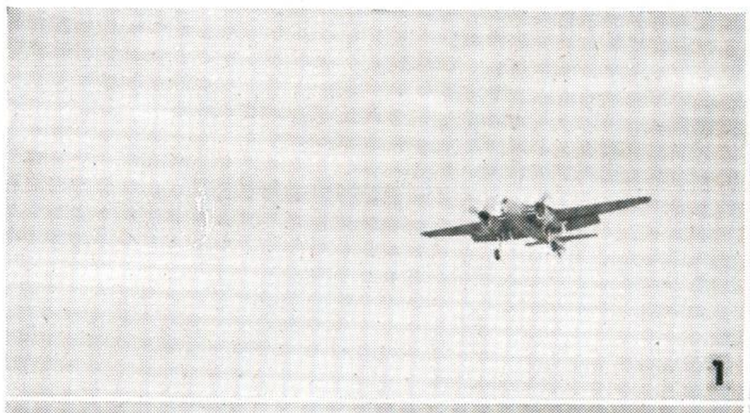
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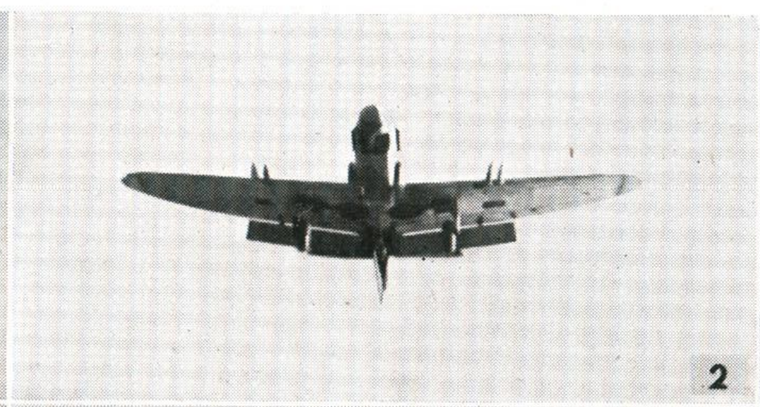


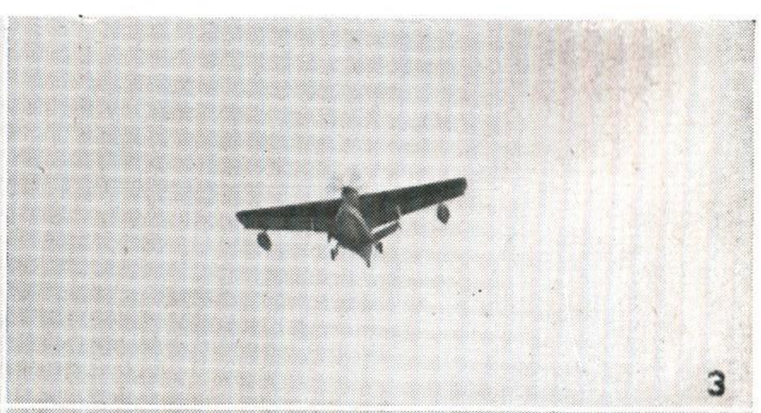
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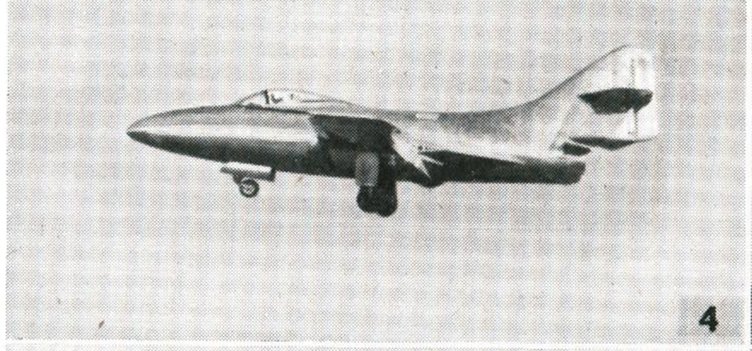
WHEELS DOWN !

Wheels, flaps, hooks, and other " gubbinses " are fitted to comply with the law " What goes up, must come down." They are not aids to recognition or beauty, they are simply aids to landing. To the inexperienced spotter the " tangle " of landing gear may disguise an aeroplane, but having reached the right stage of familiarity with your aeroplanes there should be no difficulty in recognizing them, wheels up or down. In any case wheels-down implies slow flying and thus more chance of recognizing. The occasions when aeroplanes must be recognized with wheels down are not infrequent, particularly for control staffs, observers (R.O.C.) near airfields, and aboard aircraft carriers. See what you can make of these. (Solution on the rear cover.)


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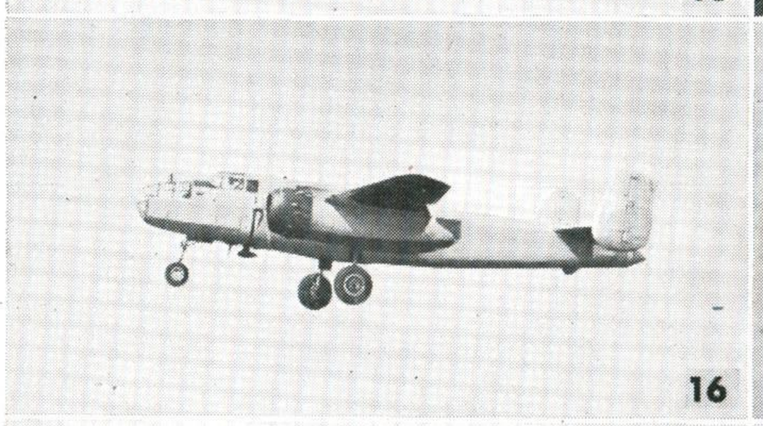

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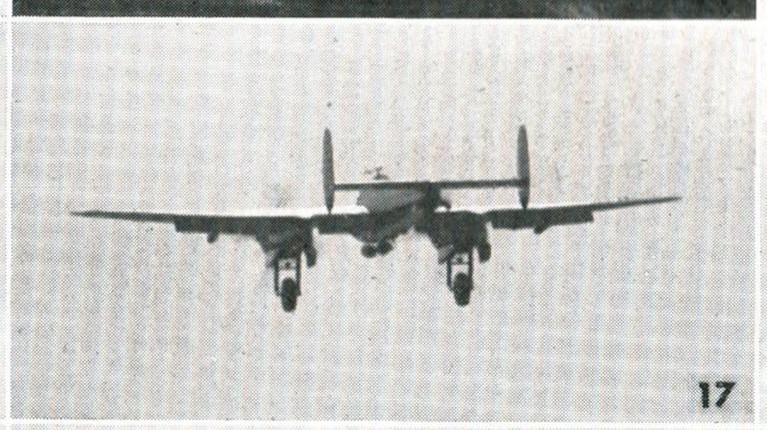

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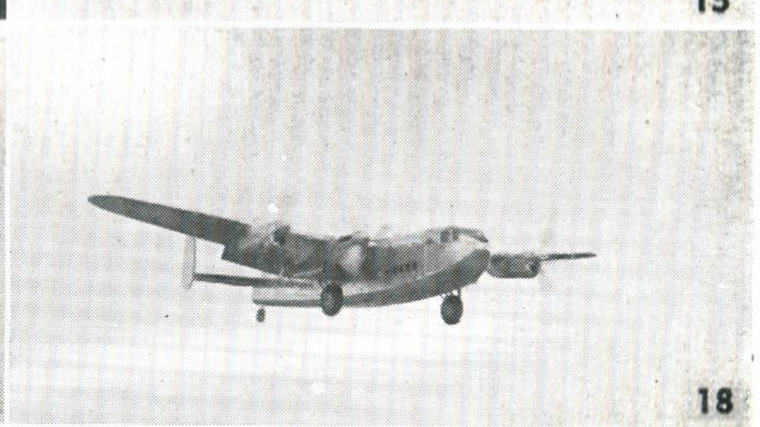

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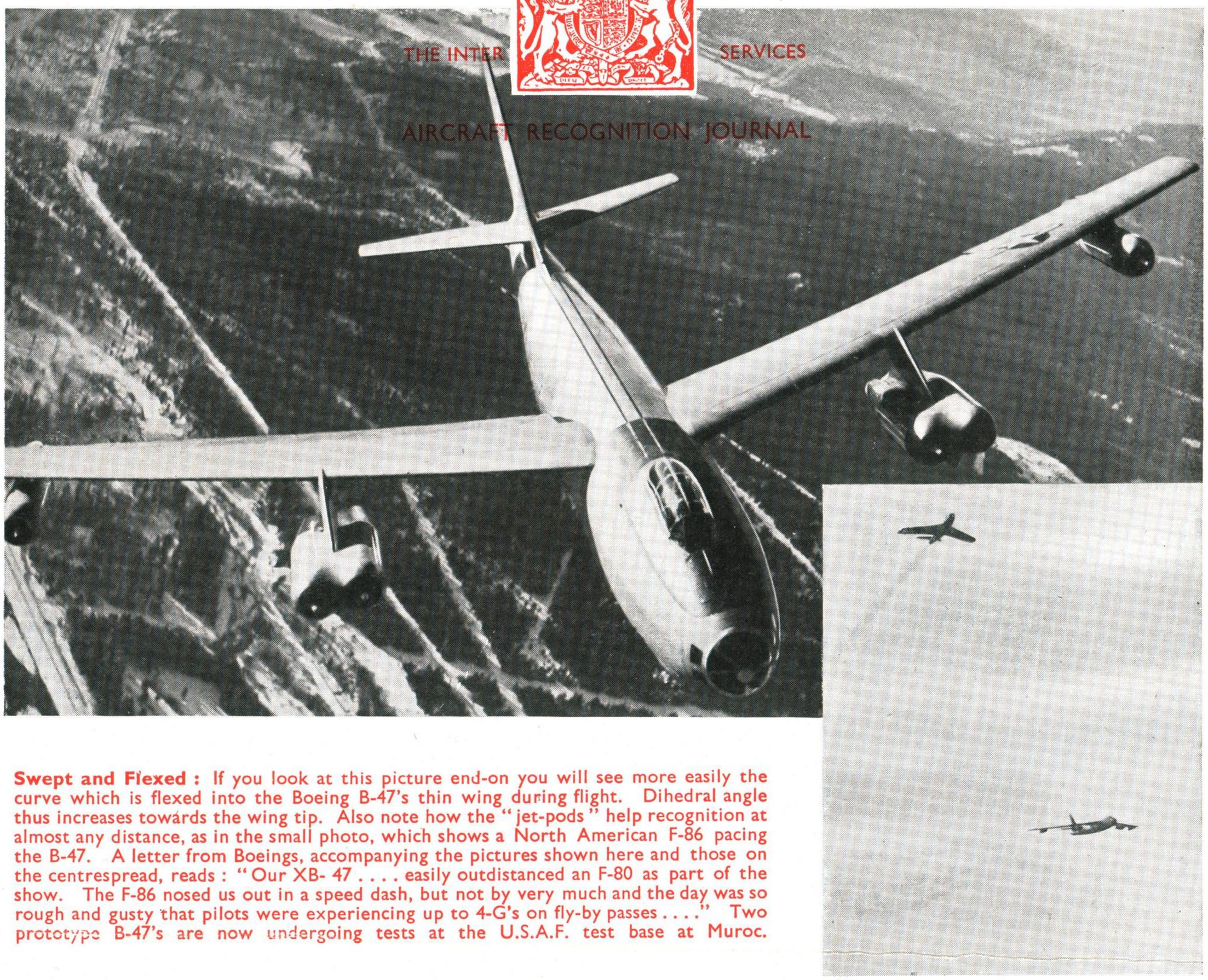

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THE INTER SERVICES
AIRCRAFT RECOGNITION JOURNAL



Swept and Flexed : If you look at this picture end-on you will see more easily the curve which is flexed into the Boeing B-47's thin wing during flight. Dihedral angle thus increases towards the wing tip. Also note how the "jet-pods" help recognition at almost any distance, as in the small photo, which shows a North American F-86 pacing the B-47. A letter from Boeings, accompanying the pictures shown here and those on the centrespread, reads : "Our XB- 47 . . . . easily outdistanced an F-80 as part of the show. The F-86 nosed us out in a speed dash, but not by very much and the day was so rough and gusty that pilots were experiencing up to 4-G's on fly-by passes . . . ." Two prototype B-47's are now undergoing tests at the U.S.A.F. test base at Muroc.

ANY IDEAS?

IT is a very good thing really that one man's meat is another man's poison, as someone once said, for if everyone always liked or loathed the same thing life would probably be much easier but much less interesting. Instead of one's wife having to rack her brains every day to think of how, and what, to prepare in the way of a dish which would be appreciated, she would be able to serve up the same stuff every day. It would save a lot of trouble but appetities would soon begin to disappear.

Now the same thing applies to reading. Tastes differ, what one person thinks good value another one considers useless and a waste of time. We get a great many letters from all sorts of people all over the world ; some are complimentary, some are not. We are frequently criticised and complimented over the same thing at the same time, though not, of course, by the same people. For example, an enthusiastic corporal of the Air Training Corps writes to us that the centre spread of the March, 1949, edition of the *Journal* is a complete waste of space. An enthusiastic member of the Royal Observer Corps writes to say it was " . . . just what we want." That particular case more or less balances out, as you can see, but this is not always so. We also get many requests—indeed, some take the form of demands while others often have the complexion of commands—for information on aeroplanes. We also get much information handed to us or thrust upon us. Our spelling is sometimes held up to ridicule and our grammar looked down upon. We are sometimes told we are completely out of date and the next letter states we are somebody's life-blood and " please keep up the good work". On the whole we feel we may be doing some good, but we think we could do more by airing some of your current problems and their solutions, which occur in teaching and learning aircraft recognition today.

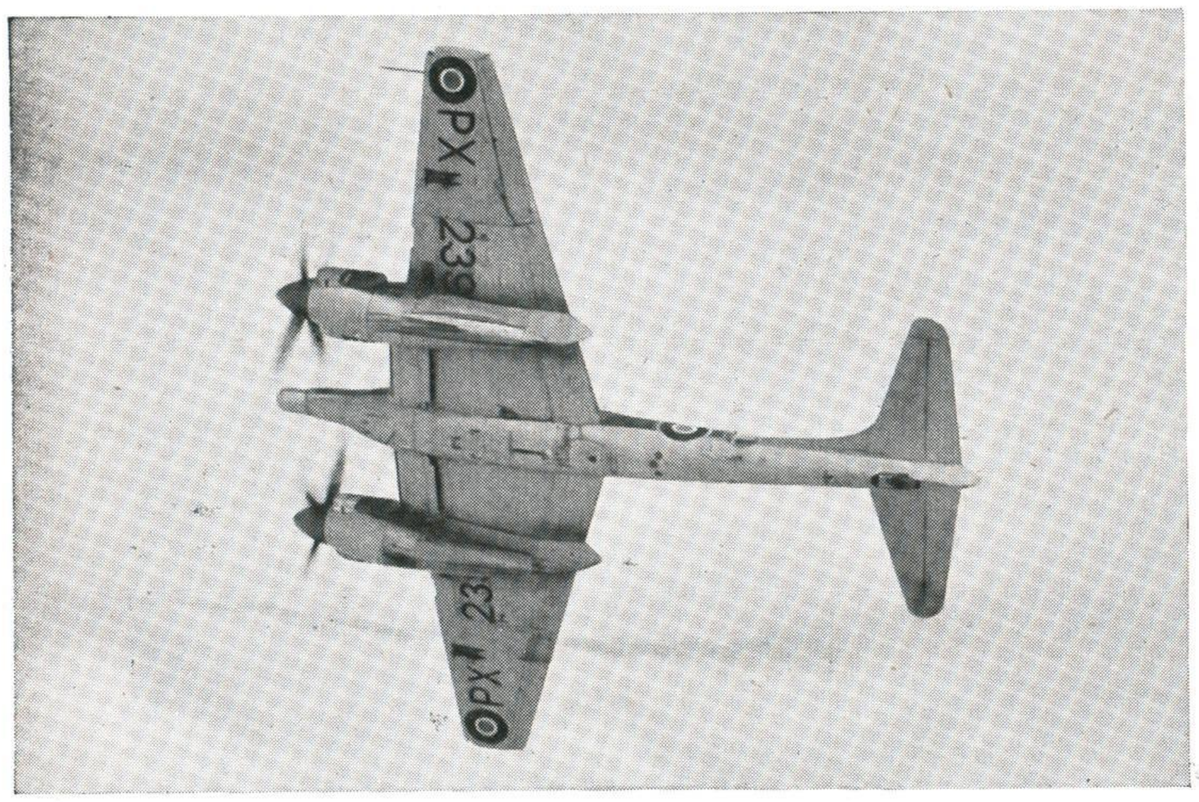
There are people all over the world who, through their enthusiasm, are continually finding and solving problems relating to the teaching of aircraft recognition. They remain unhonoured and unsung except in their own community, yet they do work of inestimable value and we feel that it would be a good thing to give publicity to some of their methods and thereby help others.

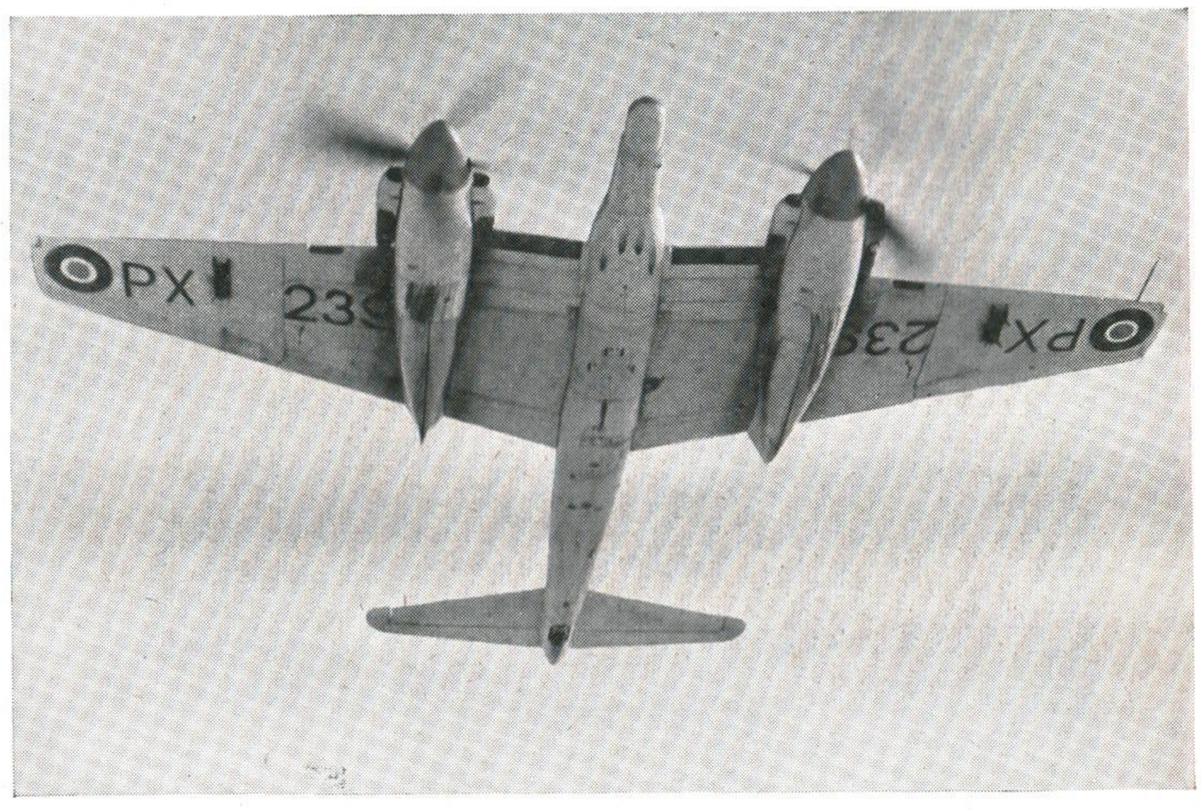
We want to hear from instructors. Will you write us a letter or article telling us what problems you have found and how you have overcome them? The prize will be the satisfaction of seeing in print what you have written. But don't leave it to the next person, have a crack at it yourself.

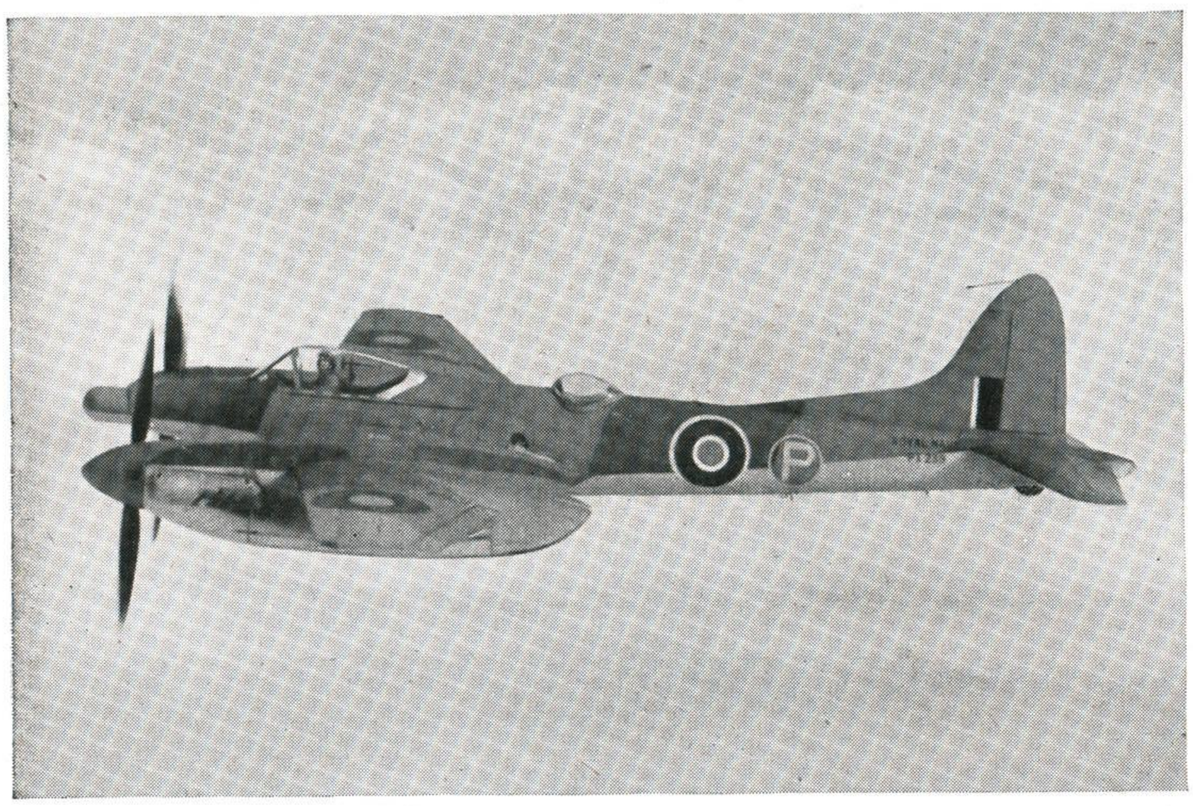
As to subject matter, the choice is as wide as the number of problems connected with teaching aircraft recognition, but one of the most important and urgent is that of " selling " aeroplanes to pupils. If you can write 500 or 1,000 words on how you " sell " a particular aeroplane we shall be very glad to use it. It is a strange thing that many people can write about the technicalities of aeroplanes, but few have attempted the job in the way which is of most interest to us, namely that of making aeroplanes easier to recognize by seeing something different about each one. There are a thousand and one different and ingenious ideas, tricks, hints and devices being put over by instructors daily to aid training in aircraft recognition. It is this sort of thing that we wish to hear about. Even if you can raise only 50 words, or an indifferent sketch of some particular aspect of some troublesome aeroplane, which you, personally, have found to be successful, let's hear about it.

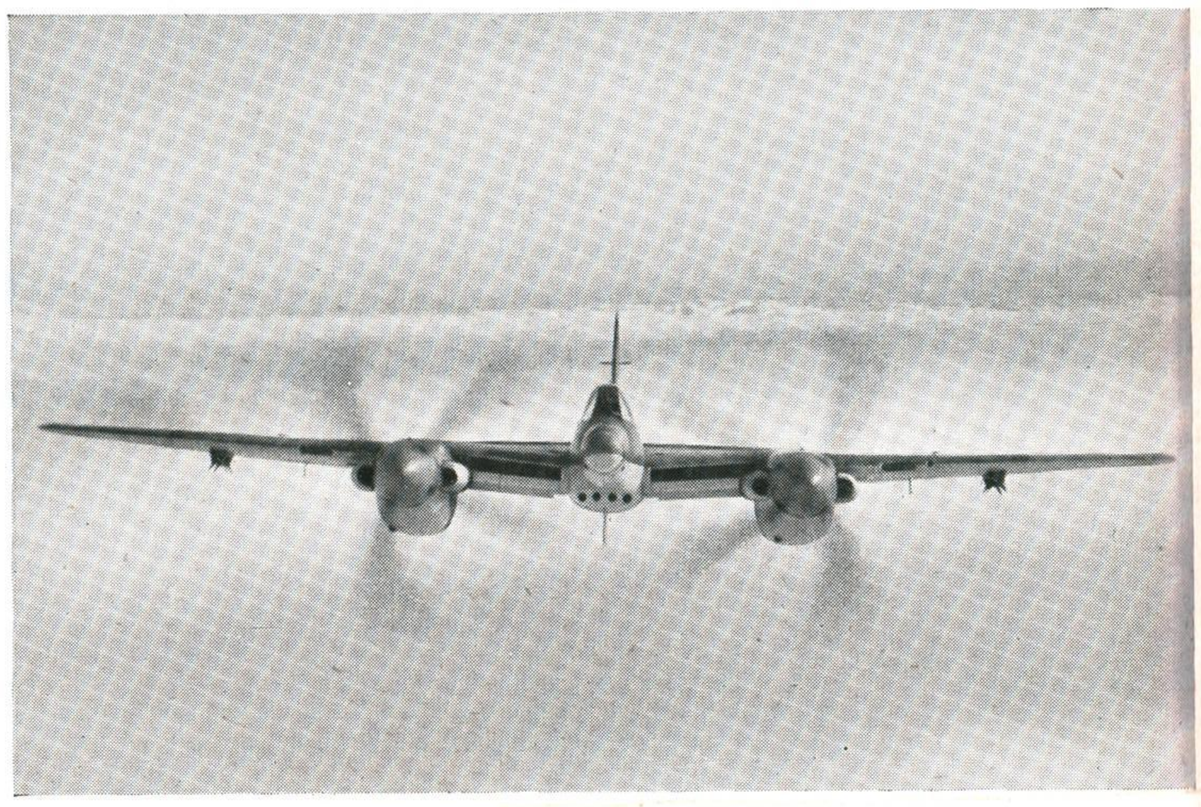
The same thing applies to any particular line of classroom technique you employ. In fact, we want to hear of any sort of activity by which you foster interest and teach people to recognize aeroplanes, however small and insignificant it may seem. We may be able to use it, or it may give us another idea. Ideas are like that.

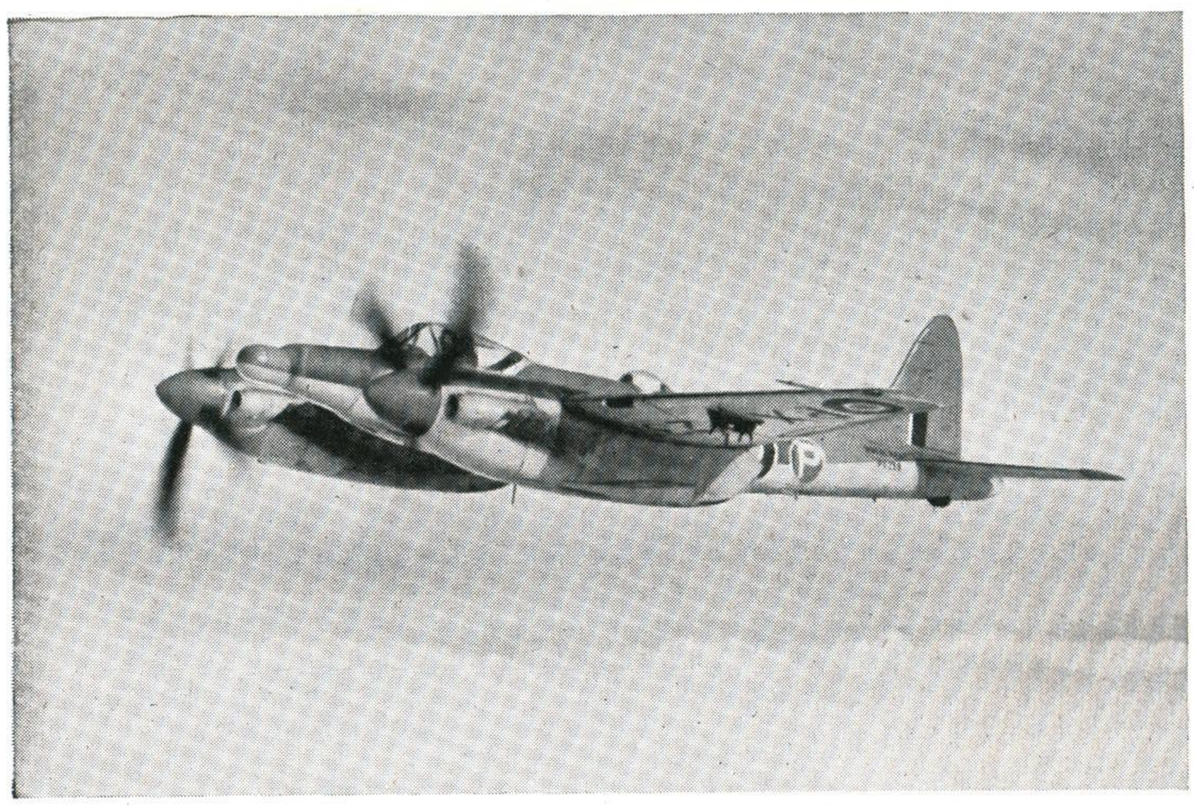
De Havilland Sea Hornet N.F. Mk.21

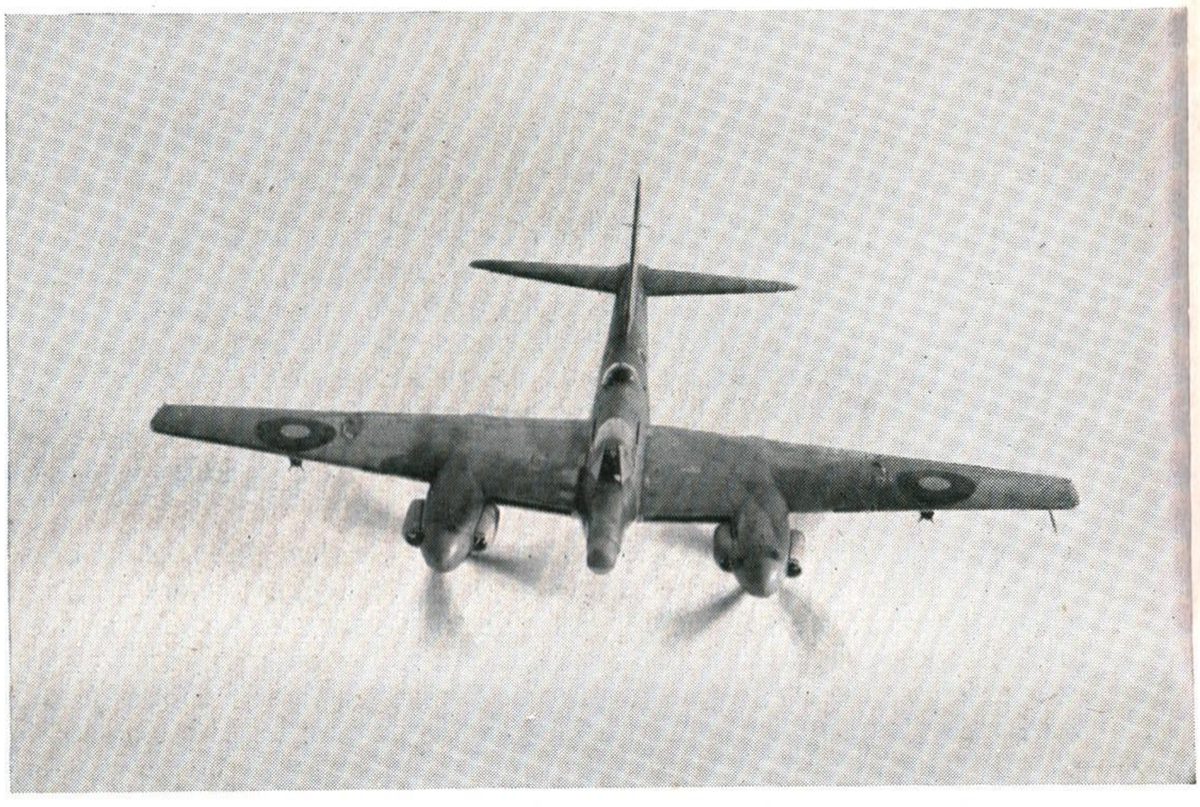








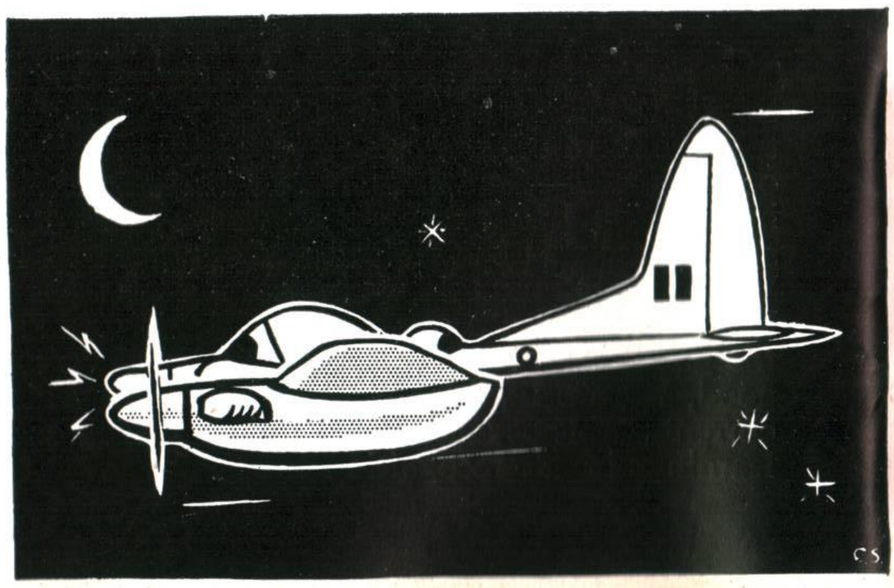




(2 Rolls-Royce Merlin 134 and 135 engines)

THIMBLE-NOSE. In keeping with custom, the Sea Hornet N.F. Mk. 21 has gained a certain amount of weight and drag since the prototype stage. It is still however, one of the fastest propeller driven aircraft in the world and its various adornments, detracting little from performance, aid recognition. Notice how the muff-type exhaust shields impart a bulbous appearance to the engines in some views ; how the fin fairing deepens the side view and gives the Hornet a tail-up aspect in flight ; how the wing radiators deepen the centre section in the head-on view ; and how the thimble-nose seems to turn the whole fuselage into a gin-bottle—rather a slim one it's true. But perhaps we had better not pursue that line. Our drawing sums up the Sea Hornet's main features.

Data :—Max Speed 470 m.p.h. (415 knots) : Span 45 ft. Length 38 ft. 4 ins. Armament : Four 20 mm. cannon beneath pilot.

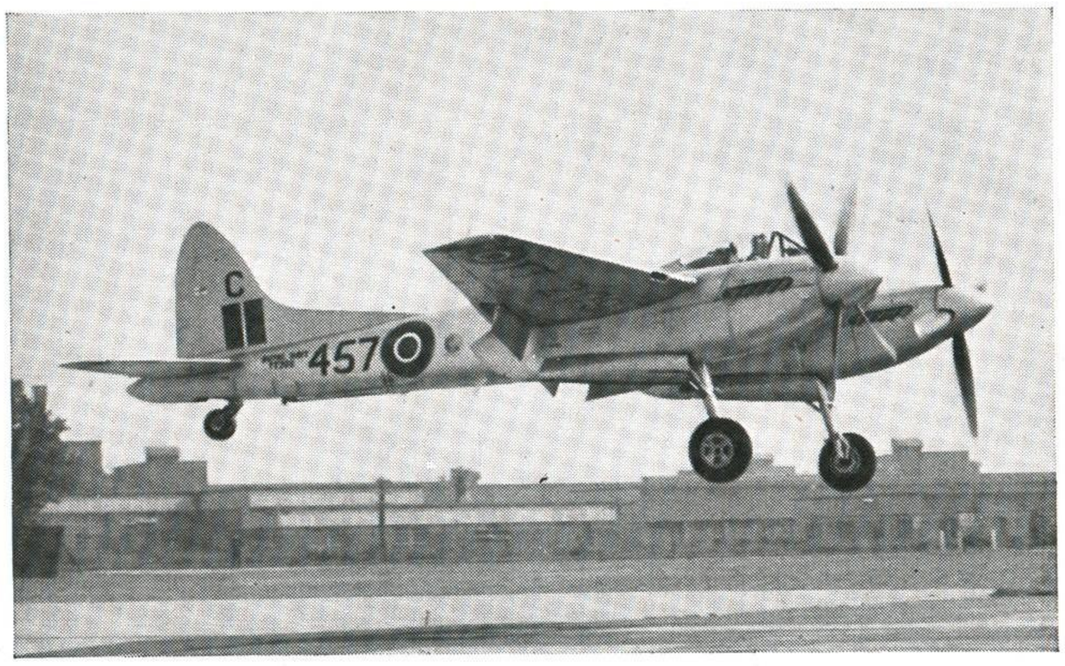


IN PASSING . . .

What's New ?

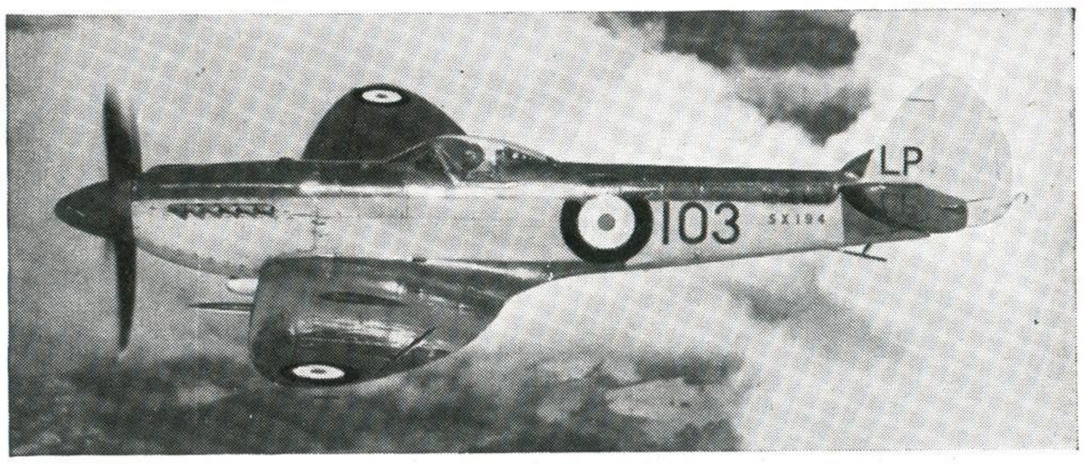
Britain is rightly called an aircraft carrier off the coast of Europe ; aircraft of all sorts, sizes, shapes and nations descend upon its green fields—and concrete runways—whilst others of domestic origin rise from them. New and rare types are seen and we recently received a note from an observer who keeps a daily log of his aircraft spotting, and amongst them he listed the following :—

Vickers Valetta, Portsmouth Aerocar, Fairchild C-82 Packet, Fairchild Argus (fancy that !), Lockheed P2V Neptune, a Westland Sikorski S-51 helicopter, a Boeing Stratocruiser, and a Martin P4M-1 Mercator. (We saw this too !—Ed.) Incidentally, many spotters in South East England are now getting daily experience of the new Convair Liners and the Avro Tudor 5s. K.L.M. (Royal Dutch Airlines) and S.A.B.E.N.A. (Belgian Airlines), both use the Convair-Liner regularly on their routes into " London " and Swissair use them into Northolt. The Avro Tudor 5s, on Airlift support services, are daily visitors to London.



Daily Spotting Logs

Keeping a log of aircraft sightings makes an excellent exercise if you have the odd minutes in the day in which to practice it : there is no better way of keeping in good spotting form. To add interest, and provide another useful exercise for observers (R.O.C.), the estimated height and heading of each aircraft can be recorded also. One keen observer, of 20 Group R.O.C., sighted the following aircraft in one day : four Oxfords, six Sea Mosquitos, four Firebrands, two Lancasters, two Ansons, one Sea Otter, one Harvard, one Sea Fury and one Lincoln. We should like to hear from other Service or R.O.C. personnel of similar interesting " bags " particularly of those displaying variety in types.



Aircraft operating from shore bases carry the following combinations of letters :—

AC Abbottsinch.	GJ Gosport.
AH Anthorne.	JA Stretton.
CH Culham	JB St. Merryn.
CW Culdrose	JR Eglington
DO Donibristle	LM Lossiemouth
FD Ford	LP Lee-on-Solent.
	VL Yeovilton.

Our illustrations show a De Havilland Sea Hornet (*photo by Harold Martin*) from H.M.S. *Implacable* and a Vickers Seafire 17 from Lee-on-Solent.



Wreck-Cognition

We recently saw a novel method of presenting a silhouette. Parts of the three-view silhouette are cut out and mounted on a card after the style shown here. Many ingenious " crashes " can be arranged by the enterprising instructor. We first saw the idea put over at a spotting session at the monthly meeting of the Aircraft Recognition Society in London. (This is a Russian-built B-29).

Naval Aircraft Fin-Letters

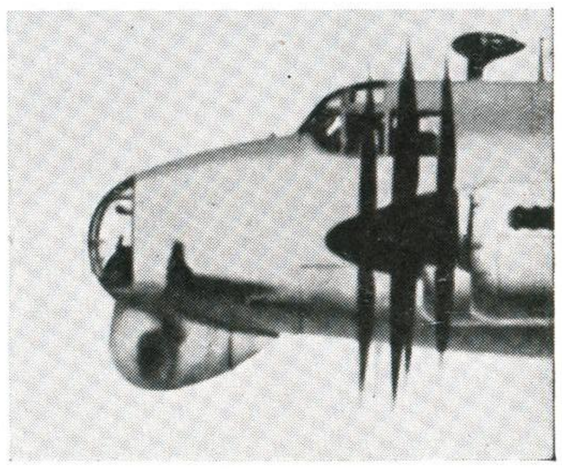
All British Naval aircraft carry a letter or letters (in some distinctive colour) on the fin. These denote the aircraft-carrier or air station to which the aircraft belongs. The undermentioned in a list of the letters worn by aircraft from carriers operated by the Royal Navy :—

A. H.M.S. *Indomitable*.	P. H.M.S. *Triumph*.
B. H.M.S. *Indefatigable*.	Q. H.M.S. *Vengeance*.
C. H.M.S. *Implacable*.	R. H.M.S. *Glory*.
D. H.M.S. *Illustrious*.	T. H.M.S. *Theseus*.
F. H.M.S. *Formidable*.	V. H.M.S. *Venerable*.
G. H.M.S. *Victorious*.	W. H.M.S. *Warrior*.
K. H.M.A.S. *Sydney* (Royal Australian Navy)	X. H.M.C.S. *Magnificent* (Royal Canadian Navy)
O. H.M.S. *Ocean*.	Y. H.M.S. *Unicorn*.

Let's Face It!

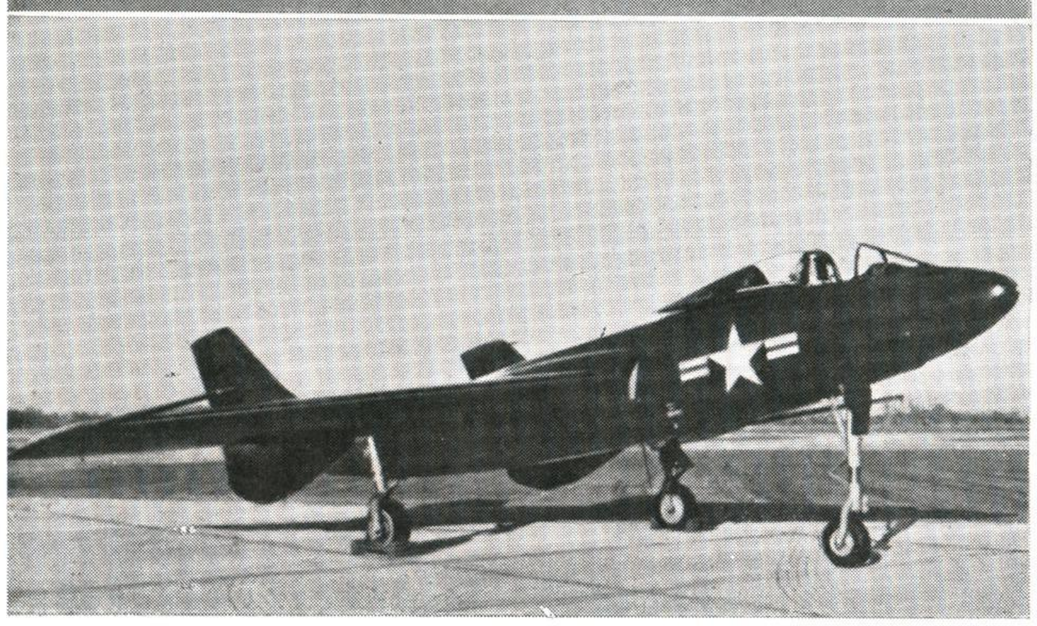
We may be well round the bend, of course, but we often see faces on aeroplanes, and we think—and hope—that others must too. We thought readers might care to have a go at a few photographs in the *Journal* and see what sort of monstrosities they can produce. The technique is to place a piece of tracing paper over a likely looking aeroplane and trace in those things which aid the construction of a " face ". This is our favourite at the moment. If anyone cares to send us ideas on these lines we will publish them. Every small activity of this sort will increase your familiarity with an aeroplane. This is the "head" of the Avro Shackleton.





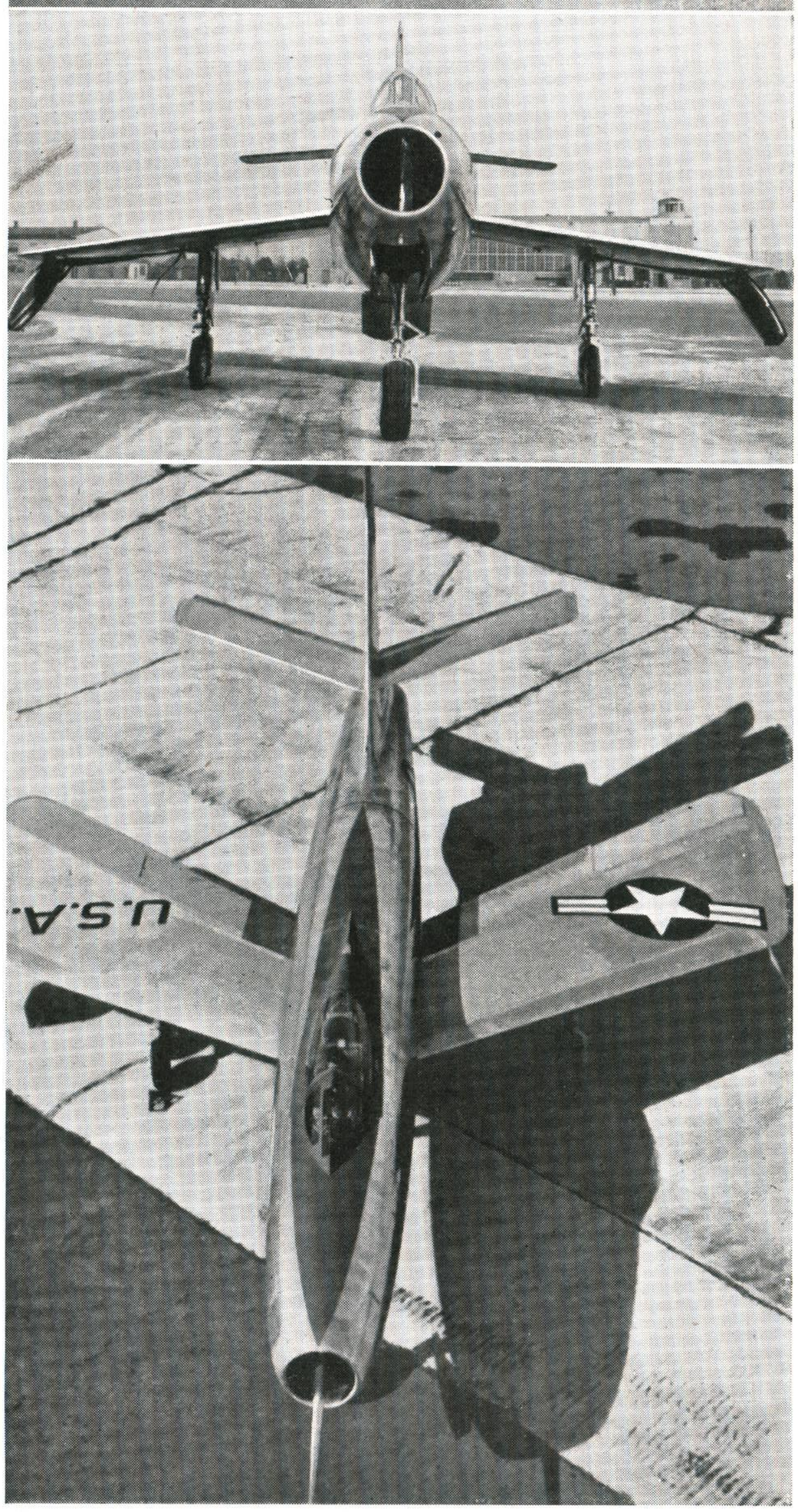
MORE AMERICAN X-FIGHTERS

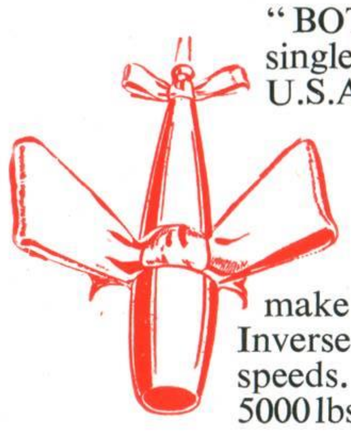




"GOOSE-NECK" **or Chance Vought XF7U-1 Cutlass** twin-turbojet, tail-less, swept-wing, single-seat U.S. Navy fighter, has successfully completed its initial flight tests. The Cutlass is in the 650-700 m.p.h. class with its present power units (two Westinghouse J-34 turbojets with Solar after-burners). With such a strange configuration (main undercarriages are retracted into the base of each fin and rudder) and likened variously to a fighting-cock, an eagle, a lizard and a praying mantis, it cannot fall into any but a recognition class of its own.



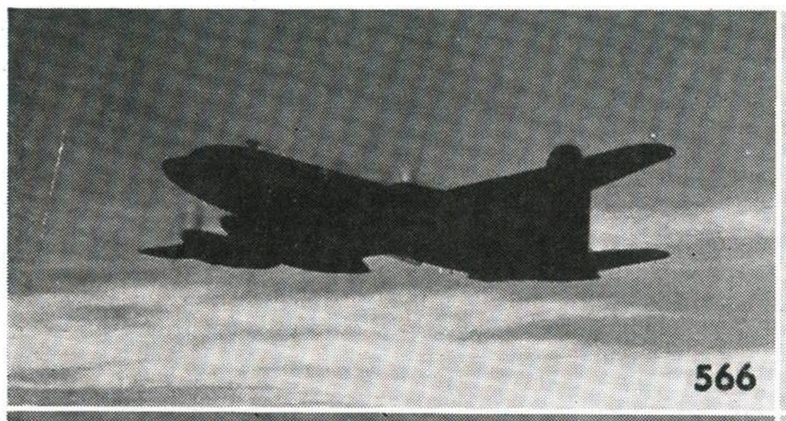


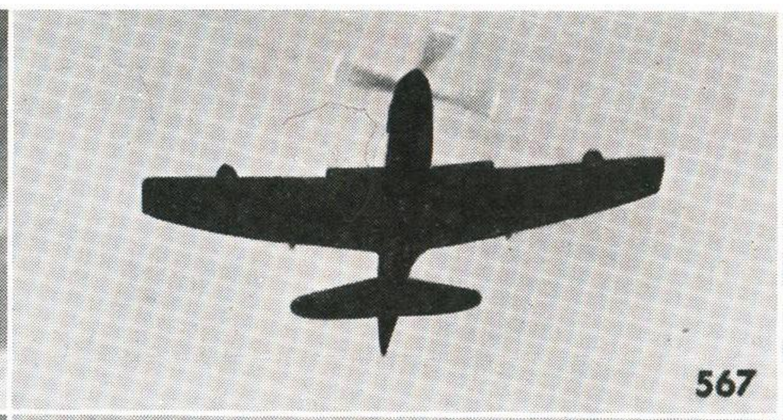


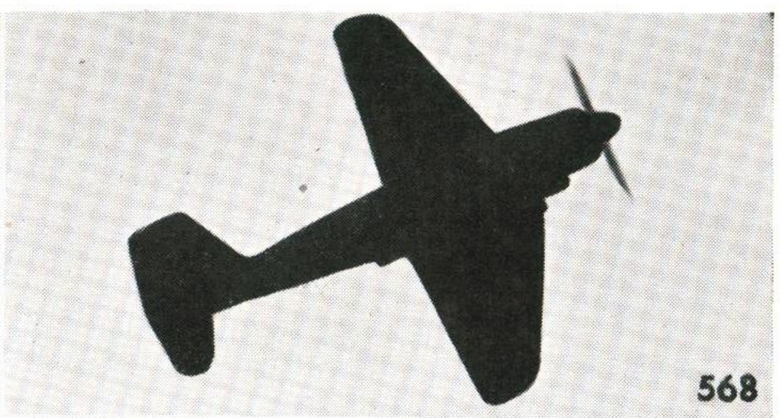
"BOTTLES AND BOWS" **or Republic XF-91** single turbojet single-seat interceptor fighter for U.S.A.F. has made a successful first flight. The bottle-shaped body of its predecessor the F-84 Thunderjet is retained, but back-swept and inversely-tapered wings (looking like half a bow-tie) impart a recognition character sufficiently distinctive to make a new "low" in confusability factors. Inverse taper is said to improve control at low speeds. Turbojet is the General Electric J-47 of 5000 lbs. s.t. Performance data is not yet available.

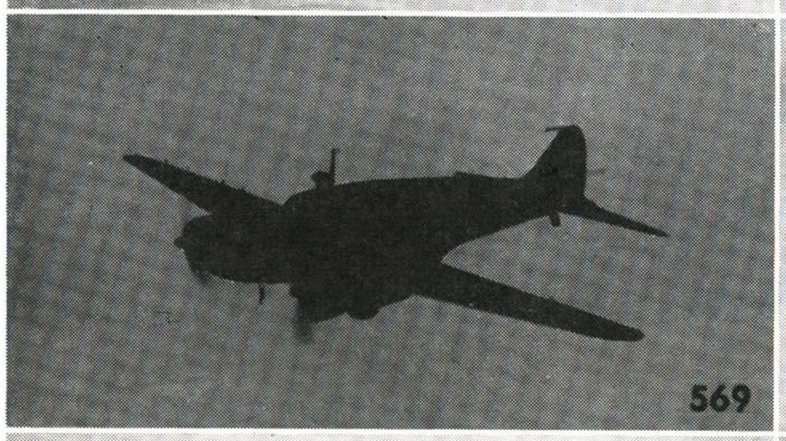
SILLOGRAPHS

Recognition Test No. 99


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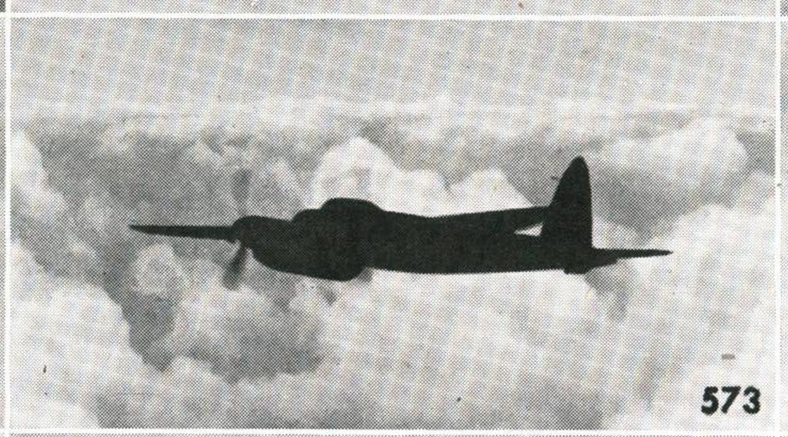

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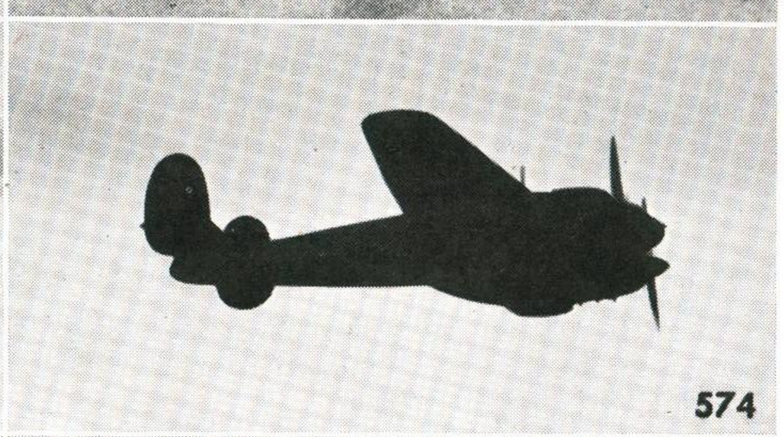

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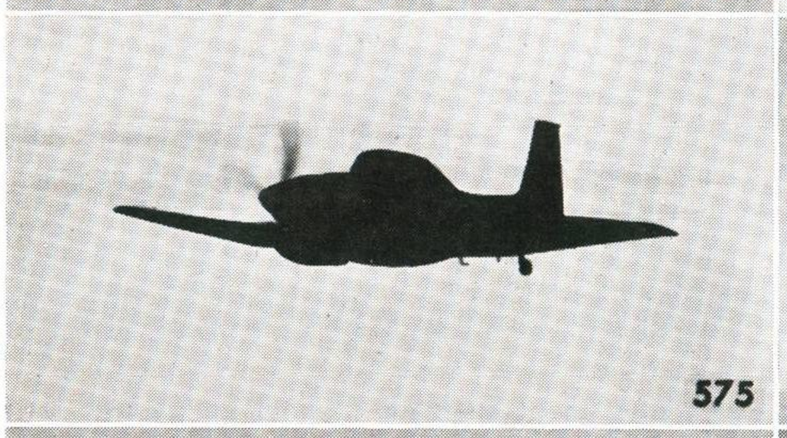

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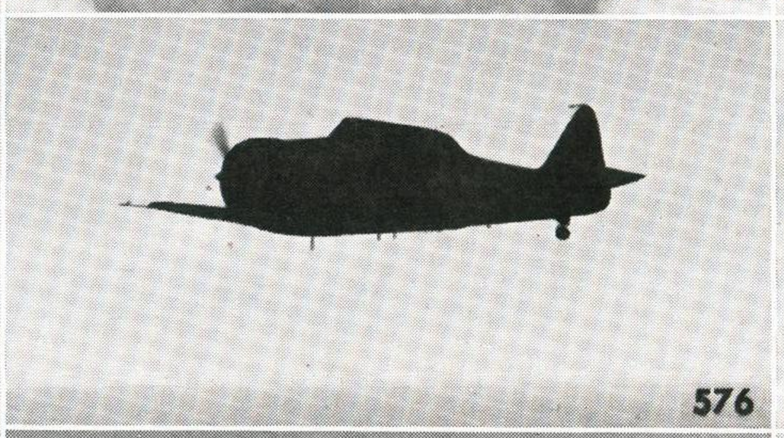

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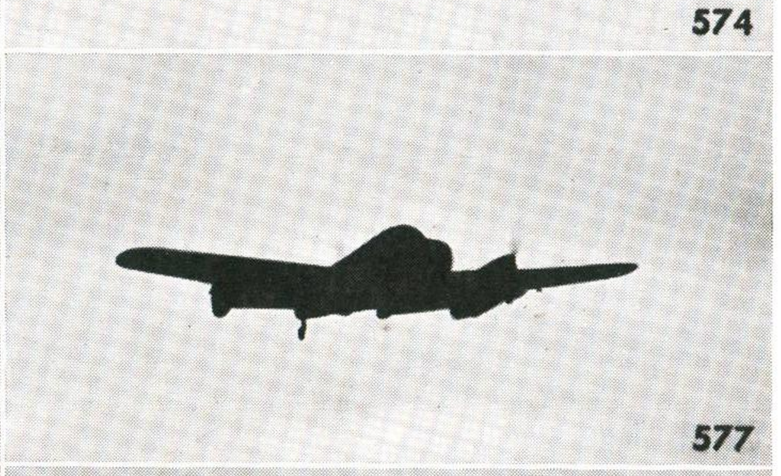

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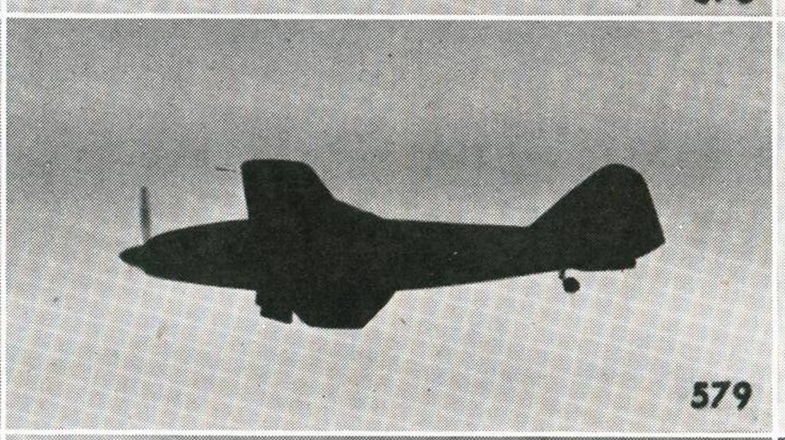

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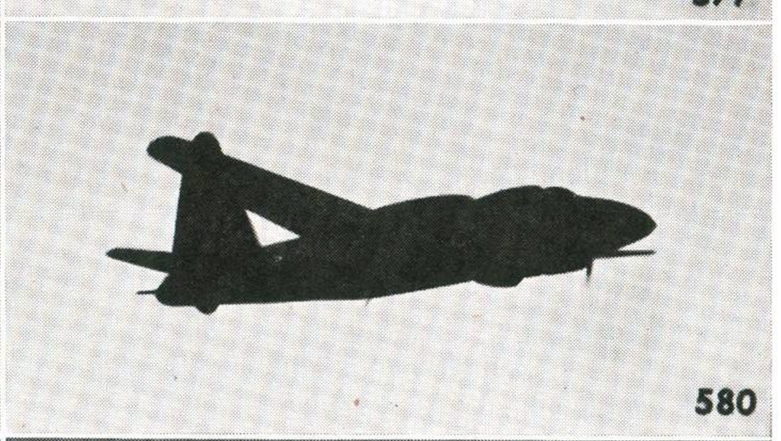

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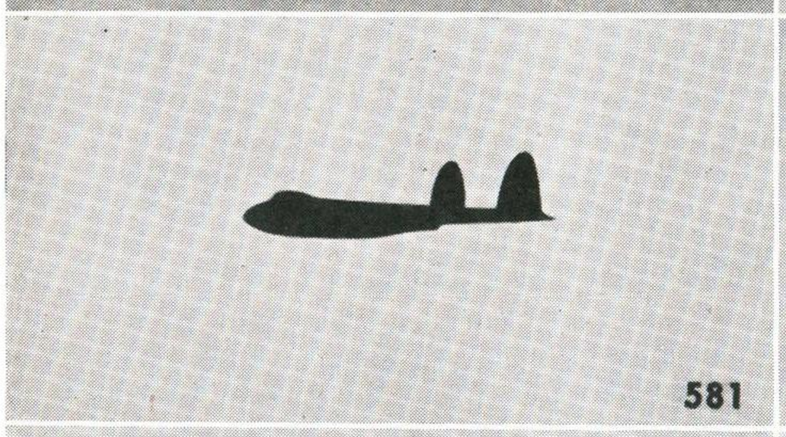

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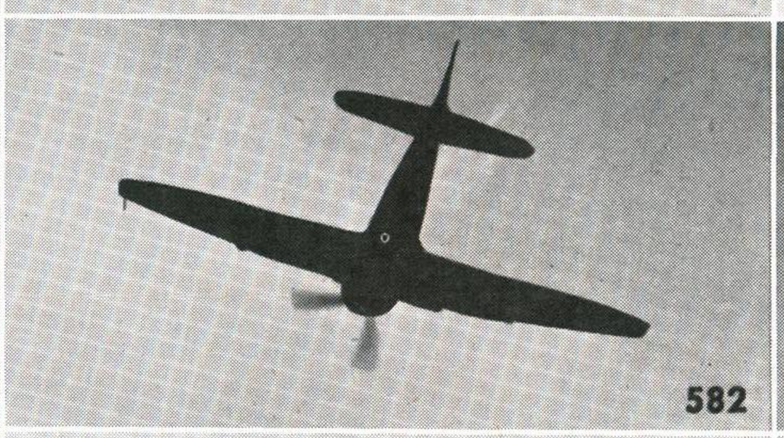

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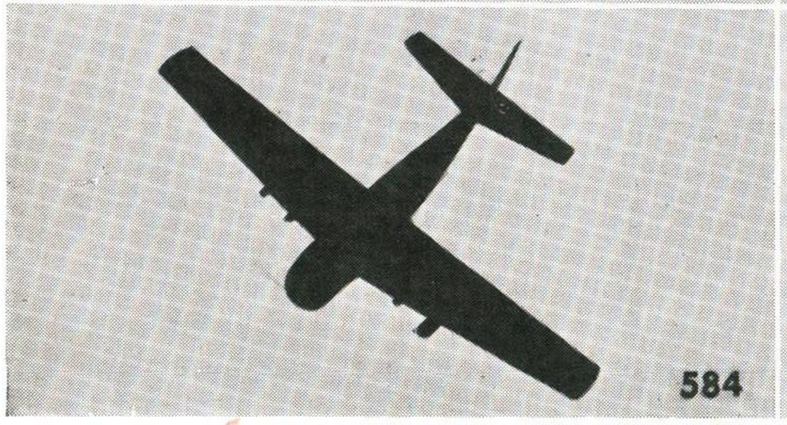

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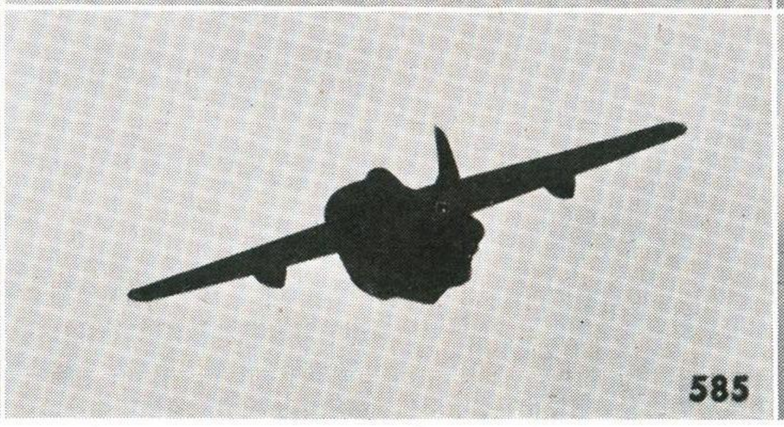

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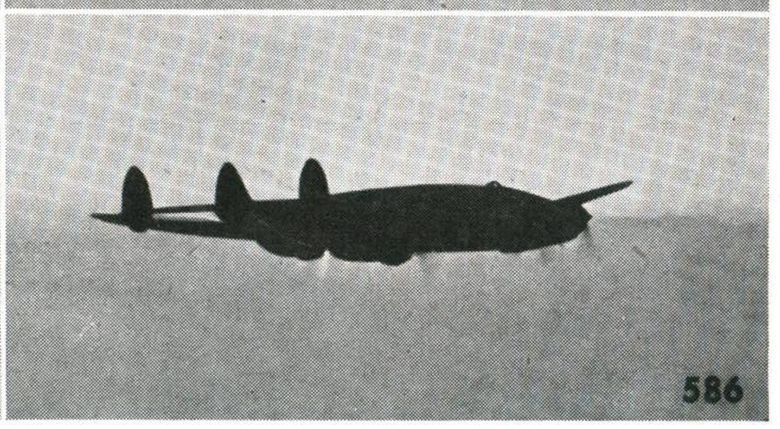

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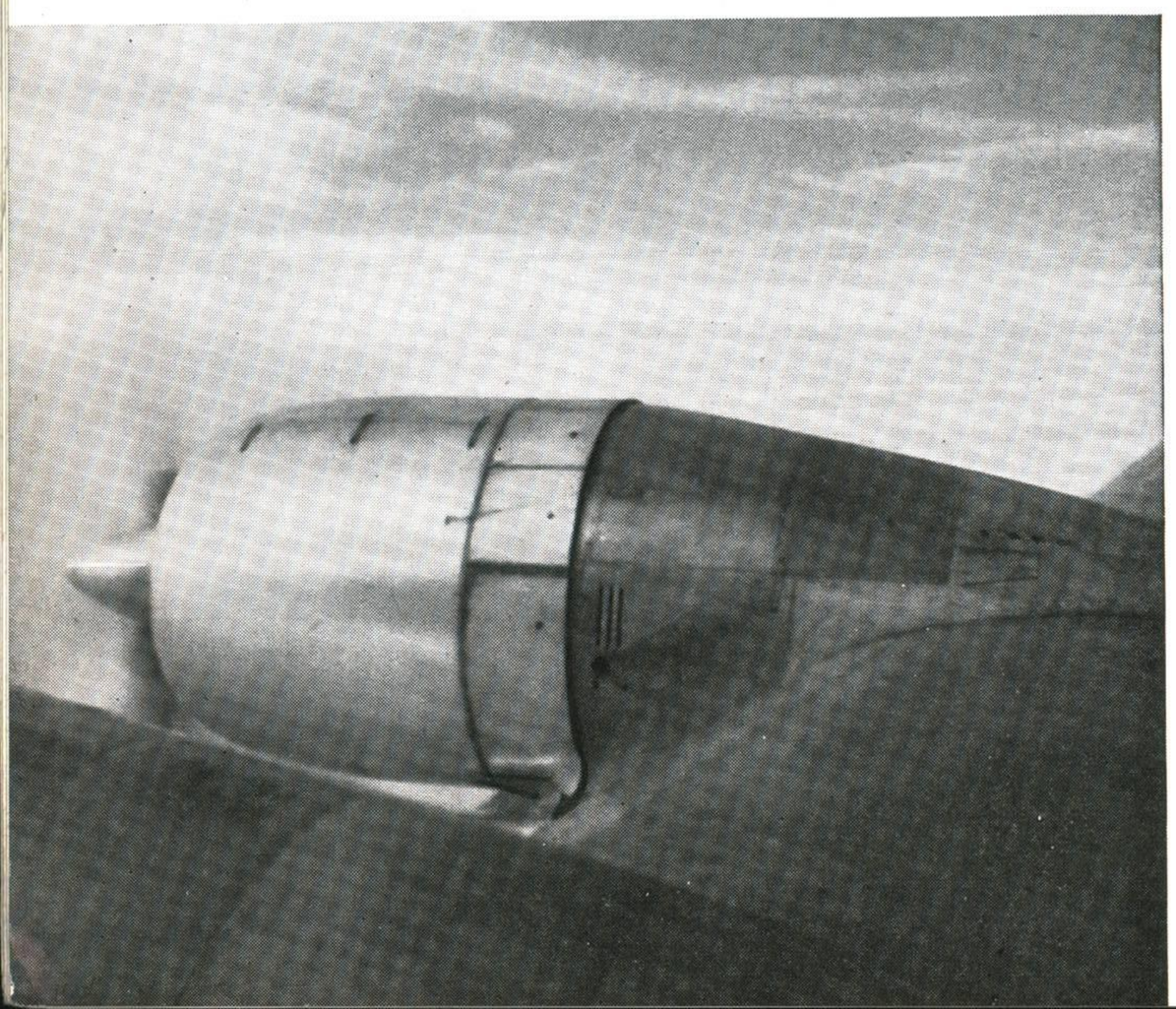
STRATO-CRUISING

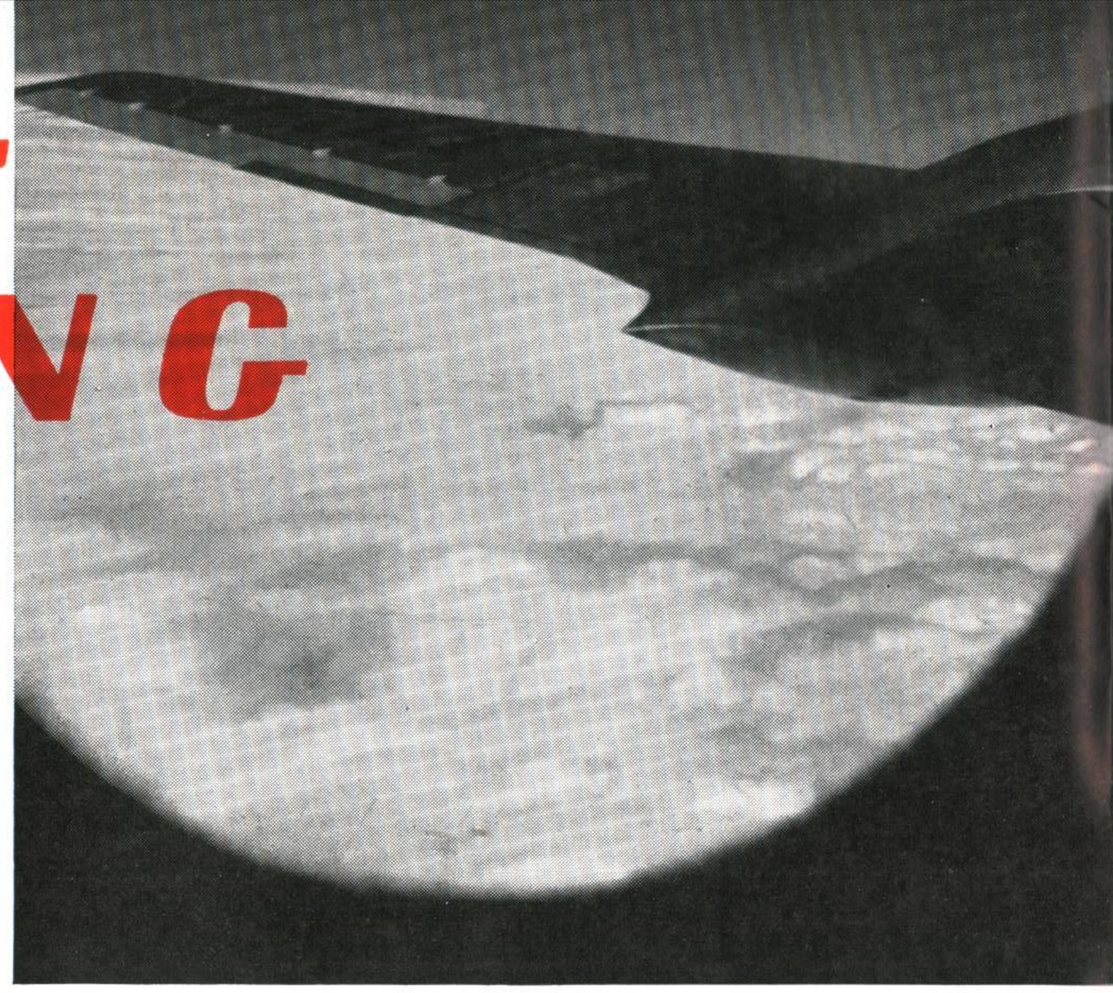
ONE does not normally expect to find queues at 17,000 feet over the English Channel, but we did : in Boeing's —and Pan American's—£375,000 Stratocruiser, in which we recently had an opportunity to fly. One queue was forming in the aisle at the forward end of the cabin to get a glimpse of the " mighty Wurlitzer "-like cockpit, situated in the broad " bay-window " of the Stratocruiser's nose. The other, a smaller one, was forming at the top of the small spiral staircase to go down to see and to test out the comfort of the cocktail bar or—dare we say it—the " Stratoboozer ". Though situated in the " basement " or lower component of the double-bubble body it was still, the highest " dive " in the world, and was certainly one of the most comfortable.

Pan American World Airways wisely set great store on creature comforts for passengers. Read this extract from the brief-sheet which was handed to us before boarding the Stratocruiser. Intended to be a sober factual survey it reads rather well, we think, in the imperative mood.

> " Passengers will drink more Scotch than any other liquor. Pan American will provide 120 Individual 4½ ounce miniature bottles of Scotch to 40 bottles of Rye, 90 Manhattans, 30 Martinis and 25 bottles of Gin. By volume at least, they are expected to do more drinking than reading. Altogether, counting brandies and liquors, there will be 67 pounds of liquor on board to 24 pounds of literature.
>
> On an average trip passengers are expected to use up 96 ounces of writing paper and envelopes. Twenty-four passengers are expected to forget their toothbrushes, babies are expected to use up 24 diapers and consume 16 jars of baby food in each flight."

We had insufficient opportunity to test out these " orders " on an hour's trip, but for all that the facts stated are as impressive as almost every other feature of this large airliner. Indeed it is difficult to find something which is not impressive about it, from its ugly pug-dog face to its forty-foot fin (equivalent in height to a four-storey building) and from its high cruising speed (340 m.p.h.) to its total electricity output which would run twenty-five five-roomed homes, and they could all switch on radios, refrigerators, heaters and lights, without the slightest chance of a power cut.





First Sight

When we first saw the Stratocruiser, towering shining and silver from the flatness of surrounding " London ", it stood next to an Avro Tudor 5. Now here, we thought, was something odd in comparisons. Here were two aeroplanes in the four-engine airliner class side by side ; both built with the same object in view, *i.e.*, long range, commercial aviation, both so near-outrageous in proportions as to have very low confusability factors and to be worlds apart recognitionally ; for, if they forgot to stop building the Tudor horizontally they certainly forgot to stop building the Stratocruiser vertically. We must have ascended nearly 39 steps to enter the Stratocruiser on the first floor to take our seats in its long luxurious passenger cabin.

Taxying out was like riding on the top of a very high bus and we overlooked almost everything. At the running-up post we were delayed some fifteen minutes, and whilst standing there an Air France Languedoc was signalled to pass us and turn on to the runway. Here was yet another odd comparison. This very business-like four-engined French airliner, with its tail-wheel under-carriage causing it to point its sharp nose in the air, passed us with what can only be described as an expression of *hauteur* within the most dignified meaning of the word. The Languedoc turned on to the runway, moved a short distance, lifted its very French tail disdainfully into the air, took off and disappeared into the rain and low cloud as we were signalled on to the runway for our own take-off turn.

Taking off was, as usual, completely uneventful, and we were scarcely off the ground before the Stratocruiser entered the first of several layers of cloud through which it steadily climbed. Before we were clear of the topmost layer we were allowed to unfasten our seat belts and to smoke. At about 9,000 feet the Stratocruiser burst out of the cloud floor into a cold crystal-clear atmosphere and the first sunshine we had seen for several days. Clearing the cloud we continued a steady climb to approximately 17,000 feet, where, levelling off in a smooth stratum of air we commenced to cruise out over the English Channel.

Sitting Pretty

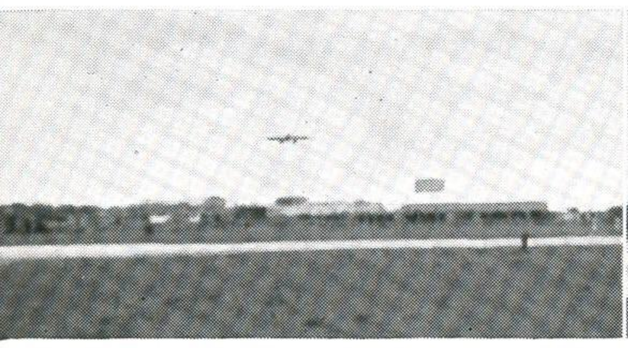
Sitting in the rearmost part of the upper cabin and looking out of the window at the slender tapered wing (spanning 141 feet) which looked such a very long way off (it was actually just over 60 feet ahead of us) and being unable at the same time to catch a glimpse of the tailplane (which is relatively small in size) we had the most vivid impression of cruising in space. But, sitting in a position approximately over the wing and looking out upon its broad solid-looking expanse of shimmering silver tapering out, it seemed, to the horizon, upon which it kept a slow steady track, the impression was simply that of moving slowly, steadily and with complete security above a sea of cloud.



From this position we idly watched the spinners spinning. It was difficult to conceive that the power behind them, concealed beneath each long radial-engine cowling, consisted of some 3,600 Pratt and Whitney horses. Our attention was taken, too, by the high position of the engines relative to the wing—a high thrust-line is necessary to the Stratocruiser's design. We noticed the dancing high-lights on flexing skin ; the sharp points of the nacelles which extend out beyond the wing's trailing edge : and we watched the ailerons for a long time but never saw a movement. And basking in this Mediterranean-type climate of brilliant blue sky and rare sunshine, sailing majestically across a vast sea of white cotton wool cloud, we thought—*this* is it—this is Stratocruising—this is really flying !

Back to Earth

We cruised south to about mid-Channel, and, turning north-eastwards, recrossed the coast at Dover. Not that we could see anything but cloud below us—navigation was being done by means of various radio aids. Passing across Kent we positioned ourselves well out in the Estuary of the Thames, said goodbye to the sunshine, and started a long and descending approach passing over Gravesend and London to " London ". The descent through several layers of cloud was rather more bumpy than our ascent and certainly very much longer. Just before we entered the cloud the tell-tale nacelle points disappeared from our view as the flaps were lowered—they are actually attached to the flaps. It became darker and darker as we came down and we broke cloud almost over Heston, and doing a quick sort of hairpin turn, first 90° to the right and then back through 180° touched down upon the runway-in-use in little more time than it takes to mention. We had to do this because our descent, by means of G.C.A., had been in line with the east-west runway at " London ", which was not the runway-in-use at that time. No sooner had the wheels touched than the inner engines (with propellers reversed) received a good hearty burst of throttle and, with a violent squealing of wheel brakes (they are made specially to squeal) the giant Stratocruiser slowed to some 30 or 40 m.p.h. and ran smoothly to the end of the runway and turned off. While taxying in we passed Vikings, Dakotas, Lancastrians and many other of the aeronautical inhabitants of " London ". We couldn't help looking down on them—literally, of course.









BOOKS

The short book review feature in our March issue proved useful, so we have decided to devote another corner of our *Journal* to armchair aviation. Naturally, we give priority to books concerned in some way with aircraft recognition ; but we believe also that a man who knows something of the background story of aviation will find new interest in the object with square wing tips or under-slung engines at the other end of his binoculars.

For that reason we make no apology for recommending to you **Perchance,** a brief history of British naval aviation by Lieutenant Commander B. J. Hurren, whom you probably know better as *Fougueux*, and associate with humorous stories.

There is little humour in **Perchance,** although the idea of a Walrus dive-bombing an Italian H.Q. did rather appeal to us. On the contrary, it is a story of continuous battle for survival, not merely against powerful enemies in two world wars but in the conference rooms of Whitehall between times. The story of how the airmen in navy blue won their battle makes good reading, while the many first-class illustrations show that naval aircraft through the ages have shared an incredibly low confusability factor.

From America comes another history ; rather more " solid " going than **Perchance,** but a model of how history should be written. It is Volume One of **" The Army Air Forces in World War II ".** Here we can read in detail of the early years of the U.S.A.A.F. and its preparation for war, of the tragedy of Pearl Harbour, and of how the U.S.A.A.F. recovered from its losses and began to build up the air armada which carried the war to Germany and Japan.

There is no Hollywood swagger or glamour about this book ; mistakes and shortcomings are not glossed over, and help received from Britain is generously acknowledged. The section on America's Air Defence System in 1942 will be of particular interest to members of the Royal Observer Corps, while references to American aircraft being fired on by American gunners, or " Japanese fighters unfortunately identified as friendly ", help to re-affirm the importance of correct " spotting ".

Together with the six volumes still to come, this book will form a magnificent record of the Service whose aircraft were so familiar and welcome a sight in our skies a few years ago.

Finally, something a bit lighter, in fact, a whole lot lighter—**" No Highway "** by Nevil Shute. Let us quote a few lines from the dust-cover :

" Imagine yourself to be a ' boffin ' (which is what the R.A.F. call a man of science and research in aeroplane construction) and that you have a conviction that a certain famous class of plane cannot fly more than a certain number of hours without disaster. Imagine your state of mind when you realise that most of these aeroplanes have nearly reached this point, but that nobody will listen to you and ground them because your figures cannot possibly yet be produced. Imagine, finally, your anguish when you find yourself half-way over the Atlantic in one of the very machines that is due to crash at any moment . . ."

In that picture place a " boffin from Farnborough, a temperamental chief designer, glamorous film star, charming air hostess and other characters drawn with incredible skill and understanding. Then stop imagining, go out and buy yourself a copy of **" No Highway ".** You'll never regret it.

" PERCHANCE " ; *a History of British Naval Aviation,* by B. J. Hurren. 197 pp. Nicholson and Watson. 10s. 6d. net.

" THE ARMY AIR FORCES IN WORLD WAR II ", Volume One : Plans and Early Operations, January, 1939, to August, 1942. 744 pp. Published in U.K. Cambridge University Press. 27s. 6d. net.

" NO HIGHWAY ", by Nevil Shute. 315 pp. William Heinemann. 10s. 6d. net.

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THE ROYAL OBSERVER CORPS GAZETTE

Vol. 2. No. 11 JULY 1949

THE OFFICIAL ORGAN OF THE ROYAL OBSERVER CORPS

THE MEANING AND USE OF CLOUDS

(PART 2)

by Wing Commander R. M. POULTER, O.B.E.

Stormy Weather

Thanks to weather reports from the Azores and from ships upon the Atlantic, professional meteorologists had twice the amount of warning that this particular halo gave ; but for the amateur the halo will give reliable information of a new depression advancing rapidly across the Atlantic Ocean towards South-West England. On this occasion the 6 a.m. weather chart (which we reproduce herewith) for the next day showed rain and gales in all parts of England. Incidentally, also on this occasion, a rather remarkable record on the anemometer at Thorney Island shows the wind steadily increasing from calm at 9 a.m. on the 8th, to a maximum at about 9.30 a.m. on the 9th February, when a gust of 78 m.p.h. was recorded. After this the gale slowly subsided (Figs. 6 and 7).

Let us now consider the clouds of bad weather systems. When a new depression is approaching our shores from the Atlantic, the tell-tale cirrus clouds are first seen approaching at heights of about 30,000 ft. Gradually, during the next 12 hours, clouds thicken and lower until, by the time the real " warm front " has arrived with muggy air from the south-west the clouds have lowered to a few hundred feet, covering the South Downs, whilst rain sweeps up the Channel. The cloud sequence is : the cirrus cloud thickens to cirro-stratus, producing what we often call a " watery sky " : the sun being visible only as a fuzzy disc. (Actually these clouds are composed of snow and ice particles and occur between 20,000 and 30,000 ft.) As the depression advances, the cloud continues to thicken and lower and as the first spots of rain reach the ground the predominant greyness of the sky denotes the presence of alto-stratus cloud at something like 15,000-20,000 ft., with fracto-nimbus (Fig. 8) underneath it caused by rain falling into the lower layers of air which are progressively saturated. As the rain increases, the general cloud base descends to between 2,000 and 1,000 ft. and eventually lowers to 500 ft. in the heavy rain which marks the arrival of the " warm front ". It will thus be appreciated that the approach of " warm front " weather which finally leads to

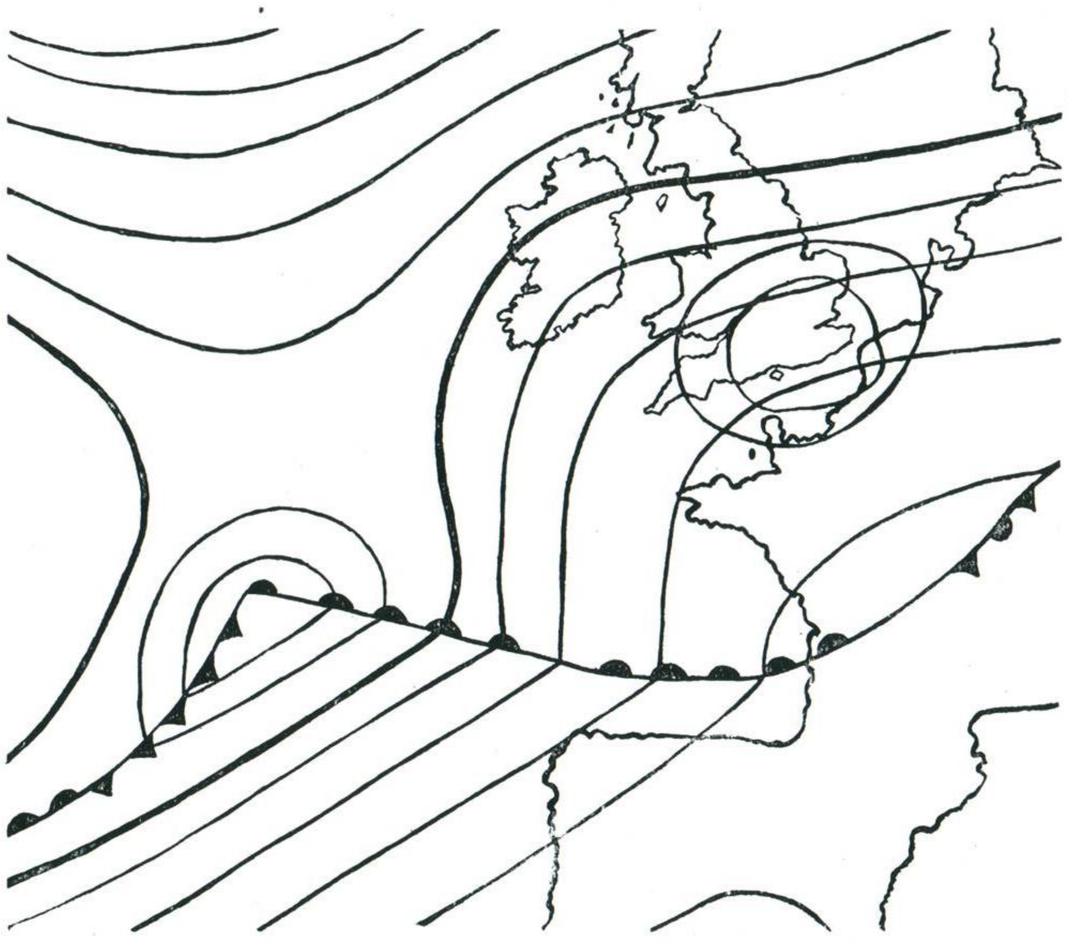


Fig. 6. 1800 hours weather chart for 8th February, 1949. Depression north-west of Corunna, haloes in the home counties.

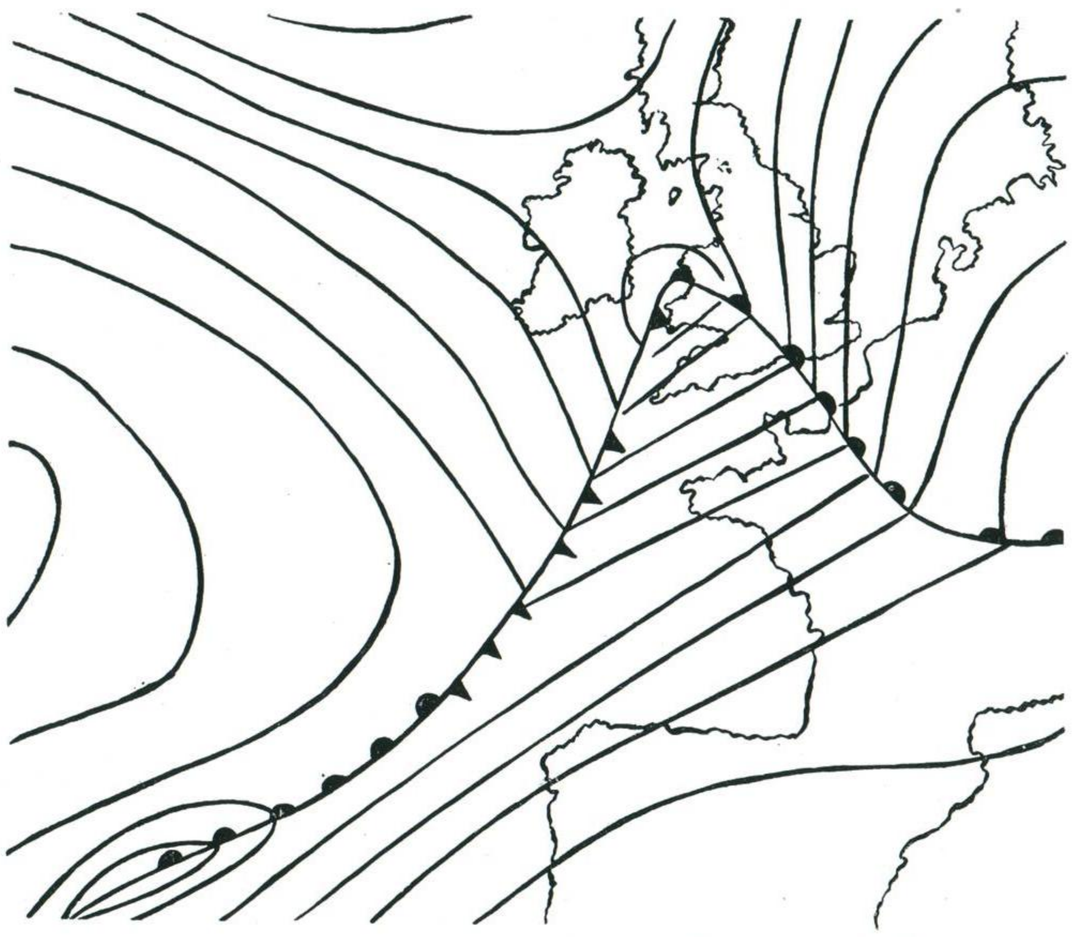


Fig. 7. 0600 hours weather chart for 9th February, 1949. Severe gales on the Channel and Western Approaches.

The front is indicated by the marked line, black semi-circles indicate a warm front on the surface ; the black triangles indicate a cold front on the surface.



Fig. 8. Alto-stratus with fracto-nimbus below.
(Photo by G. A. Clarke.)

rain is accompanied by cloud conditions ranging from the highest levels at about 30,000 ft. down to a few hundred feet; and the slope along which the warm air climbs over the colder air as it produces the cloud and rain is usually of the order of 1 : 100. The accompanying diagram, in which the vertical scale is much exaggerated, explains the arrangement and types of the clouds. (Fig. 9.)

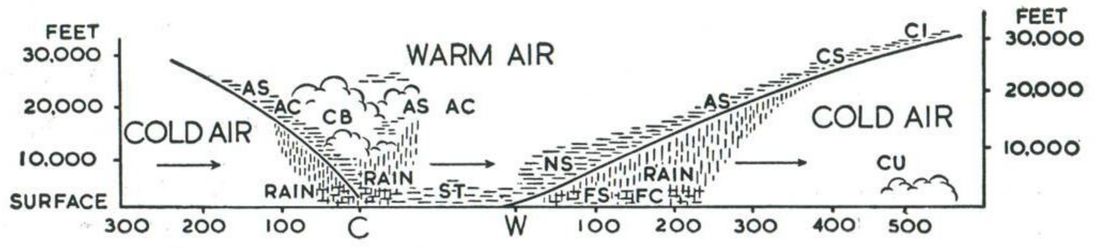


Fig. 9. Diagram of warm and cold front clouds.

As.	Alto-stratus	**Cs.**	Cirro-stratus
Ac.	Alto-cumulus	**Ns.**	Nimbo-stratus
Cb.	Cumulo-nimbus	**Fs.**	Fracto-stratus
Ci.	Cirrus	**Fc.**	Fracto-cumulus
Cu.	Cumulus	**St.**	Stratus

Fronts

As we have been talking so much of depressions and fronts we will have a short interlude and explain briefly what these things are.

A front is a discontinuity of two air masses of different origins. Or, looking at it another way, it is a sort of " rubbing together " of two air masses. These air masses have different temperatures, densities, humidities and differ in other characteristics, too, and they tend to push each other about because of this. Where a relatively warm mass of air is " riding over " a colder mass (see diagram) the region where the two masses touch is called a " warm front." Where the mass of relatively cold air is pushing its way beneath a mass of warmer air, it is called a " cold front ". Thus, whichever mass of air takes the inititative, as it were, gives the front its name. Fronts usually travel westerly to easterly, and also work in pairs; a warm front is usually followed by a cold one. Both types of front are represented on the weather maps by lines, though the actual division of the air masses themselves is not so sharply defined and may in fact be a region several miles wide.

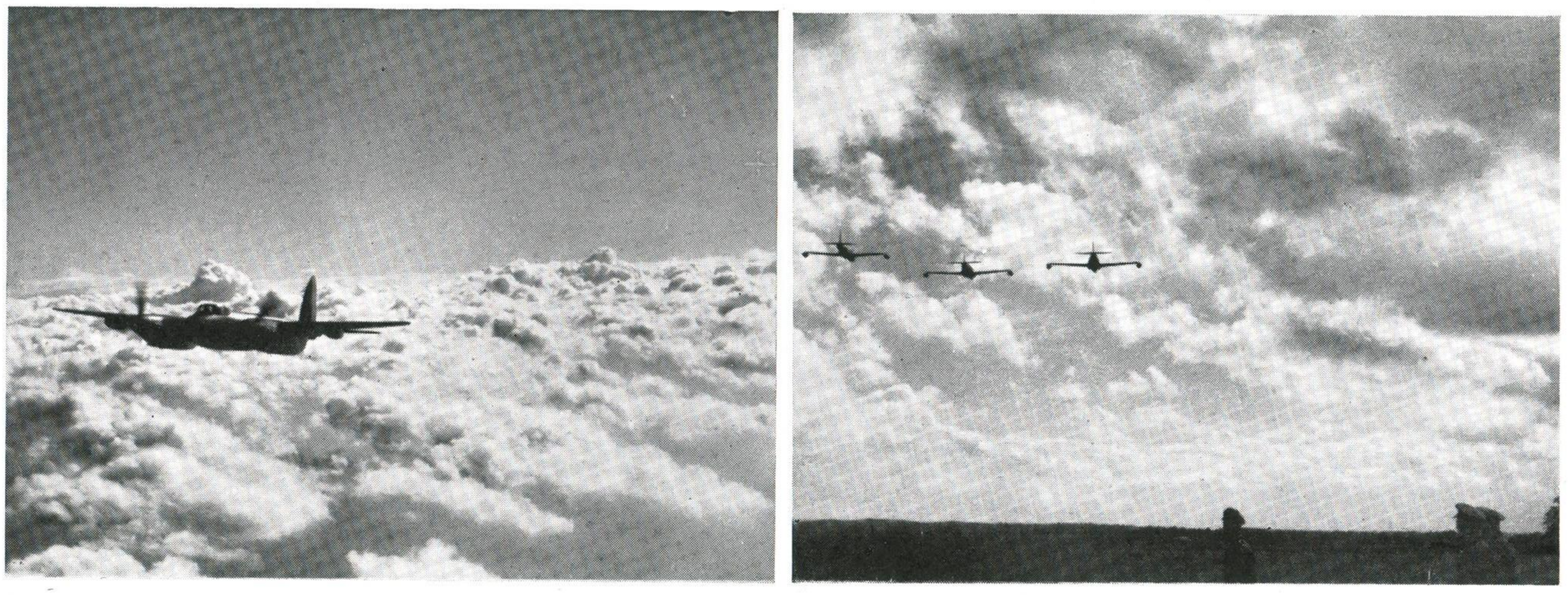
Depressions are regions of *lower* barometric pressure, though not necessarily of very low barometric pressure. Depressions are connected with fronts and work, as it were, with them.

But to get back to our original theme about the movements of fronts. After the passage of a cold front the colder north-west winds replace the damp south-west winds and a very similar sequence of clouds in the reverse order can be observed.

First, heavy cold-front rain and showers are accompanied by clouds at 800-1,200 ft., which gradually pass away to reveal the slope of the cold front, which is usually at about 1 : 50. The nimbo-stratus cloud gradually lifts, until the whole cloud structure passes away north-eastwards, leaving blue sky and sunshine, in which cumulus cloud soon begins to form and perhaps to build up to isolated shower clouds.

The extraordinary " Times " photograph (reproduced herewith, Fig. 10) was taken at 20,000 ft. on 26th September, 1932. It shows well the sequence of clouds behind the rain area of a front. The camera was over Ashford (Kent), and was pointed south-eastwards ; Folkestone is under the small cumulus clouds in the foreground and across the Straits of Dover the harbour entrance at Calais is just visible under the belt of bigger coastal cumulus cloud.

At the top of the picture is a " whisp " of marestail cirrus



A De Havilland Mosquito above and 3 Lockheed F.80's below an expanse of strato-cu. The cloudbase in the right-hand picture was about 4,000 ft. (Odiham, 21.7.48.)

at about 30,000 ft.—perhaps higher : just below this is a belt of cirro-stratus thickening downwards to grey alto-stratus, in front of which is a whole layer of alto-cumulus at about 18,000-25,000 ft. The dark band on the horizon, just above the middle of the picture, is the nimbo-stratus accompanying the rain ; actually the rain was falling over the country from Beauvais to Brussels while, as seen in the photograph, the sun was shining over the Straits of Dover and casting shadows of the cumulus clouds over the landscape of Kent and the Pas de Calais.

For those who would like to study the subject of fronts further, there is an interesting article by C. A. Wood in " Weather " for December, 1948. The article is entitled " The March of Cirrus " and it describes more fully the reasons for the building up of frontal clouds. For keen students of meteorology, the article is followed by a list of suitable books with their prices, publishers and brief notes on their contents. We give a selection of them herewith : " Meteorological Glossary " : H.M. Stationery Office, 5s. 0d. " Here is the Weather Forecast " : Golden Galley Press, London, 10s. 6d. " Cloud Reading for Pilots " : John Murray, London, 10s. 0d. " A Short Course in Elementary Meteorology " : H.M. Stationery Office, 2s. 6d. " Meteorology for Aviators " : H.M. Stationery Office, 7s. 6d. *" Weather " : Royal Meteorological Society, 1s. 6d. " Storm " : MacMillan Co. of Canada, 12s. 6d.

*" Weather " is published monthly by the Royal Meteorological Society, 49, Cromwell Road, London, S.W.7. Price 1s. 6d.



Orographic low stratus with alto-stratus above, associated with a belt of thundery showers passing Biggin Hill as two Spitfires land. (20.9.47.)



Fig. 10. Cloud sequence behind the rain area of a front. ("Times" Photo.)

AIRBORNE HEADACHES

No. 10



The answers, headed "Airborne Headaches No. 10", must be sent on a post card to each Group Headquarters by 12th September, 1949. Group Headquarters will forward answers so as to reach Area Training Officers by 19th September, 1949.

OLD HANDS—ATTENTION!

The Royal Observer Corps needs *your* help. New men, unversed in R.O.C. lore and procedure, need guidance and instruction. New men on Roger-Three in Kent could, for example, benefit very much from the experience of the old hand on Able-One overlooking the Forth, or vice versa. We doubt if the occupants of these two posts ever correspond but if they did it would be a Good Thing : the influence of one upon the other, though small, would be helpful, since " every little helps ". The influence would be considerably widened, however, if the letters were published in the *R.O.C. Gazette*, for all you new chaps on Yolks, Dons, Tares, Rogers, etc., would see them as well and, probably act on them. Ah ! that's the word. ACT ! Write and tell us *now* of the way you handle your problems ; tell us of your ideas for training and improving the efficiency of R.O.C. procedure in all its numerous forms. If you can write it in article form, so much the better. Address your communications to The Editor, Royal Observer Corps Gazette, Air Ministry, Richmond Terrace, Whitehall, London, S.W.1.

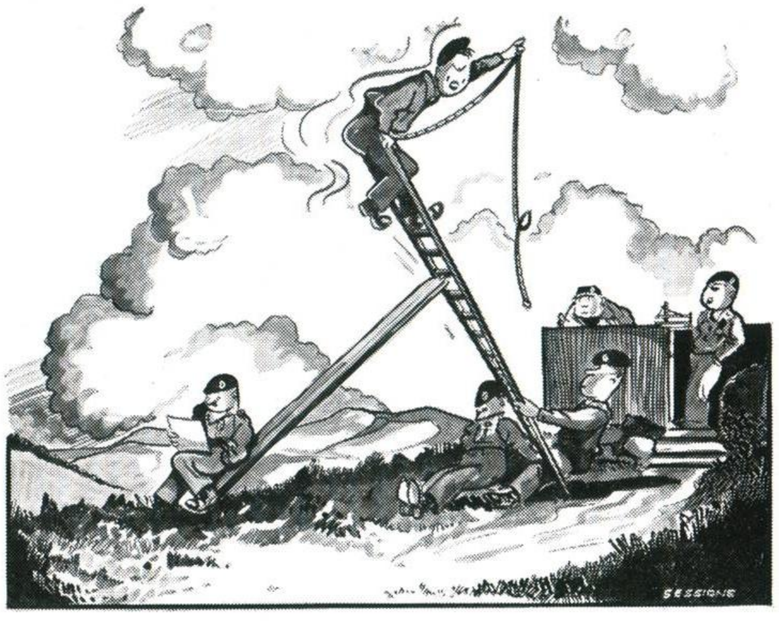
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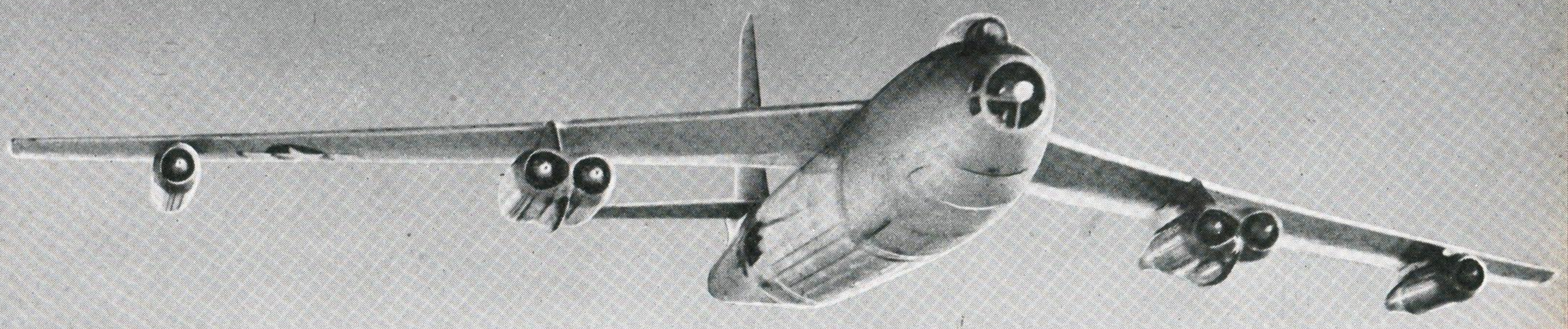
" Haloes for Everyone "



" . . . the atmosphere becomes saturated . . ."



" . . cloud heights by visual methods . . ."



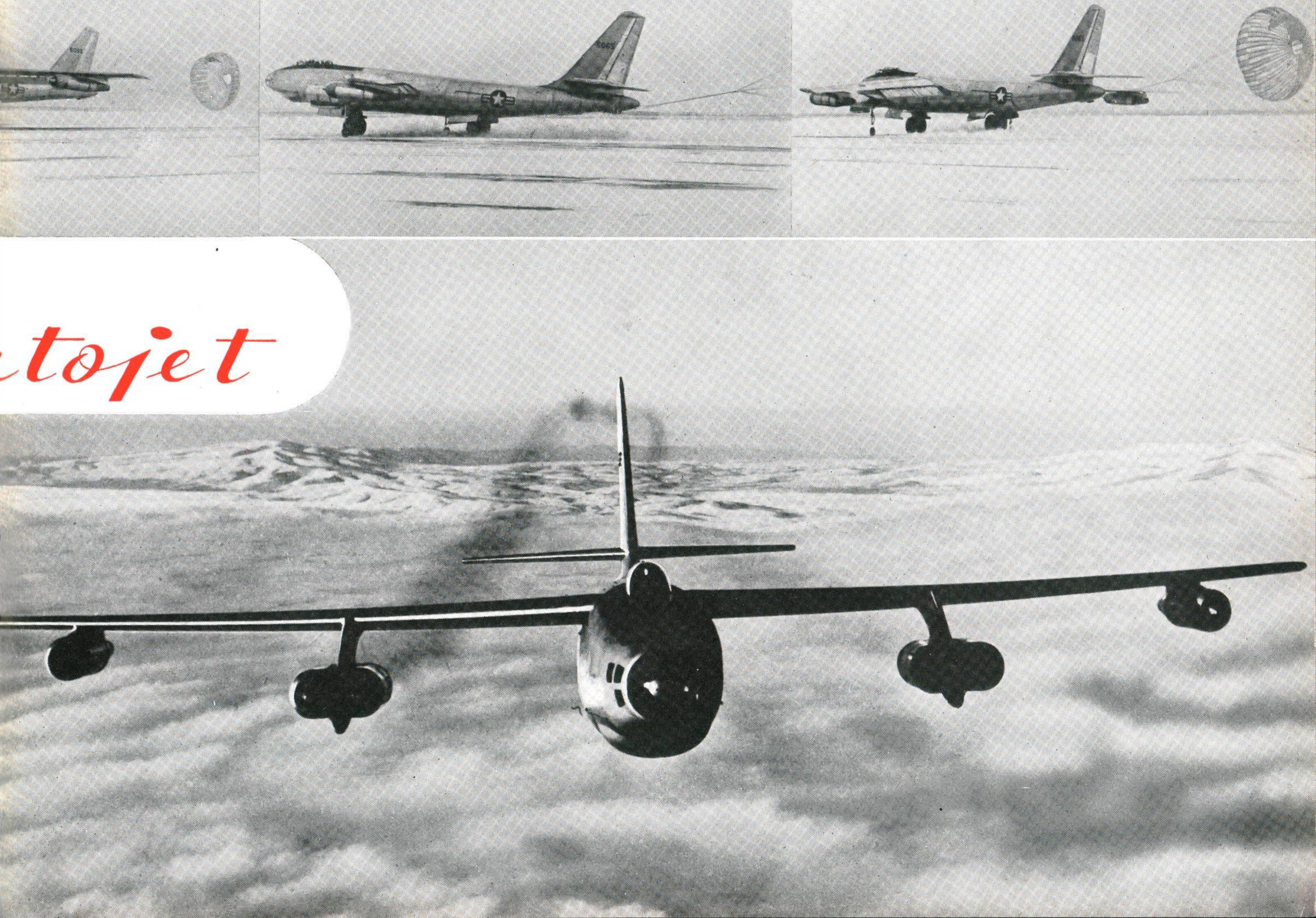
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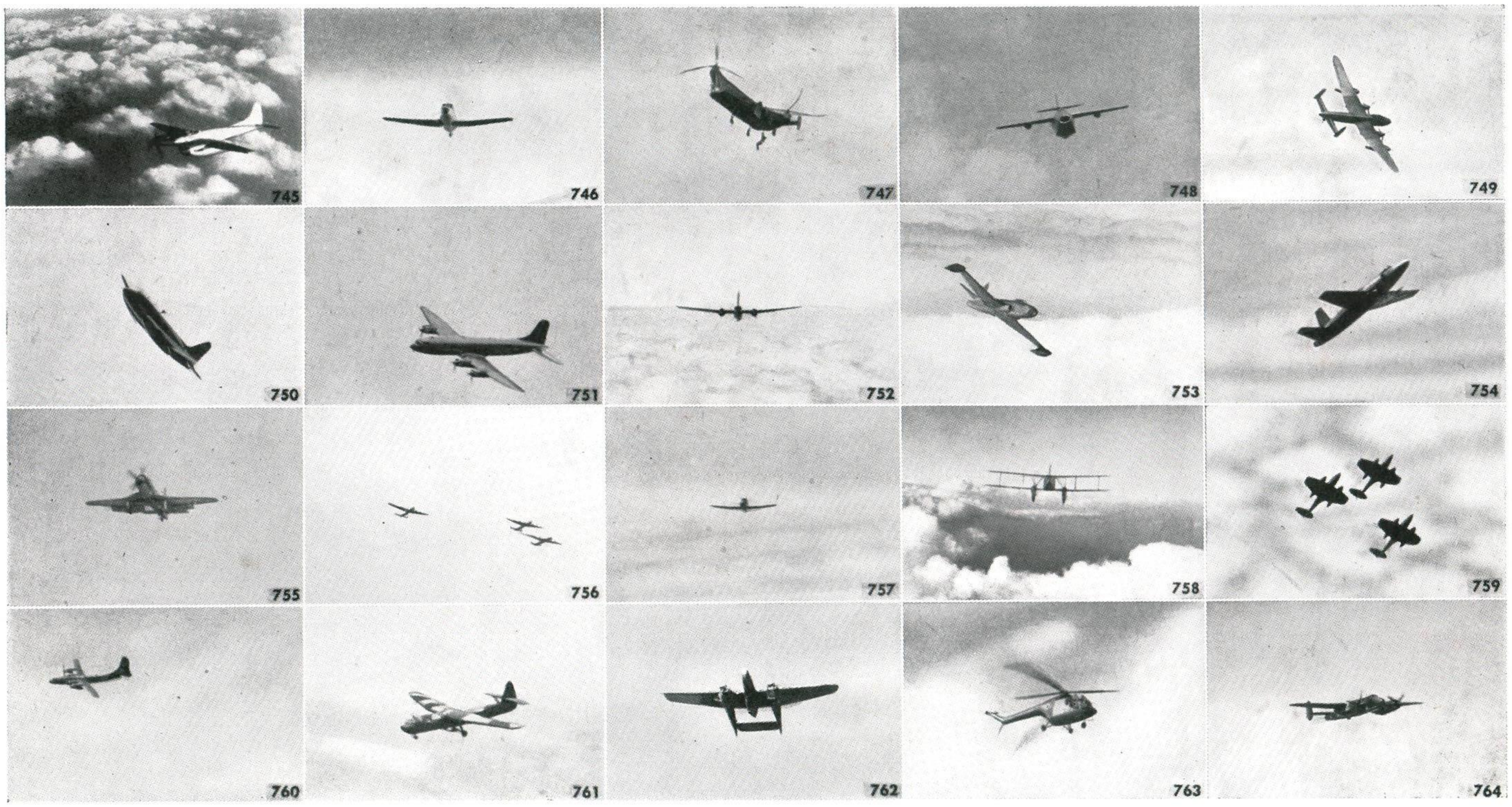


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ADVANCED SPOTTING

Recognition Test No. 98

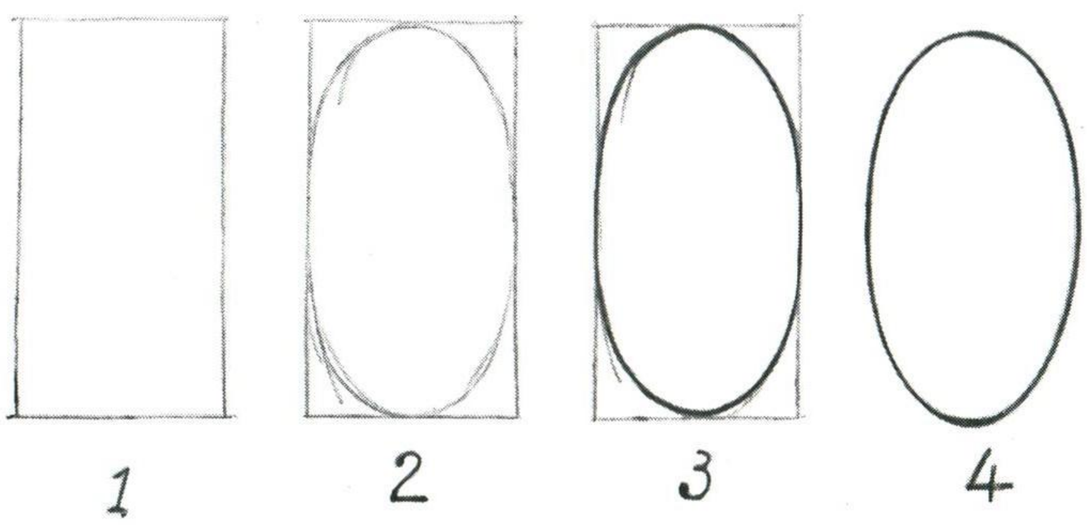


Some Hints on Elementary Drawing

TO those whose drawing experience may have been confined to pay, corks, or wrong conclusions, the following tips may prove helpful in reproducing the drawings on the opposite page. The tools required are a sharp pencil and a soft rubber. You can use a ruler if you like, but it's much more fun, more instructive and altogether more satisfactory if you don't : absolute accuracy of measurement is not vital in this type of drawing, though the nearer you get to reproducing a real "living" likeness, obviously, the more satisfied you will be.

However complex a shape may appear to be, it can always be related, in drawing, to one of the following simple basic shapes : the rectangle, the triangle, the diamond, the circle or the oval : or to a centre or base line. The straight-line figures are easily constructed free-hand, whilst a circle can be related to the square and the oval to the oblong. On the opposite page, we relate the outlines of the Tempest 2 and the LA-9 to oblongs and squares linked together.

The principles of construction are simple and the same for everything. The main stages, four in number, are : (1) the framework or foundation ; (2) the construction lines ; (3) lining in ; and (4) removing the construction lines. A golden rule is that all construction lines must be drawn very, very lightly. (We have departed from this rule in some places purely to show you the main lines of these aeroplanes.)

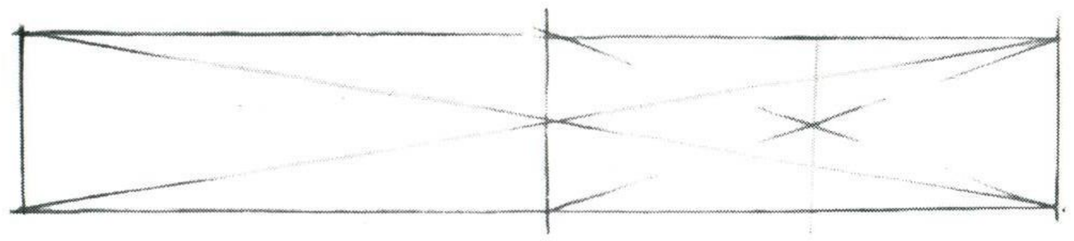


Now suppose you wish to draw an oval which is twice as high as it is wide.

1. First construct an oblong of similar proportions ;
2. Trace in some light construction lines—as many as you wish, but not overdoing it ;
3. Among the construction lines will appear the required shape, so line it in rather more heavily ;
4. With a soft rubber, remove all the construction lines and leave the oval standing alone.

It is often necessary to sub-divide a line into several equal parts. This can be done by eye with a little practice. Halves and thirds are quite easy, so are fifths. Halving halves produces quarters and eighths, whilst halving thirds produces sixths, and so *ad infinitum*.

In the drawings opposite, the rectangle is frequently used. To find the centre of a rectangle, you simply draw lines (diagonals) from corner to corner. If you want to sub-divide it again, you draw a further set of diagonals in each of the oblongs you have constructed out of the original whole one.

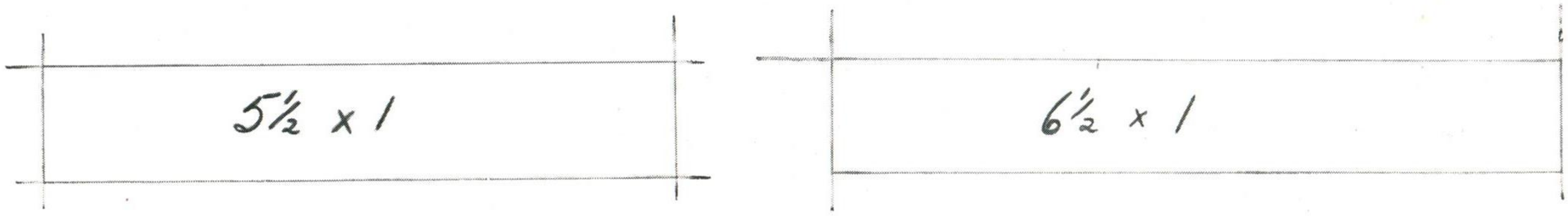


With these few hints and by following the instructions, you should be able to achieve some fairly accurate outline drawings of the two aeroplanes opposite. Next time we shall introduce a few words on shading, and how to produce more solid looking form out of the outline shape.

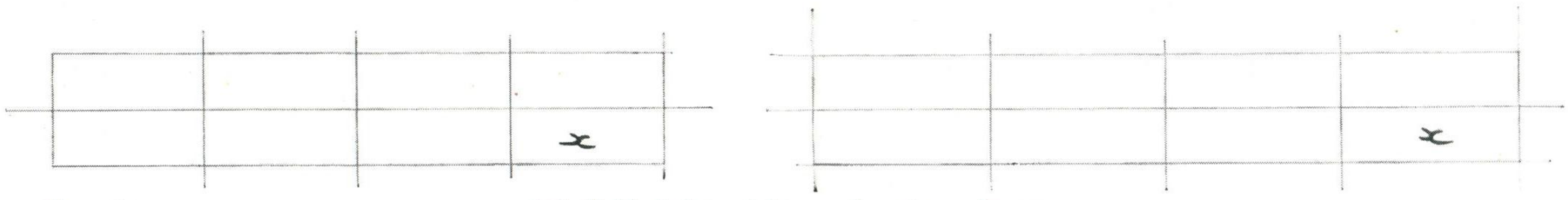
We have had to split the process of producing a shape into its separate stages to illustrate it ; in practice, of course, each succeeding stage is drawn (very lightly) on top of the other. Don't forget the golden rule—DRAW LIGHTLY—until the outline is complete.

Get into Line!

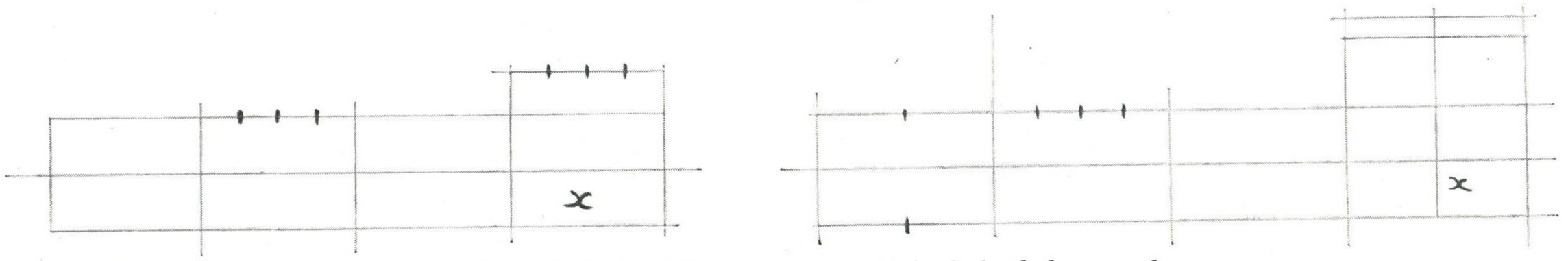
Recognition of an aeroplane calls for familiarity with its outline shape : a high degree of familiarity is achieved by constructive work such as modelling or building. Sketching is building. Because a side view tells us more of the recognition character of an aeroplane than any other, sketching side-views, on blackboard or paper, is profitable to recognition training. If you follow the simple instructions given below, you can produce reasonably accurate sketches of these two radial-engine fighters in comparable views, and learn—as any expert spotter will always tell you—how different they really are both in basic shape and character.



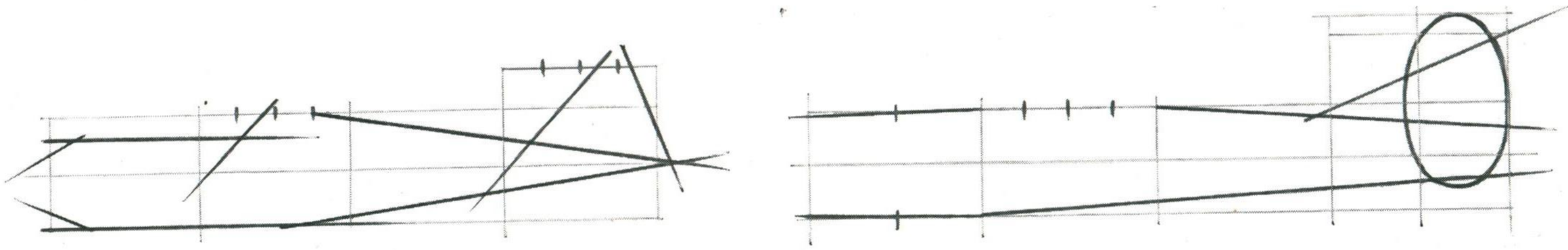
Stage 1. *Construct rectangle to indicated proportion, using any unit of measurement you like. Draw larger than this.*



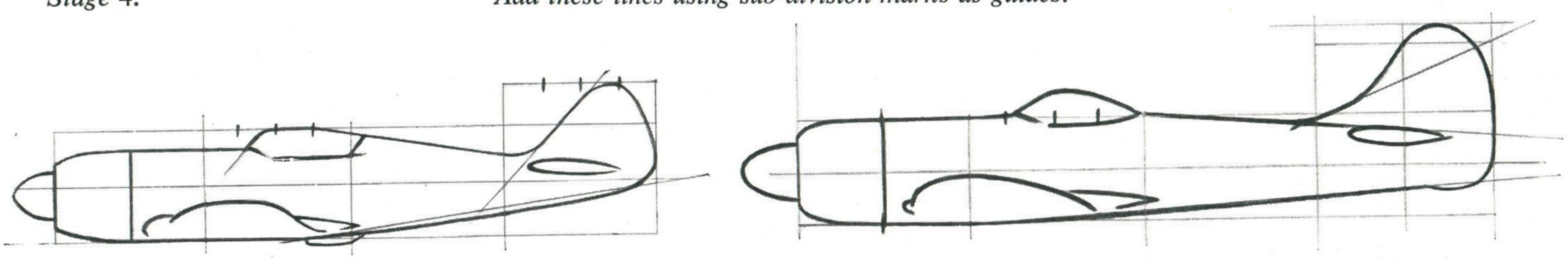
Stage 2. *Sub-divide it into eight equal parts as shown.*



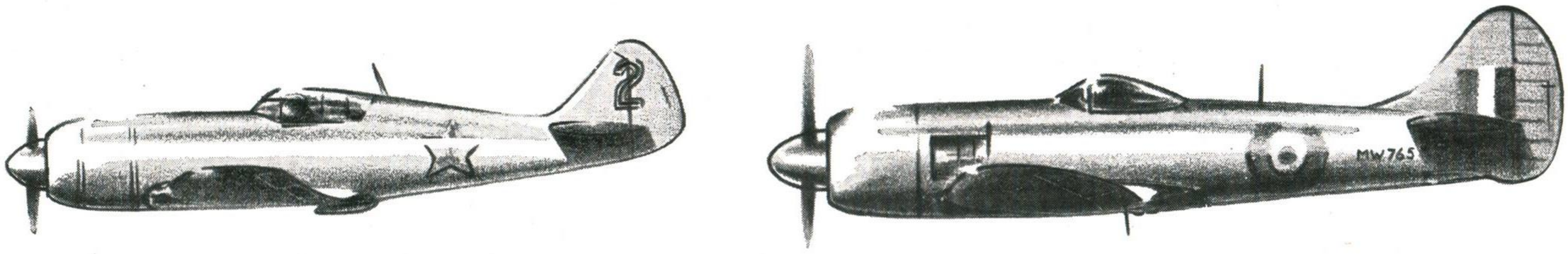
Stage 3. *Make the last sub-division (X) into a square and sub-divide lines as shown.*



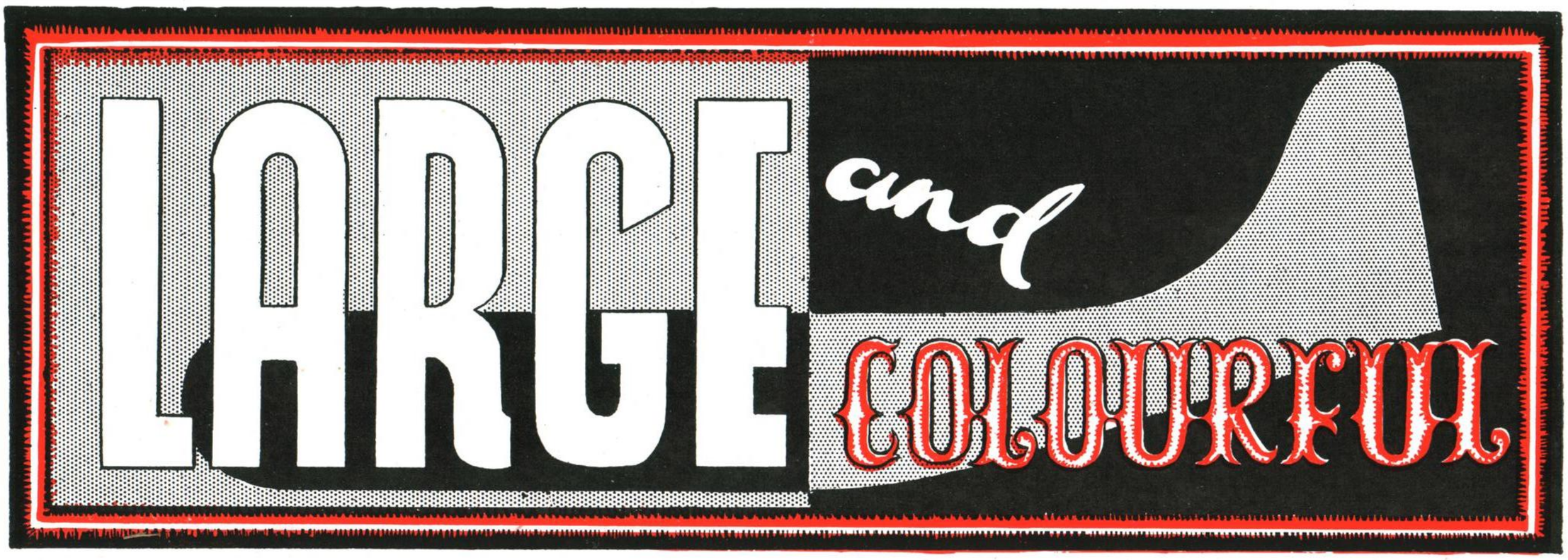
Stage 4. *Add these lines using sub-division marks as guides.*



Stage 5. *Add these curves and complete the outline.*



Stage 6. **LA-9** *Rub out the construction lines and finish the drawing to taste.* **TEMPEST 2**



The author's views in this article are his own and are not necessarily held officially. Nevertheless, they provide food for official and unofficial thought and we are pursuing them. Meantime we should like to hear from anyone who has had experience in this subject and also of anyone who can try out some of the ideas. As regards the author's remarks about " dead and dowdy material " from which official models are made, he intends no disparagement. He appreciates fully the value of the official models : his idea is, simply, to improve it.

MANY INSTRUCTORS are searching for new ways of putting over aircraft recognition to their men, new ways of coping with an ever more complicated problem. Each instructor, of course, finds special ways and means and adjusts his teaching to the human (and other) material available. In this article I should like to bring up one or two general points of teaching which have many applications.

Magnitude

First the question of size ; the size of the actual material we teach with—silhouettes, photographs, models and diagrams. Wherever possible it is best to present the largest possible images to the learner. The large image is absorbed quicker, and remembered longer and more accurately, than the small. Also, and this is very important, having learnt from a large image you can always recognize it quickly if ever you see it in miniature form. A racehorse trainer, living and working with his animals, has no difficulty in recognizing any of his stable far away in a neighbouring field. One of the reasons is that a complex form (say an aeroplane) is a mixture of all sorts of elements, of angles, lines, spaces, solids, and what not ; and the larger these shapes are presented to the eye, the more truly, and more easily, can the eye sweep over them and the brain register them. Take the subtleties of a fin and rudder. Look first at a small silhouette, then at a large silhouette or photograph, or at the real aircraft. The true shape and " feeling " are so much more apparent in the latter as the eye can see all the small variations and contrasts without straining. It can move smoothly and easily, whereas in the small version the whole configuration is compressed and small features are often nearly invisible.

by C. H. GIBBS-SMITH

Books and cards are all right for reference and odd time study, but if you can lay hands on an epidiascope you will find the learning process immensely accelerated. Class instruction with wall projection of this kind, or with large silhouettes, should always be accompanied by the instructor pointing to the various features and describing them at the same time. One of the odd things about self-study is the difficulty many people have in making themselves go all over the aircraft consistently. If the eye is led and the brain stimulated by the descriptions there is less directive effort necessary and more attention paid.

Magnify

Another very useful makeshift is the large magnifying glass of 4 inches diameter or over—the larger the better, as there is less distortion round the edges. Used on the small standard silhouettes, on photographs, or on the one-view cards it makes learning very much quicker.

The next point depends entirely upon the individual ability of the instructor. When pointing out features on a silhouette or photograph, anything that stimulates the emotions and links *feeling* with *observation* is valuable. I mean here, feeling about the actual shapes, not glamour about the aircraft and its history. The way to do it is the time-honoured one of likening the various parts of the aircraft to common or uncommon objects. After a time the learners themselves start thinking along the same lines and suggest their own ideas. I remember during the war having considerable success in likening the fins and rudders of the Dornier 17 to execution blocks. The slightly morbid associations helped rather

than hindered the learning! The human mind spends a great deal of its time quietly dealing in symbols. Some people see almost everything in terms of something else. A tree reminds them of a torch, their friend's long neck of a giraffe or Alice in Wonderland. So by graphic description and analogy the instructor can work wonders when describing the features of an aircraft.

Colour

It does not need a scientist or psychiatrist to convince us that coloured things are more emotionally stirring and outstanding than those in monochrome. And further : that objects coloured with hues from the red-yellow end of the spectrum are more stimulating than those from the blue-violet end. Tests have shown this in some interesting applications ; for instance, people in a restaurant decorated with reds, yellows and oranges eat quicker than those in surroundings predominantly blue or green ; the latter tend to relax you. If we had only realized this in the recent war, and it should have been fairly obvious, I am sure that all sorts of training would have been improved. Today I hope the doctors and scientists will get busy on this aspect of the business. Take our subject of aircraft recognition. I am fairly certain that if the excellent models made officially were to be coloured in bright reds, yellows and oranges the time taken in learning them would be reduced and the task greatly eased. The stimulation of colour goes very deep in us and is probably linked with fire, the sun and blood. *But the black bakelite is a dead and dowdy material. Ideally, coloured models should be shown against a plain background of their complementary colour ; that is to say, a red model against a green background ; because the after-image on the retina is of the complementary colour. That is why in some modern factories the wall decorations are of the complementary colour to the machines being used, so that the operators, when they look away from their machines will not be troubled by the after-image on the wall—the after-image being the same colour as the wall. The use of colour in instruction has been neglected to a strange degree, and much valuable experimental work can now be done by those of us concerned with Aircraft Recognition.

Caution

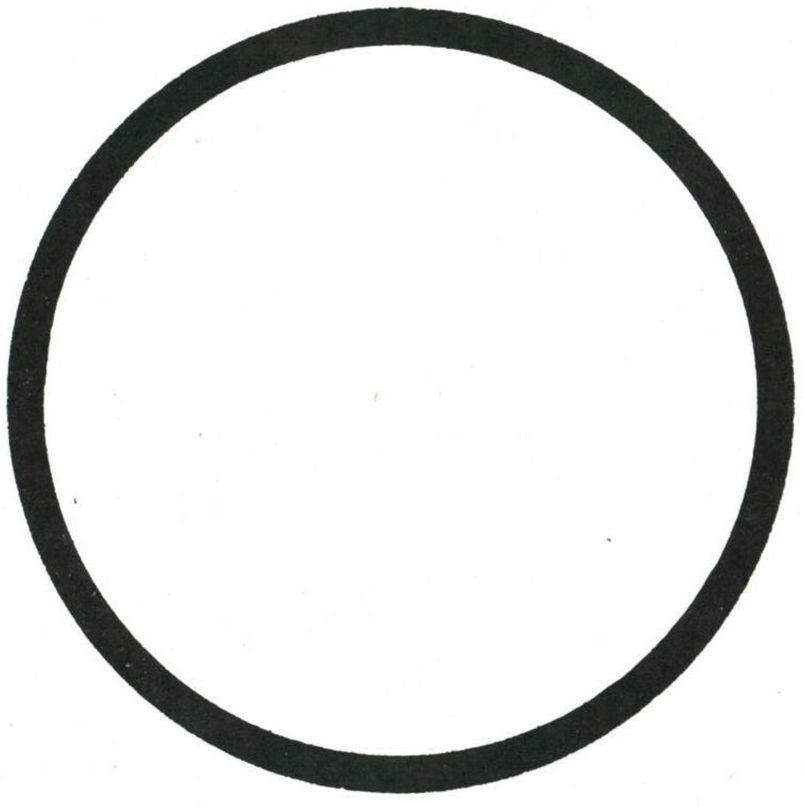
Care will have to be taken in the *printing* of coloured material. For although it may be very successful if properly done, the question of definition must be watched. A bright red model is excellent ; but the same colour used to print, say, a large wall silhouette, may be too light to give good crisp outlines on white paper. A dark, plum red might be better for such work on paper. But the whole subject is well worth investigating fully.

Before ending these notes, I should like to emphasize that these aids and devices, in fact any aids and devices, are concerned with the *initial learning* of an aircraft shape. Once this first-learning process is over we get immediately into the *automatic and mechanical* realms of the flash trainer and other devices which will be described later. What we have been discussing is the learning process, the inculcating (literally " *treading in* ") of the complex shapes of an aeroplane. The success of this process depends upon the ability of the teacher to teach, or the self-teaching methods, and the natural ability of the learner. The latter is a gift from heaven, but there is no reason why the former should not be first rate, and therefore help to bring up the not-so-apt to a high standard and the apt to the standard of the expert.

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*The reason for black models is that aeroplanes generally look black or dark against the sky. The black model held against a light background gives good characteristic impressions. Incidentally, all models are now made of wood.—ED.



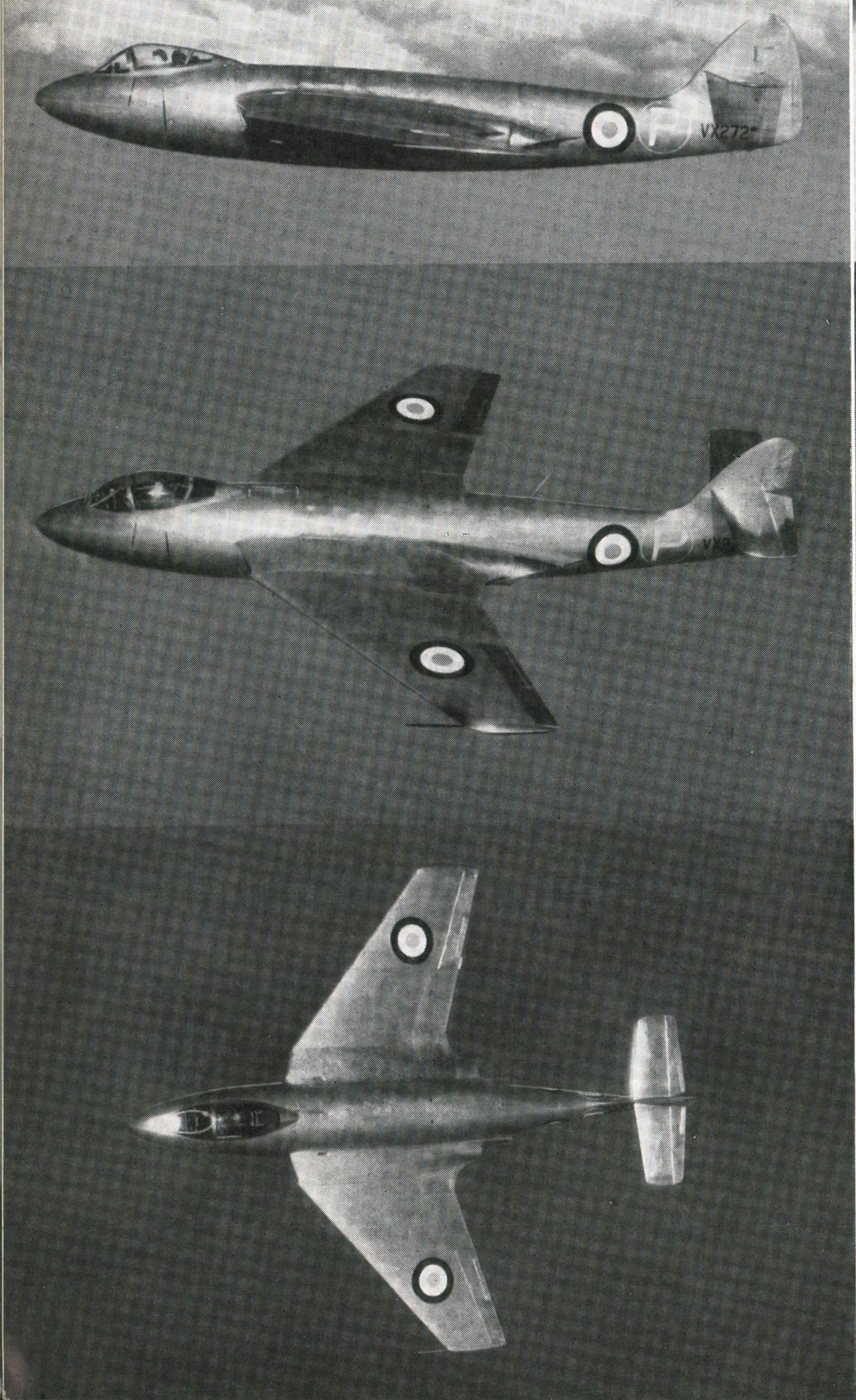


Get in a strong light and gaze earnestly at this coloured diagram for 10 or 15 seconds, then shift your gaze to the white space within the adjoining circle. You should be able clearly to see an image of the Mig.-9 in its complementary colour. You might also try projecting it on the epidiascope.



APOLLO

P.1052



SHACKLETON





British Aircraft in the News

APOLLO'S ADVANCE

Armstrong Whitworth A.W.55 Apollo (4 Armstrong Siddeley Mamba turboprops).

"STACKING" at airports, i.e., awaiting turns to land, is an expensive nuisance for the airline operator. An airliner which can take a fifty per cent power-cut whilst "standing off" will therefore be welcomed. That is what Apollo is expected to be able to do in practice—to cut out two turbines and cruise round awaiting its turn to land, if, indeed, such waiting is necessary when the Apollo comes into service. The Apollo is a project of the Brabazon Committee ; it was given their specification No. 2B and is the second British turbine transport to fly. From the recognition point of view, it carries something of the characteristics of the pre-war Armstrong Whitworth Ensign design, particularly in fin and rudder. It has a low wing, tapered slightly forward (curved trailing edge) with generous root fillets. The four turbines, of very small diameter, project only a short distance ahead of the wing. Its tapered tail-plane (also curved on trailing edge) is set on the fin. (Photo opposite.)

Data : Span : 92 ft. Length : 72 ft.
Maximum Cruising Speed : 350 m.p.h.

CLEAN SWEEP

Hawker P.1052 (One Rolls-Royce Turbojet).

ON the opposite page we show a selection of views of the new Hawker experimental swept-wing fighter, which recently figured in the London-Paris record flight (subject to confirmation by F.A.I.). It appears to be a fuselage and tail unit as used in the P.1040 design (retaining the expanded centre section containing the bifurcated jet trunks and tail-pipes) to which are attached the new swept-back tapered and blunt-tipped wings. No performance details are available other than the record trip-time London to Paris, which was 21 minutes $27\frac{4}{5}$ seconds.

SHACKLETON SHAKE-DOWN

Avro Shackleton (4 Rolls-Royce Griffon in line engines)

THE Avro Shackleton, which is to be used by Coastal Command on reconnaissance duties and for shadowing and striking at surface and underwater vessels, is developed from the Lancaster and Lincoln heavy bombers. It will be the most powerful piston-engined aircraft in the R.A.F., the four Rolls-Royce Griffon engines, coupled to four six-bladed de Havilland contra-rotating propellers, providing 10,000 h.p. for take off. Heavy offensive gun armament will consist of two forward firing 20 mm. cannon in remotely controlled barbettes on each side of the nose, two more 20 mm. cannon in a dorsal turret, besides two 0.5 in. machine guns in the tail turret. A tail-wheel undercarriage was chosen for the Shackleton to facilitate stowage of bombs, which will occupy the whole width of the fuselage from the radome under the nose to several feet aft of the trailing edge of the wing. Comprehensive radar, radio, and de-icing equipment are installed for all-weather operation. In appearance the Shackleton has a bulkier fuselage than the Lincoln and a wider chord tailplane which is mounted on top of the fuselage. Fins and rudders are also proportionally larger and rounder.

A NEW COMET

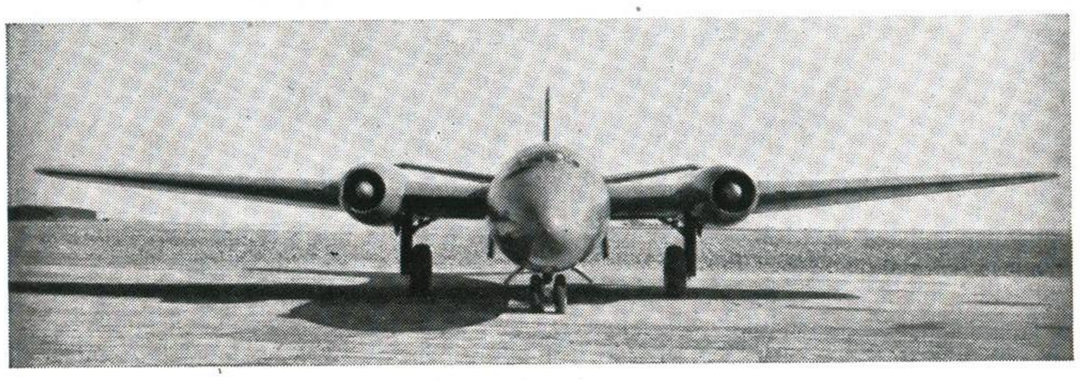
De Havilland D.H.106 Comet

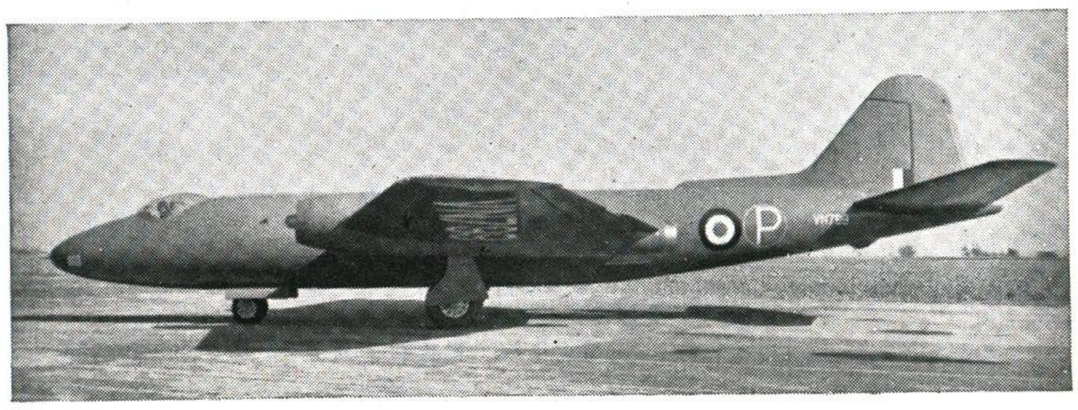
LONDON to SYDNEY in 36 hours (24 hours in the air and 12 for refuelling) is the target aimed at by de Havillands for their new jet airliner, the "Comet". Although performance details are being kept a close secret, it is said that with four De Havilland "Ghost" engines the Comet will have a top speed of somewhere near 600 m.p.h. (double that of the average present day airliner) and will cruise at anything between 500 and 550 m.p.h. Being the only one of its kind, the D.H.106 is destined to revolutionize air travel ; it is, for instance, planned that flying at 40,000 ft. ($7\frac{1}{2}$ miles) with 20 passengers, the Comet will cross the Atlantic in 7 or 8 hours. 32-40 passengers will be carried on shorter routes. With swept-back wings she will look something like an enlarged version of the little D.H.108, which is most likely being used as a flying test bed in connection with the Comet's design. The D.H.108 has itself already reached the speed of sound. The operating problem for the Comets will be how to speed up the flying control facilities to enable them to come straight in, as they will have no time to "stack" or "stand off". The Comet should fly this year, and, snags overcome, is expected to be in service with B.O.A.C. towards the end of 1951. There are, altogether, sixteen on order.

BRITISH JET-BOMBER

English Electric Company's A.I.

THIS DESIGN is the first British jet bomber to fly. These two views, the only ones released, give some idea of its appearance and general recognition character ; which seems to be a blend of sleekness, simplicity and shallowness. We thought we had seen that fin and rudder somewhere before and when we enquired found that this was so, the designer being W. E. W. Petter (late of Westland Aircraft) who was responsible for the Lysander amongst other Westland designs. No performance figures or technical data concerning the A.I. may yet be given.





IRON-CURTAIN AIRCRAFT IN THE NEWS

IL-2 **STORMOVIKS** of the war-time S.A.F. having a D.I. (daily inspection). Presumably the gentlemen in overalls and grins are the D-Iers. Engine details of the Stormoviks include " lip " intake beneath spinner, stub exhausts and an intake in top cowling. Notice the wing thickness at its root. IL-2s are mostly in S.S.A.F.'s (Soviet Satellite Air Forces) now.

LA-9 Cockpit close-up. The " gubbins " on the roof is not identifiable though it helps recognition. LA-11s (a similar aeroplane to the LA-9) may carry them. That is probably a gun sight behind the armoured glass and behind the pilot is a loop aerial. (Silhouette : May 1948 *Journal*).

IL-2

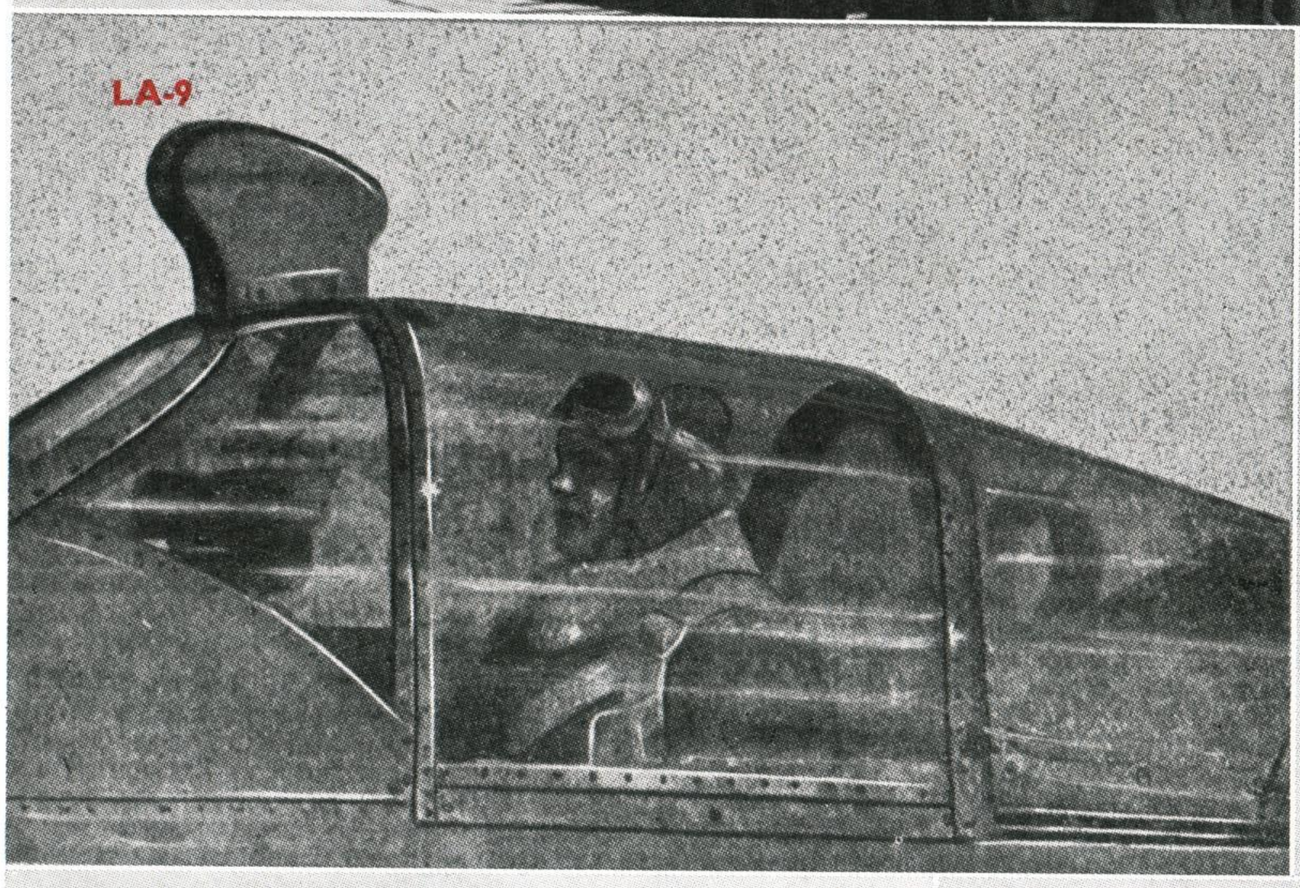


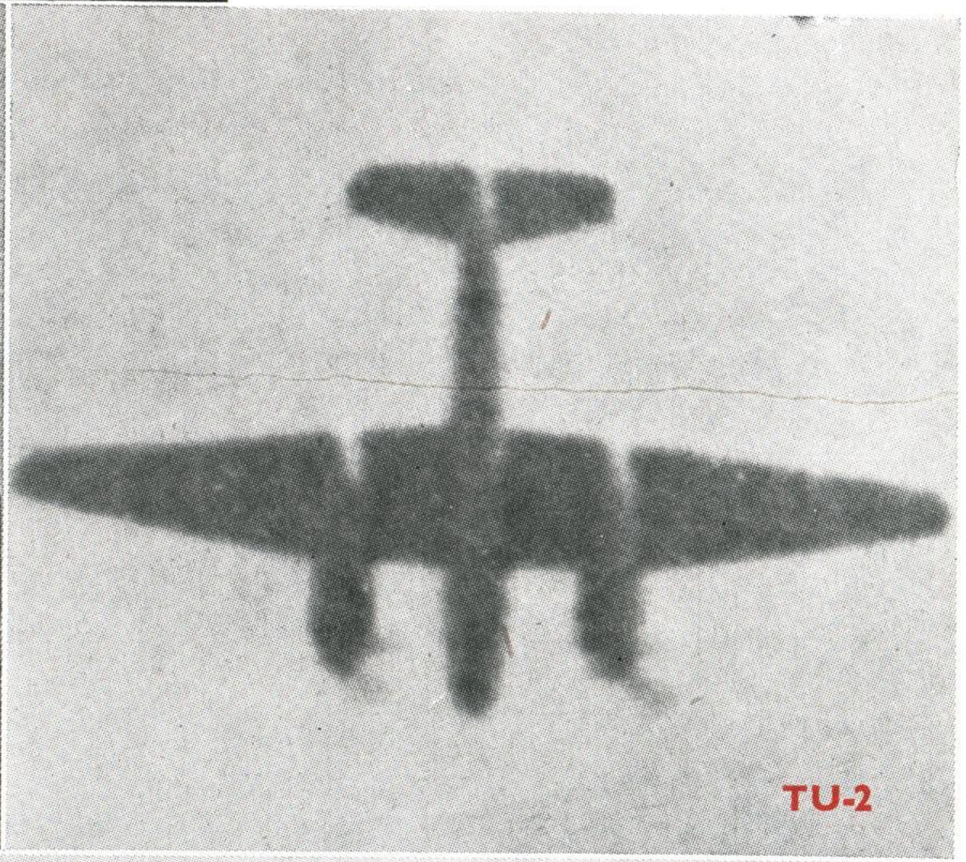
TU-2 Blow-up. A yet closer view of one of the TU-2s, taking part in Moscow's Air Display (illustrated last month) showing its main recognition characteristics quite clearly. (Silhouette : January 1947 *Journal*).

UT-2 Star-spangled, two-seat, trainers by Yakovlev, carrying his mark, the fin and rudder, just clear of the cloud. Though superficially like a Harvard the UT-2 has its wheels and engine permanently exposed.

IL-12 encircled and admired, sits gracefully upon its five wheels. Incidentally the small figure doing the admiring also appears in our picture of this aeroplane on page 102. Note the characteristic " lean " and shape of the fin and rudder. (Silhouette : October 1948 *Journal*.)

LA-9

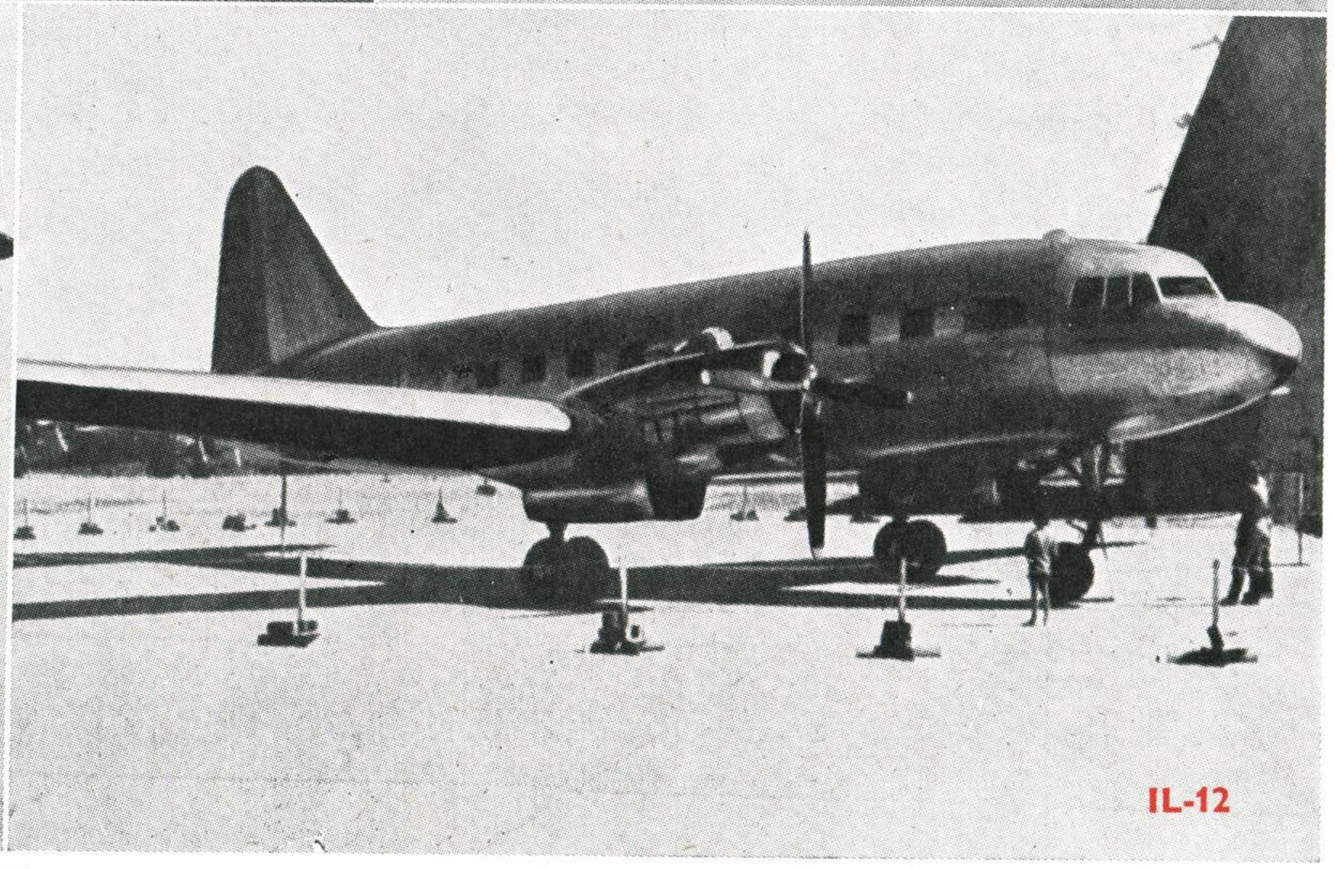




TU-2

UT-2

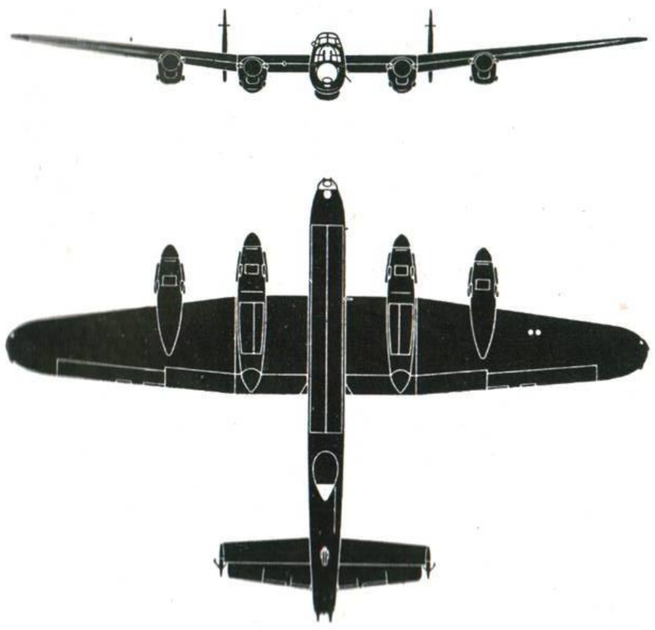




IL-12

SILHOUETTES—AVRO FOUR-ENGINE FAMILY

LANCASTER B.Mk.7



British Bomber

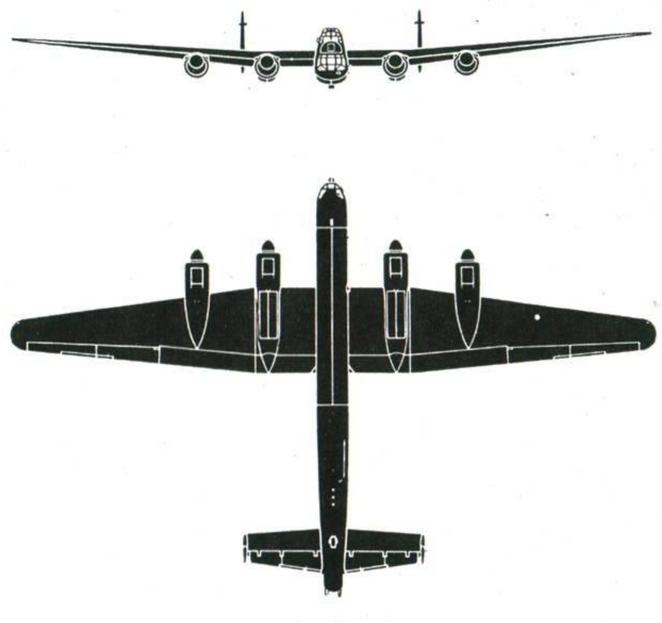
Engines : Four R.-R. Merlin 24

Span : 102 ft. Length : 69 ft. 11 ins.

Recognition Points :

Wings : Mid-set, wide chord, straight centre section, tapered back outer sections with dihedral angle, rounded tips. **Engines :** four, underslung. **Fuselage :** short, narrow, deep. **Tail :** wide-span forward-tapered tailplane, tall oval twin fins and rudders (endplate type). **Detail :** front, mid-upper and tail turrets, radome on fuselage belly, fixed tail wheel.

LINCOLN B.Mk. 1 and 2



British Bomber

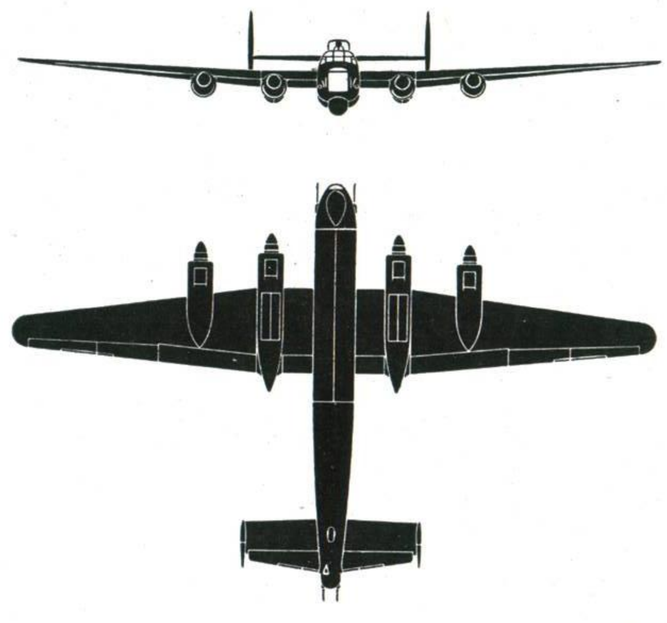
Engines : Four R.-R. Merlins

Span : 120 ft. Length : 77 ft. 6 ins.

Recognition Points :

Wings : Mid-set narrow-chord, short straight centre-section, dihedral in outer sections, wide span, sharp taper rounded tips (pointed aspect). **Engines :** four, underslung, circular cowlings. **Fuselage :** long, narrow. **Tail :** wide-span, forward-tapered tailplane, tall, oval twin fins and rudders (endplate type). **Detail :** front, mid-upper and tail turrets, long low cockpit on nose, fixed tail wheel.

SHACKLETON GR.Mk.1.



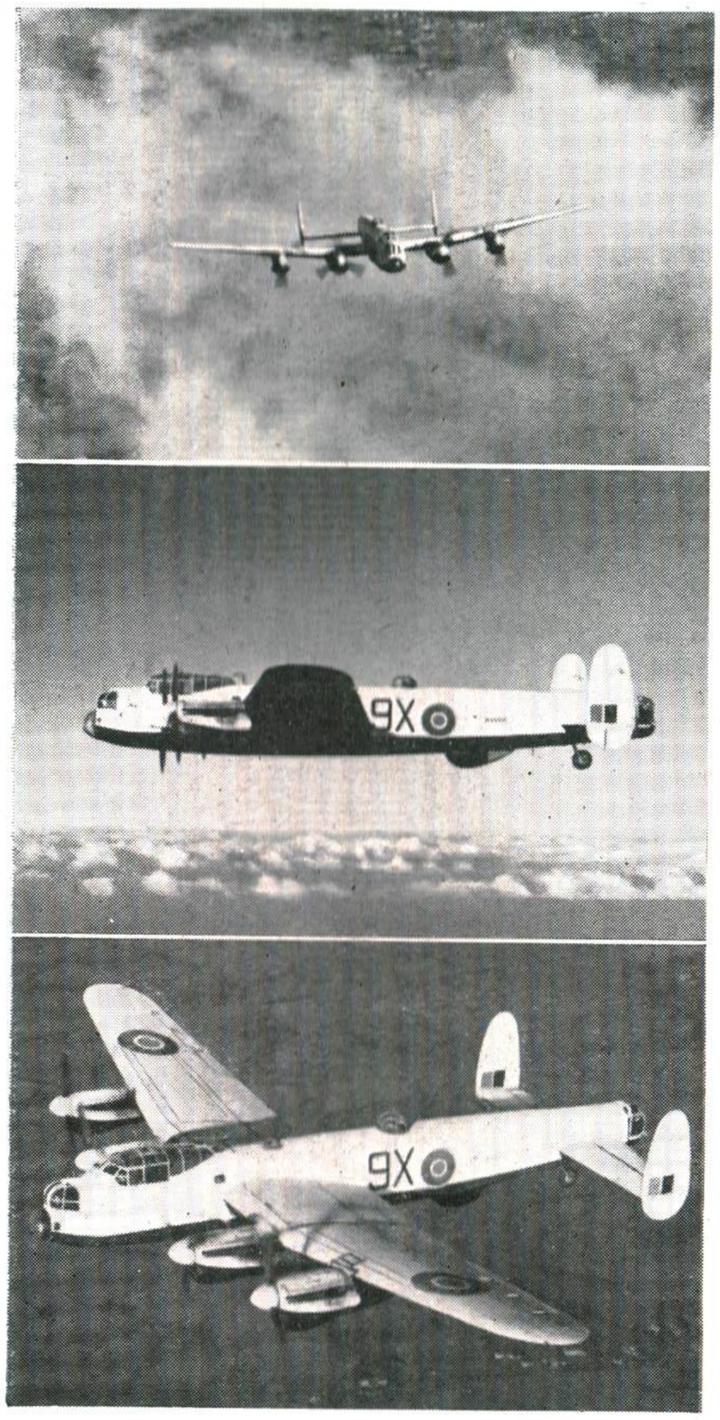
British General-Recco.

Engines : Four R.-R. Griffon 57

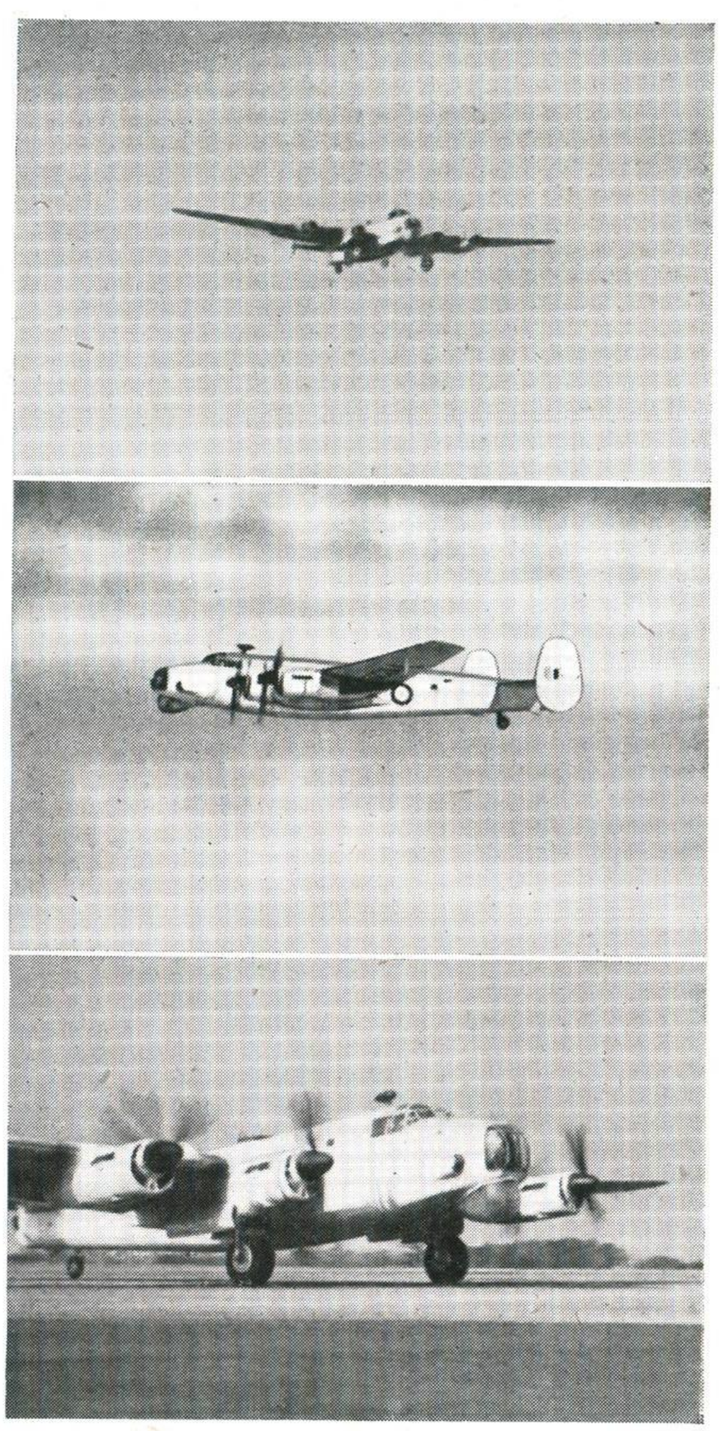
Span : 120 ft. Length : 77 ft.

Recognition Points :

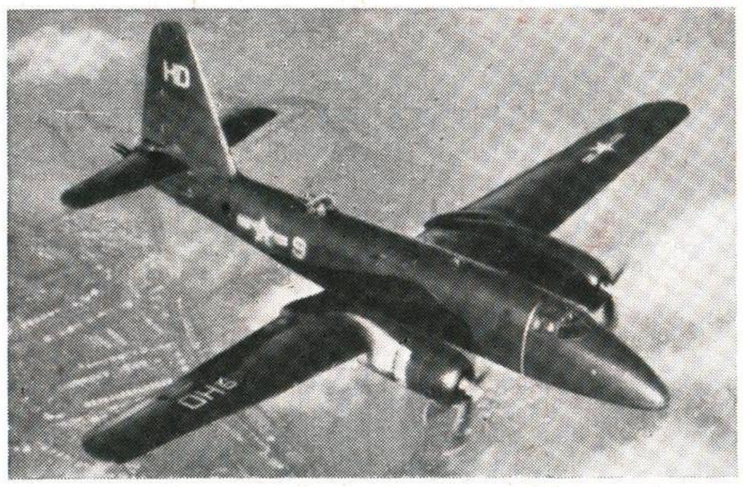
Wings : Mid-set, narrow-chord, short straight centre-section, shallow dihedral in tapered round-tipped outer sections (pointed aspect). **Engines :** four, underslung, in circular cowlings, inner pair extending beyong wing. **Fuselage :** short, deep, thick. **Tail :** tapered-forward tailplane carrying broad oval twin fins and rudders (endplate type). **Details :** nose guns, mid upper and tail turrets. radome under nose, faired cockpit canopy, fixed tail wheel.





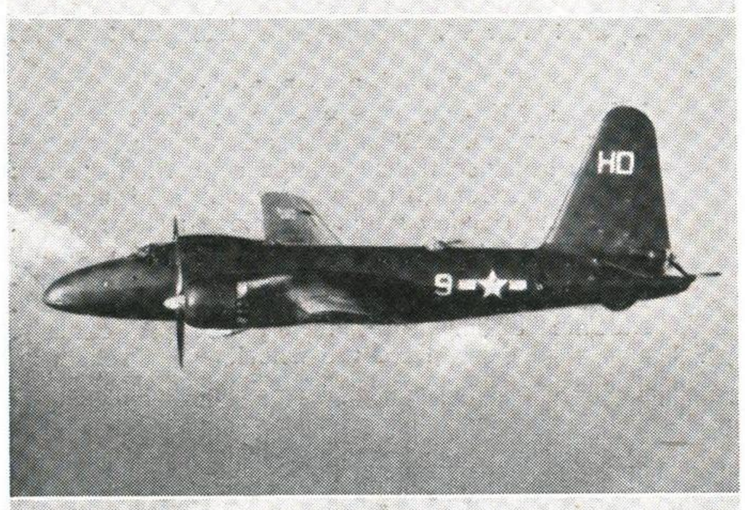


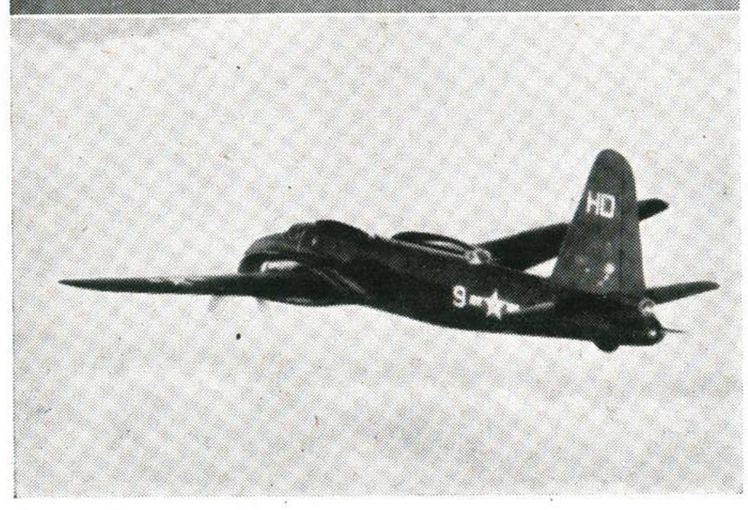
SOLUTIONS TO RECOGNITION TESTS IN THIS EDITION:



Cover photo: The Lockheed P2V-2 Neptune. The size of the triangular fin and rudder (seen in all these views) and the long, narrow-chord wing, make it difficult for the Neptune to hide its identity at great distance or height.







No. 97 (WHEELS DOWN !)

1. Sturgeon T.T.Mk.2 (*P*)
2. Firefly F. Mk.1
3. Seagull Mk. 1 (*P*)
4. F9F Panther
5. Ambassador
6. C-82 Packet
7. Sea Fury F. Mk. 10
8. Lincoln B. Mk. 2
9. Viking (with Nenes)
10. Constitution
11. Vampire F.B. Mk. 5
12. FR-1 Fireball
13. A-26C Invader
14. B-47
15. Tudor Mk. 8 (*P*)
16. B25J Mitchell
17. Brigand B. Mk. 1
18. York
19. Harvard T. Mk. 2
20. Tempest F.B. Mk. 2
21. Wellington T. Mk. 10

No. 98 (ADVANCED)

745. Sea Hornet 20
746. Athena T.1
747. Piasecki HRP-1
748. SR/AI
749. Lancastrian (Avon)
750. Viking (Nene
751. Hermes 4
752. P2V-2 Neptune
753. F-80 A Shooting Star
754. Sea Attacker (E10/44)
755. S28/43 Firecrest
756. Lincoln B.2
757. Balliol T.2
758. Rapide/Dominie
759. Meteor F.4
760. B-50
761. Horsa 2
762. F-61 Black Widow
763. Bristol 171
764. Buckmaster

No. 99 (SILLOGRAPHS)

566. Tudor 4
567. Firefly F.R. Mk. 4
568. Firecrest (S.28/43) (*P*)
569. Anson 19
570. Sea Hornet P.R.22 (*P*)
571. B-47
572. Viscount (*P*)
573. Mosquito T. Mk. 3
574. Buckmaster T. Mk. 1
575. Balliol T. Mk. 2 (*P*)
576. Harvard T. Mk. 2
577. Gemini
578. Tudor 8 (*P*)
579. Athena T. Mk. 1 (*P*)
580. P2V-2 Neptune
581. AW-52 (*P*)
582. Tempest F.B. Mk. 2
583. Ambassador (*P*)
584. AD-1 Skyraider
585. S.R/A.1 (*P*)
586. Constellation

(*P*)—Prototype

NEW AIRCRAFT RECOGNITION MATERIAL

The undermentioned new Air Diagrams and Models are now available and initial distribution has been made. Applications for supplies should be made through normal official channels, quoting reference numbers as shown below.

Large Silhouettes
AD.4709 Issue 2, Tudor 4
AD.4832 Issue 1, Sea Attacker

Pictorial Charts
AD.4693 Sea Attacker
AD.4833 Issue 1, Skyraider, AD-1

1/72 Scale Models
Stores ref. 52/828 Sea Fury
52/884 Tudor 2
52/895 Mig Jet
52C/892 Firefly 4

Working Drawings 1/72 Scale Models
AD.4632 Superfortress B-50A
AD.4633 Mauler, AM-1
AD.4777 Martin 2-0-2
AD.4779 Auster 6

TRICKY TRIO X

Left to right: Martin AM-1 Mauler; Ilyushin IL-10; Douglas AD-1 Skyraider.

TRICKY TRIO—X



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