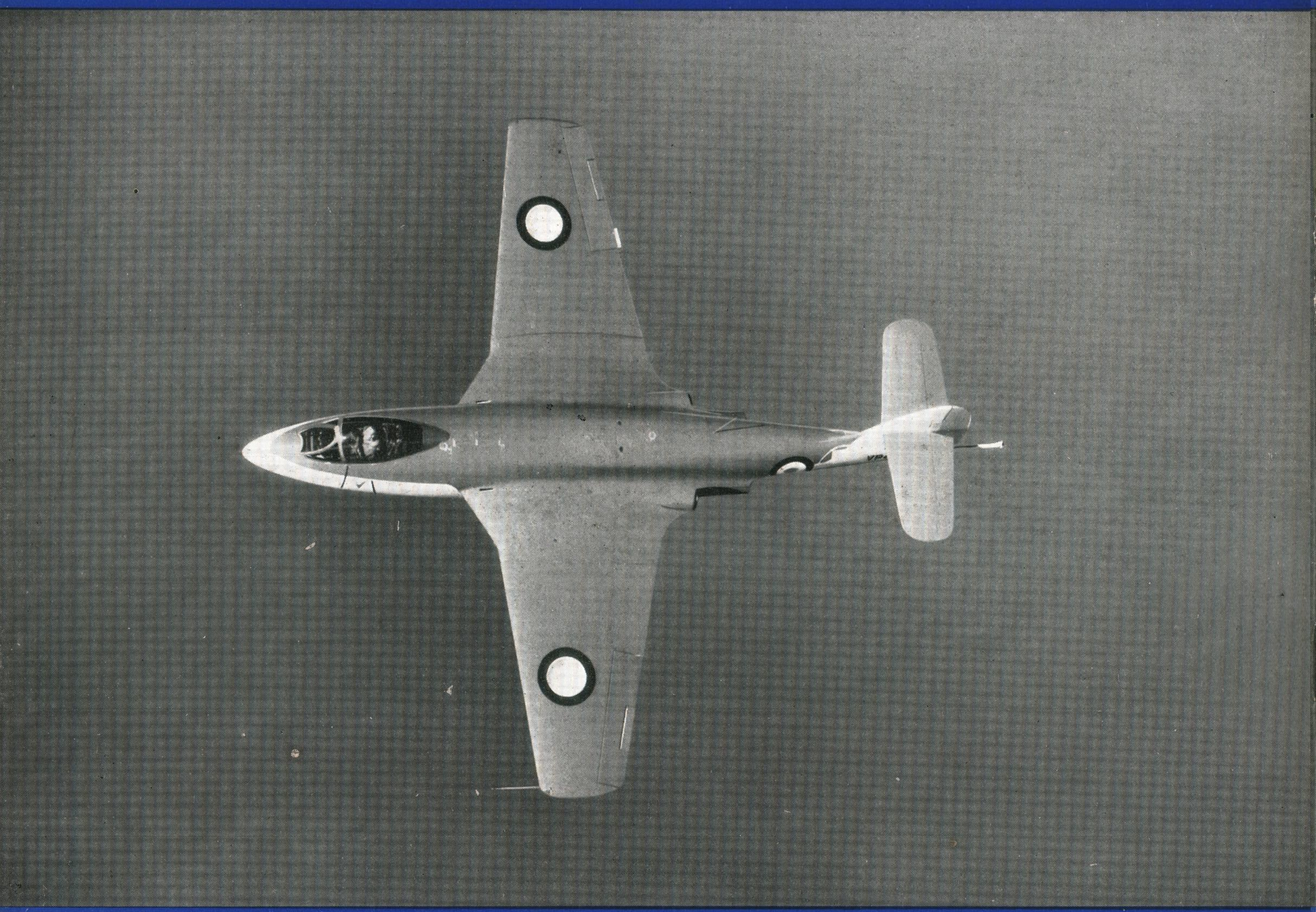
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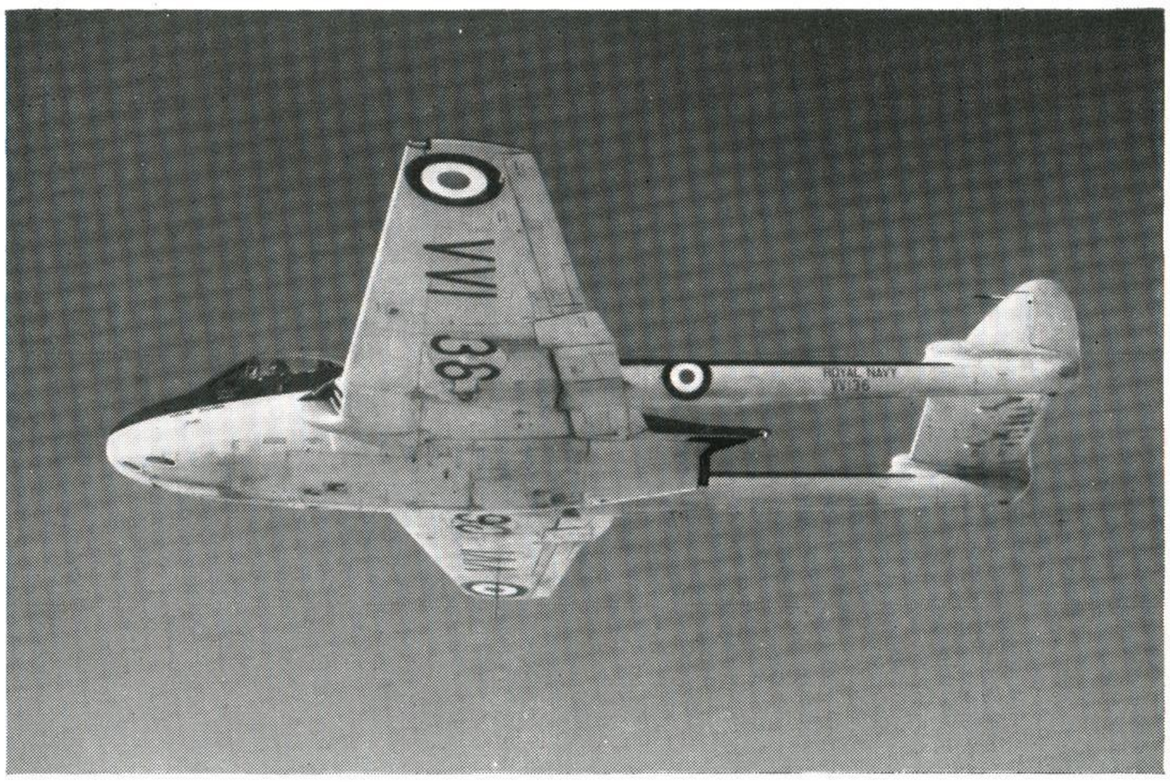
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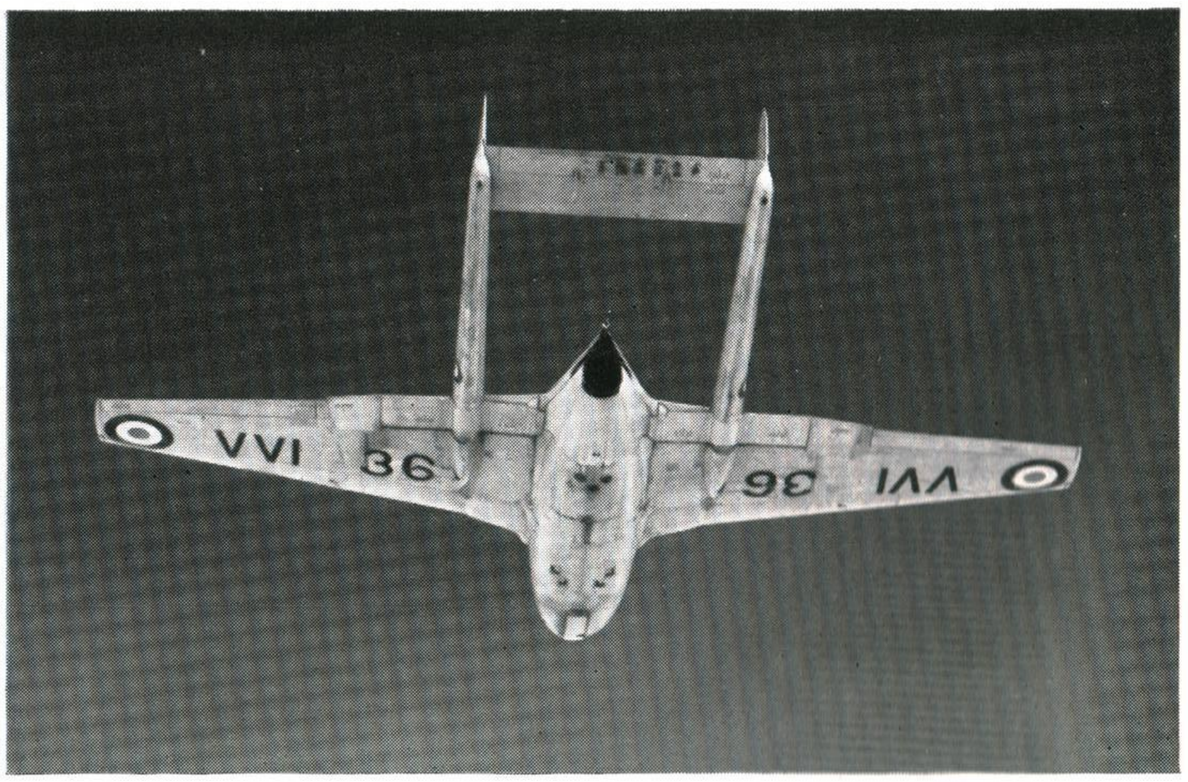
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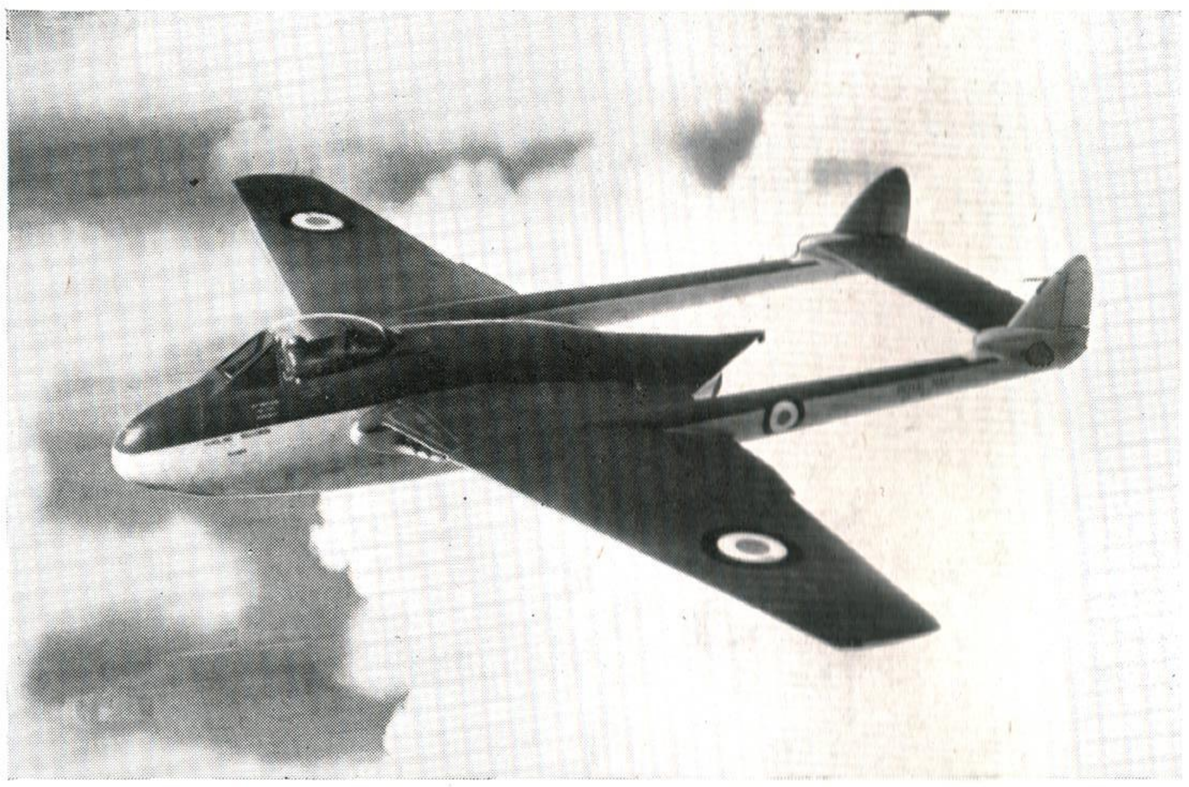
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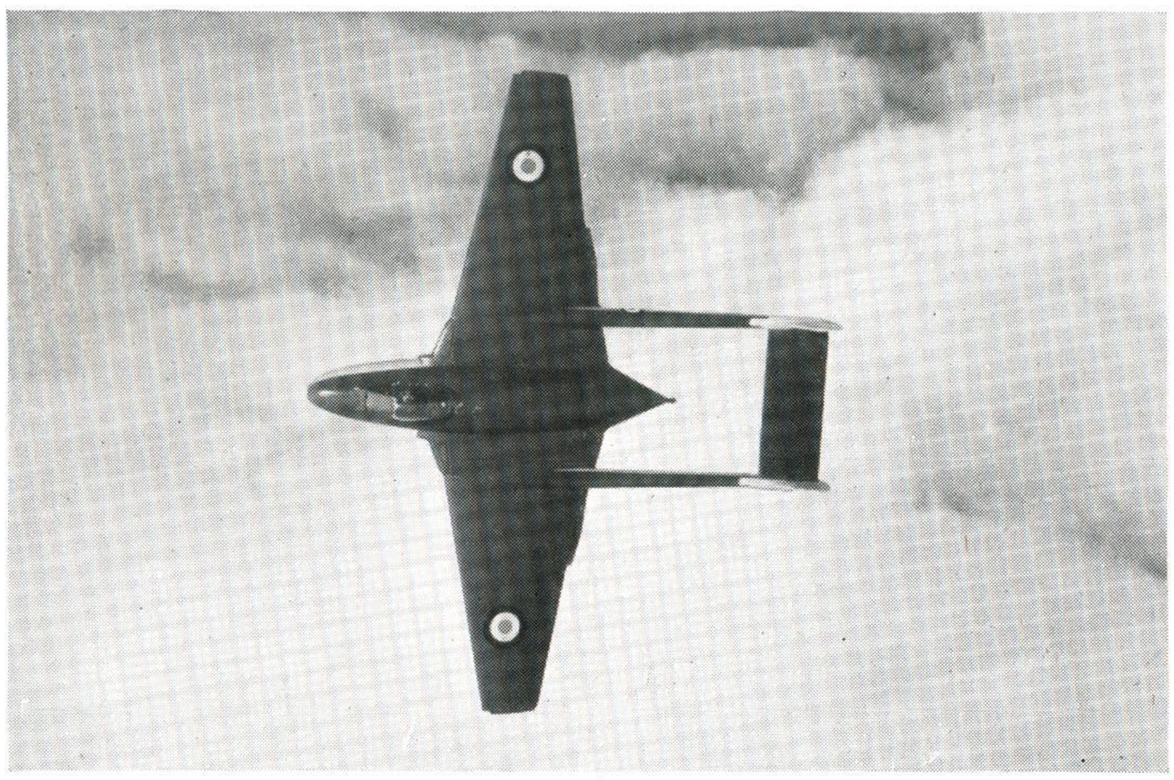
De Havilland Sea Vampire FB Mk. 20

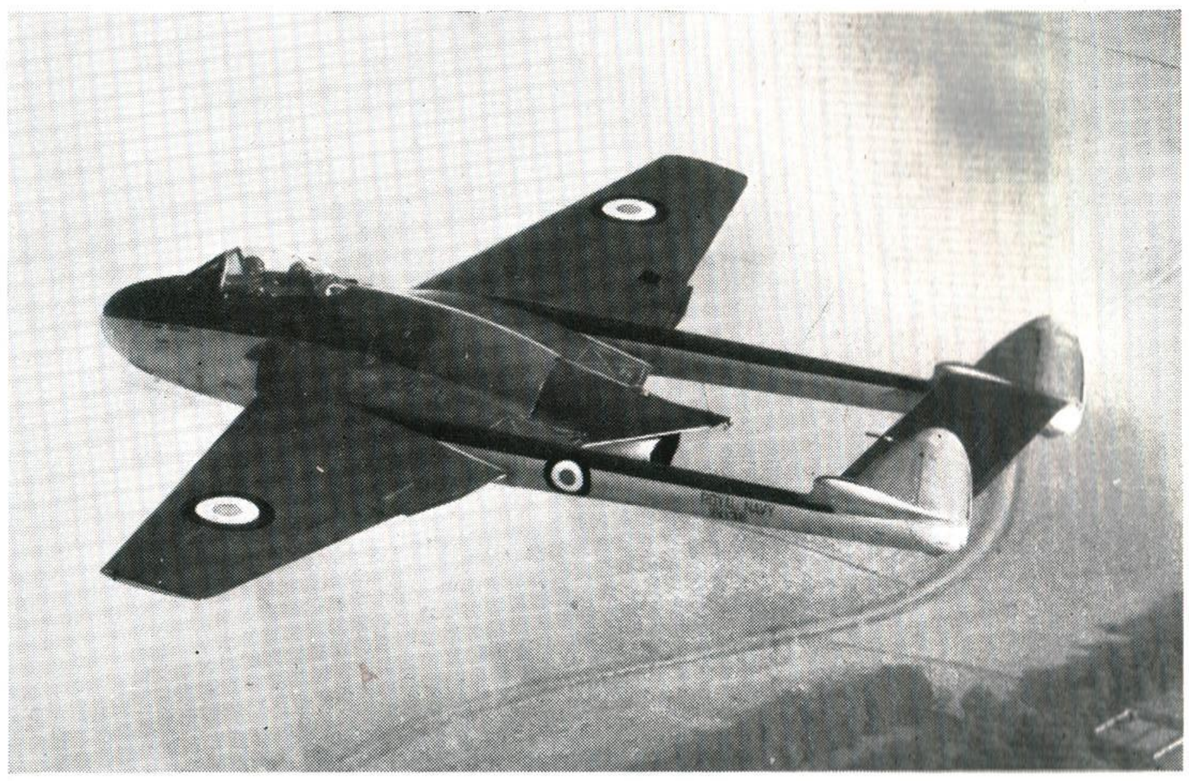








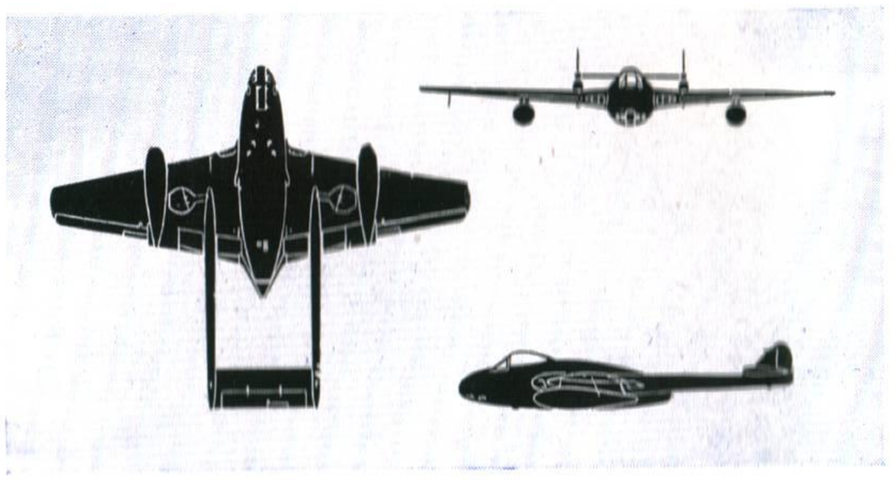




(One D.H. Goblin turbojet engine)

BASICALLY similar to other Vampires and in particular to the Mk. 5 (since it uses a clipped-wing form) the Sea Vampire reveals its Mark 20 identity only by the sting-like arrester hook and fairing which extends out over the jet-pipe at the rear of the engine nacelle. The Sea Vampire FB Mk. 20 is the first production version of the D.H. 100 Sea Vampire, and the naval counterpart of the R.A.F. Vampire. The Mk. 20 has increased flap and dive brake area (only apparent in close-up plan views or when flaps are lowered), and is fitted with a strengthened undercarriage. Provision is made for drop-tanks which can be attached half-way along the underside of each wing section. Armament is the same as for the Vampire Mk. 5 and maximum speed at sea level is 526 m.p.h.

Other Data :—Span : 38 ft. 4 ins. Length : 30 ft. 9 ins.



JUNE 1950 Vol. 4. No. 10

THE INTER SERVICES

AIRCRAFT RECOGNITION JOURNAL

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FLYING SAUCERY

THE ADVENT OF FLYING SAUCERS is not so surprising as the fact that so many people seem able to recognize them. Or are they? From published reports the names " disc " and " saucer " seem to have been applied to every unfamiliar object seen in the sky, but in many cases so-called " saucers " appear not to be anything like saucers. Descriptions of them have been extremely imaginative, and have ranged from " pint bottles " to " balls of fire " and " circular saws ". Others have been reported as " dust-bins," " rocket-ships," " cigar," " rings." The most unimaginative description was of a silver " thing ". Perhaps the most spectacular was of " ice-cream cones with red tops " or of " five silver dough-nuts rotating round a sixth". Someone also saw " a grey tadpole travelling at lightning speed ", and another, we believe a housewife, " wash-tubs—about the size of a five-roomed house ". One seen over South Africa had a glowing white tip,a green body and a red tail. This list is not exhaustive. Doubtless many experienced observers could add to it if they were so minded.

A flying-machine in so featureless a form as a saucer would probably be one of the most difficult things to recognize, as such, even in ideal observing conditions. Consider its outline. With its greatest area exposed it can show only as a disc : at a minimum, it is half an ellipse. In all other views it is roughly elliptical. Any object (including the largest aeroplane) tends to become a blob or a speck, and may actually look disc-like in certain conditions if far enough away. A polished object in sunlight is often more difficult to recognize, even when quite close, because of glitter. There is as any observer will tell you, nothing so vexatious and delaying to recognition, nothing so disruptive of an aeroplane's outline, as glitter. The largest " saucer " under these conditions could appear star-like or as a shapeless sparkle—so could an F-80, a Meteor, or a B-50.

In considering the published reports, one must make allowance for the eyesight, training and experience in observing, and the emotional characteristics of those seeing the " saucers ". It is a well-known fact that persons under the influence of emotion will often attach, in all sincerity, an imaginative interpretation to what they see. They may often see things which do not exist, and they are prone to be influenced by previous suggestion. Almost all reports of flying saucers, except the first one, could have been influenced by previous news. Incidentally, we find it interesting to conjecture upon what people would now be reporting, if the first sighting had referred to some other form of domestic earthenware.

Disc-shaped aeroplanes have been built and flown in the past. It is possible that they exist to-day, though not in the numbers suggested by the reports of flying discs. Many readers will be familiar with the most recent and well-known example, the Chance Vought V-156. This is not now flying according to reports, but no doubt other disc-shaped aeroplanes will appear from time to time in the ordinary course of aeronautical progress upon this Earth.

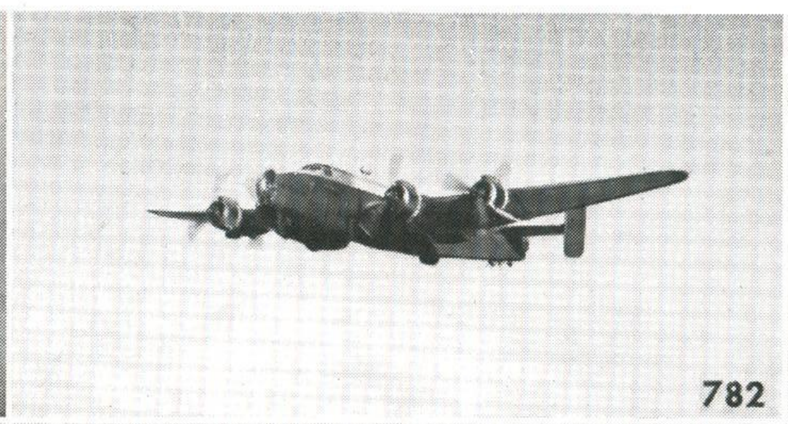
The whole business of " flying saucers " would have been rather entertaining had it not been turned into tragedy by the loss of three lives of American Air Force Officers : one in pursuit of a " saucer ", the other two whilst they were returning from investigating a report.

It is significant that in Britain, where there are thousands of trained and experienced observers, very few " saucers " have been reported. No Royal Observer has sighted, much less reported one, and until they do, we think everyone may rest assured that flying-machines celestial, or supernatural do not exist. The lesson of all this is obvious. Learn to recognize aeroplanes and you will not be troubled by " flying saucers".

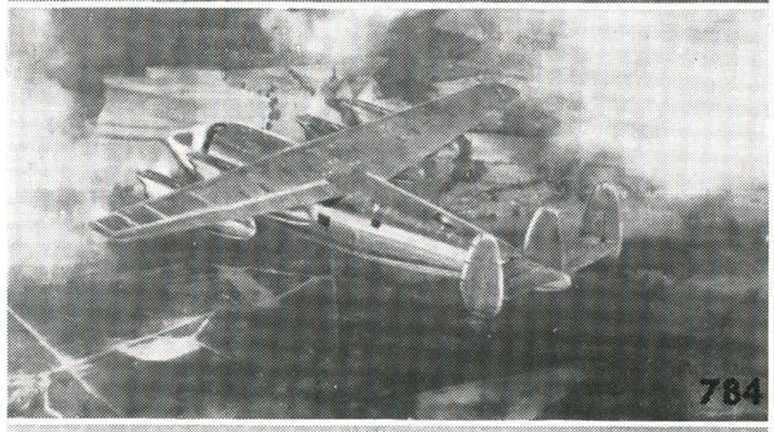
Our advice to anyone who may think he sees flying saucers is to do what General Hoyt. S. Vandenberg, Air Chief of Staff, U.S.A.F., did when he was flying a B-17 bomber one night in 1947, when the " saucer " scare of that year was at its height. A strange, disc-shaped light was observed to pass by at great speed. Instead of calling the nearest tower and reporting the " saucer ", the General gently moved his head about and found that he could bend this " saucer " to his will, making it appear and disappear as often as he wished. It was merely the reflection of a light upon the windshield.

ELEMENTARY SPOTTING


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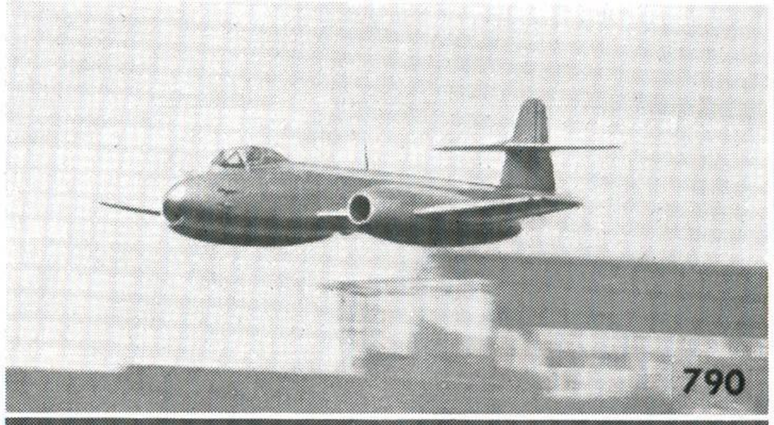

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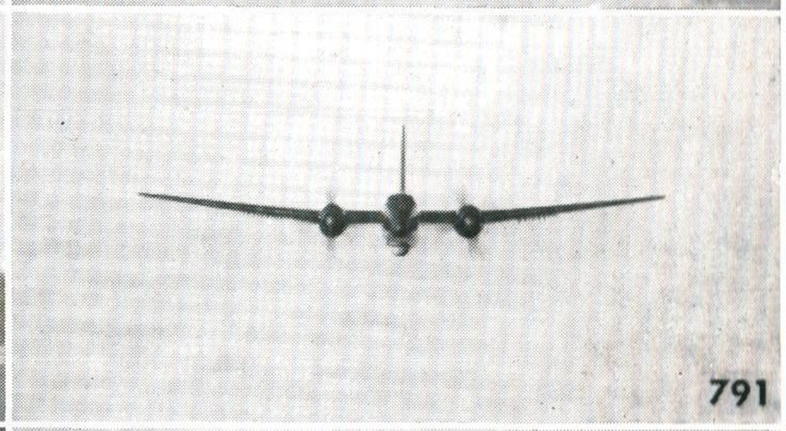

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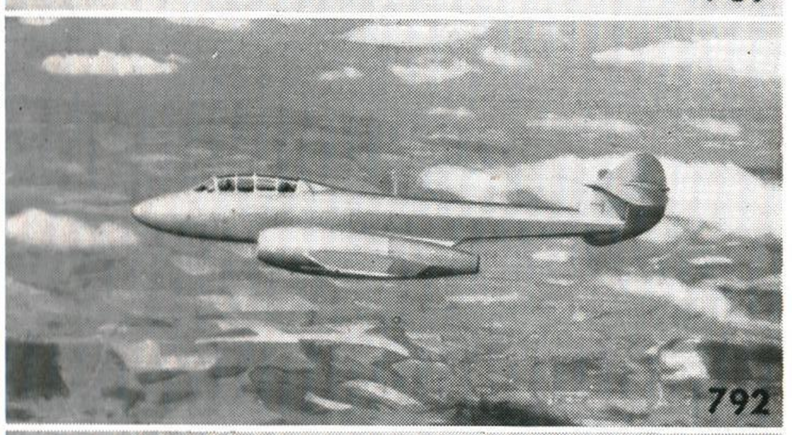

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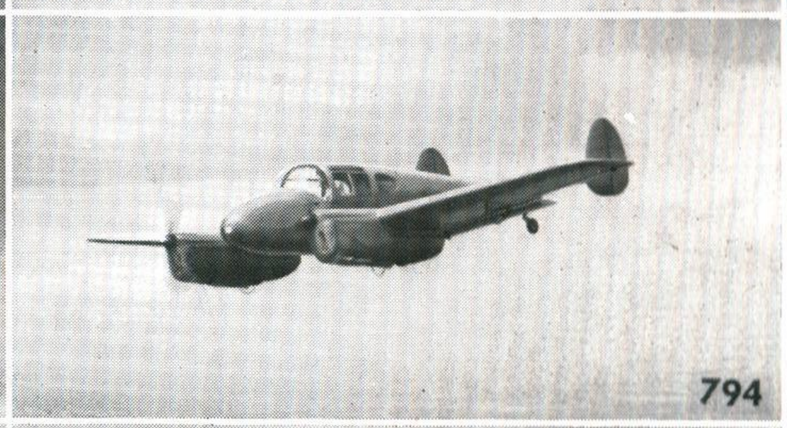

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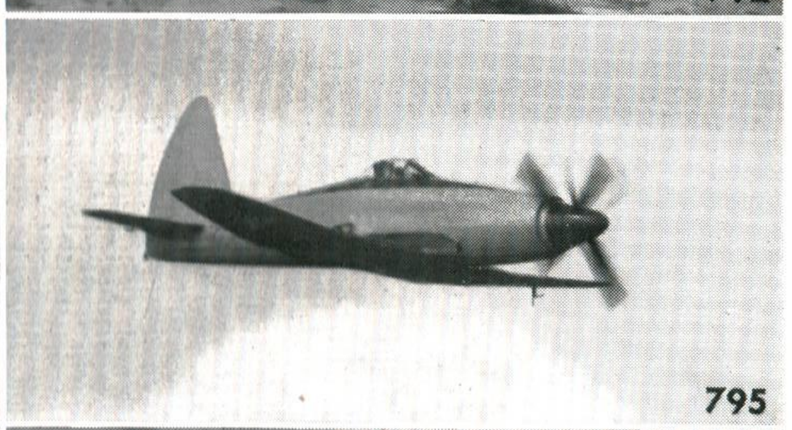

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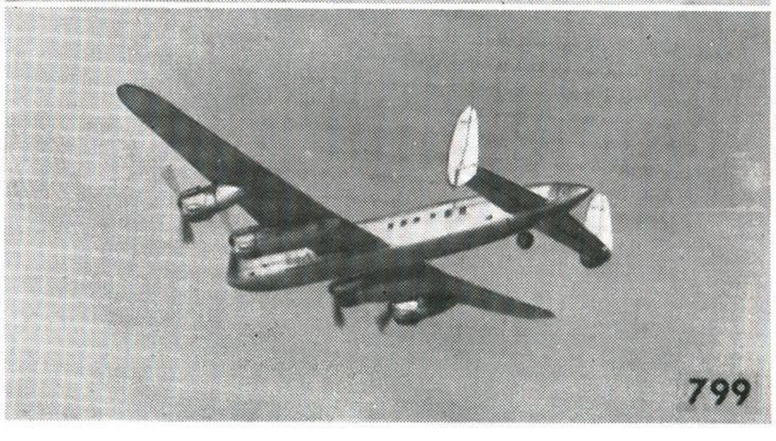

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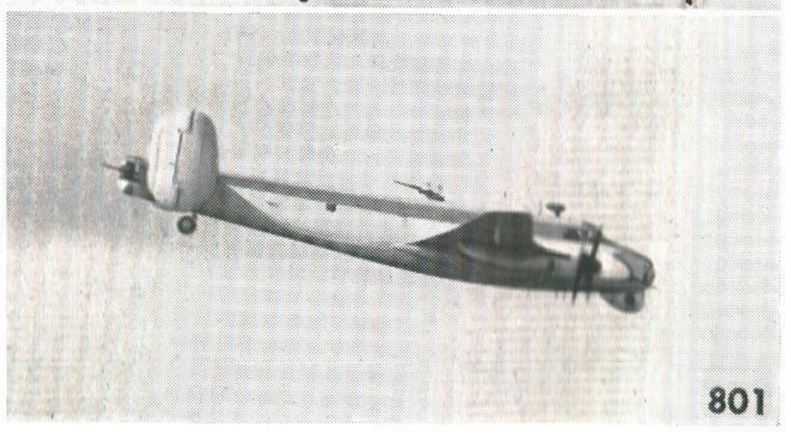

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SPOTTING A PACKET

by Obs. Roy McLeavy, R.O.C.



TWO versions of Fairchild's unorthodox freighter are currently employed by the U.S.A.F. They are the C-82A, portly progenitor of the " flying box-car " series, and the slightly larger, but more comely C-119B.

In 1941, when the U.S.A.F. called for a twin-engined aircraft to carry heavy military equipment without the process of first dismantling the items, Fairchild engineers concluded that a " pod and twin-boom " arrangement would provide the most effective answer. Official approval to their design was given in the following year, and the prototype, designated XC-82, made its initial flight on September 10th, 1944.

Production orders for the C-82A Packet followed, and by September 1948, when it was succeeded on the assembly lines by the improved C-119B, more than 200 had been built.

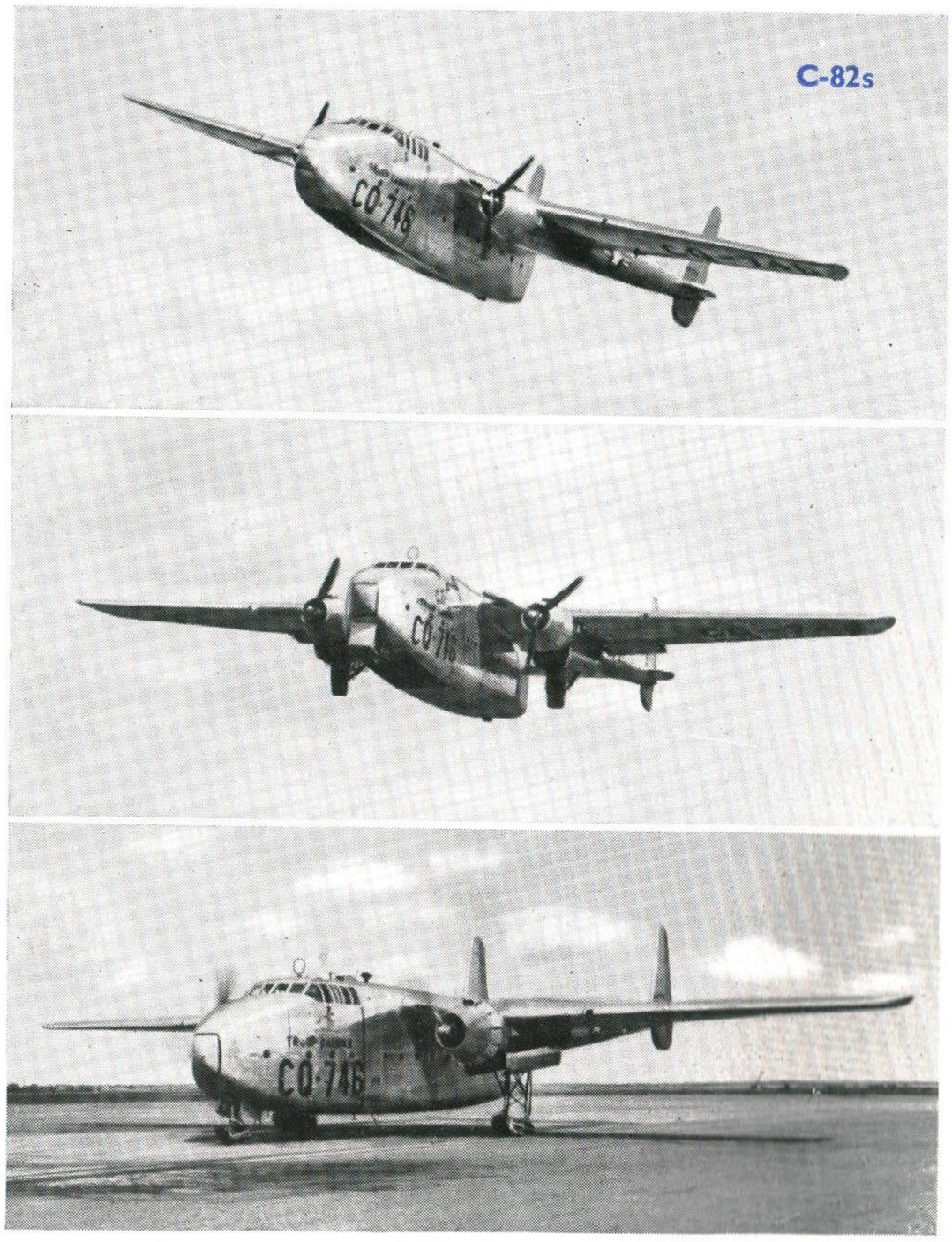
Structurally the C-82 is an all-metal, high wing mono-plane powered by two 2,100 h.p. Pratt & Whitney R-2800-85 radials. The engine nacelles and twin-booms, which house the two main undercarriage legs, are mounted at the juncture of an inverted-gull (anhedral) centre-section. Tall twin fins and rudders are fitted, and the tailplane has outset tips.

C-82s

Freight is fed through two large " clam-shell " loading doors that form the rear fuselage section. A great advantage afforded by the high boom layout is that lorries can back up to the fuselage without interference and unload directly into the spacious cargo hold, where the floor is conveniently sited at truck-level.

Ramps are provided, enabling bulldozers, tanks, jeeps and a wide variety of other self-propelled vehicles to drive straight in.

The Packet's flight deck is sited above the forward section of the hold, and the crew reach their positions by a ladder. As a transport, accommodation is provided for 41 paratroopers, who make their exit two at a time through twin jumping doors, one each side of the rear fuselage. During dropping operations, paracans of equipment are suspended from a monorail extending along the fuselage ceiling. These are released through a hatch in the bottom of the fuselage, and the troops and their equipment can be dropped simultaneously: an important feature which allows a close ground concentration.



Five Packets were sent to Germany at the end of 1948 to carry unwieldy cargoes on the Berlin airlift ; their activities in the United States have included air-rescue missions when they have been used to transport semi-dismantled helicopters.

In common with most service transports, the C-82 also fulfils the duties of air-ambulance and glider-tug.

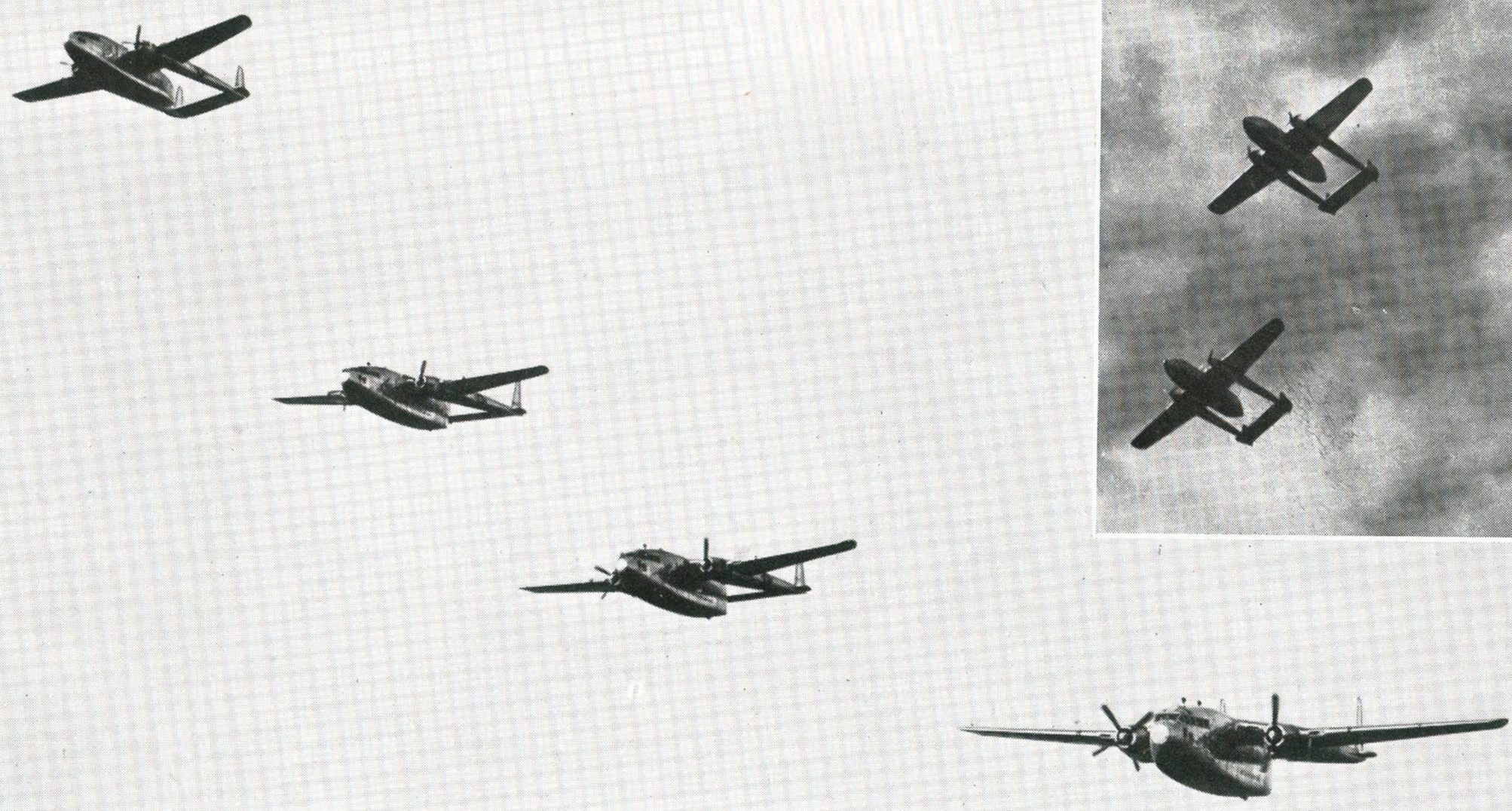
Brief particulars are :—

Span : 106 ft. 6 ins. ;
Length : 77 ft. 0 in. ;
Height : 26 ft. 5 ins. ;
Wing Area: 1,400 sq. ft.;
Max. Loaded Weight : 50,000 lb. ;
Max. Speed: 238 m.p.h. at 17,500 ft.

Greater loads, or more aptly, bigger and bulkier baggage, is catered for by the increased capacity and power of the C-119B.

Changes in outline lie principally in a lengthened nose, which now accommodates the flight deck, and the omission of ventral fin and rudder areas. Two 3,250 h.p. Pratt and Whitney R-4360 radials are fitted, with a subsequent increase in performance.

Forty-two paratroopers (or 64 fully-armed troops)



C-119s

can normally be seated in this version although in an emergency this number may be increased to 78. When in use as an ambulance, stretchers for 35 casualties may be fitted.

The prototype of this model first flew in 1947 and was, in fact, a converted C-82A with an unwidened fuselage and standard tail unit ; its designation was C-119A.

A further step in the evolution of this useful aircraft is the novel XC-120 embodying the same basic layout and structure of the C-119B, but with the fuselage replaced by a huge detachable pack, accommodating a 9-ton load.

The packs will be available for various duties and convey complete gun crews with their weapons, medical units, field workshop units, etc., to forward airstrips with the minimum delay.

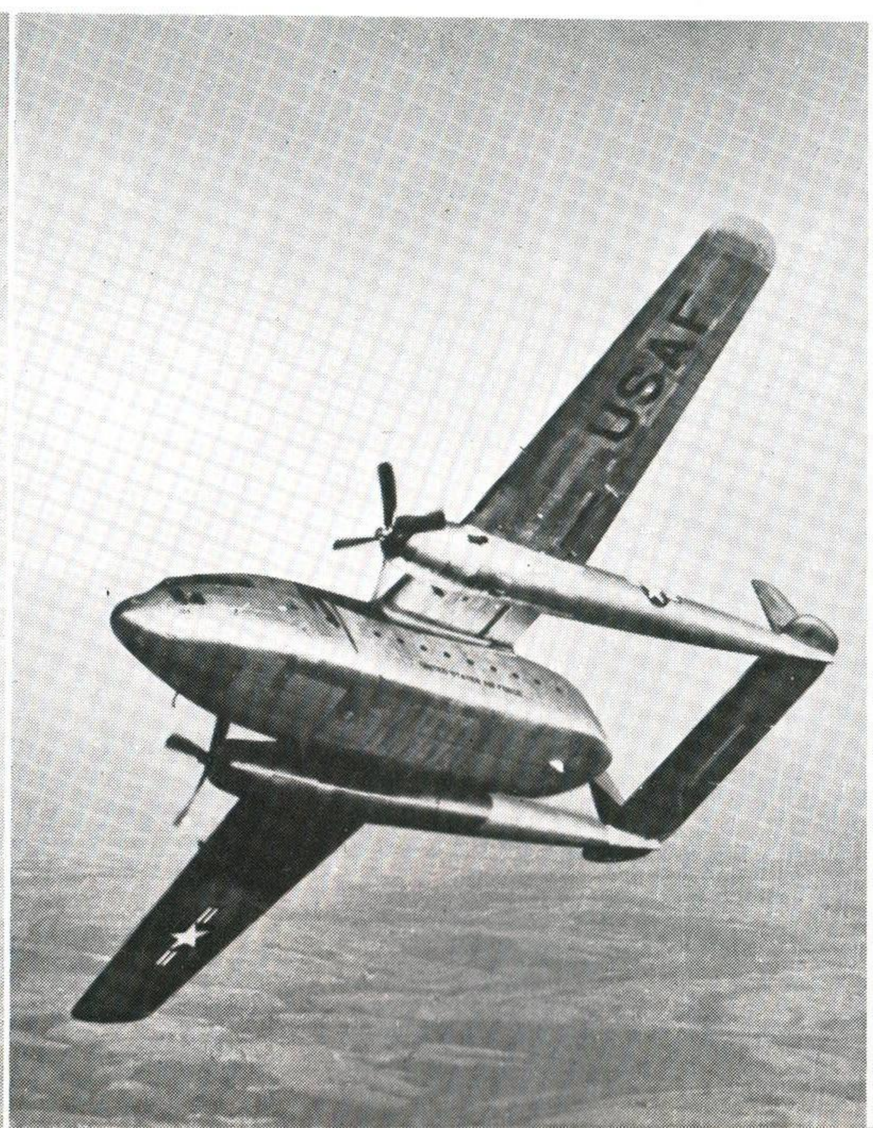
A four-legged retractable undercarriage will be mounted on the booms as the detachable units will preclude the use of a nose wheel. The packs will have four legs mounting twin wheels.

From this review of Packet concept, contours and contents, it will be realised that the aircraft lends itself more favourably to friendly " spotting ", than hostile " stopping ".

Leading particulars of the C-119B are :—*Span :* 109 ft. 6 ins. ; *Length :* 85 ft. 10 ins. ; *Height :* 26 ft. 8 ins. ; *Wing Area :* 1,447 sq. ft. ; *Max. Loaded Weight :* 74,000 lbs. *Max. Speed :* 266 m.p.h. at 18,000 ft.

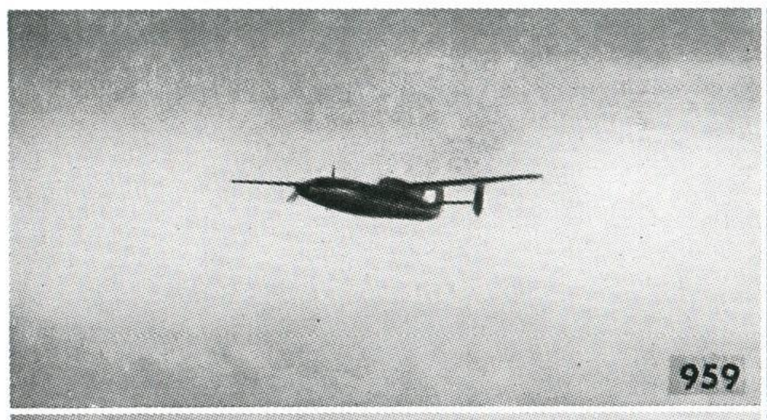


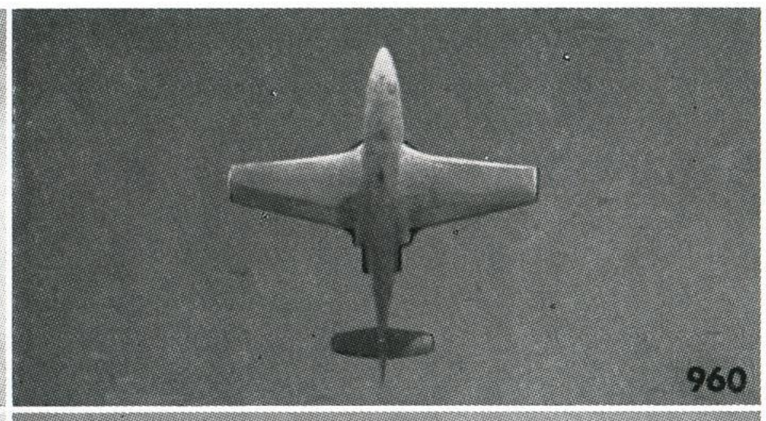
C-119s





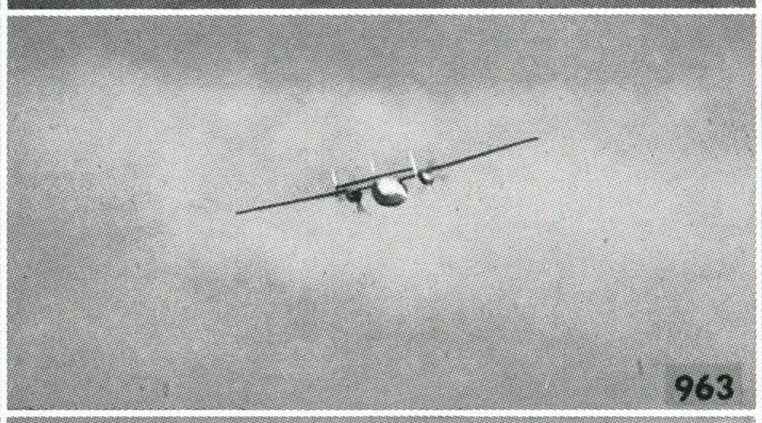
ADVANCED SPOTTING

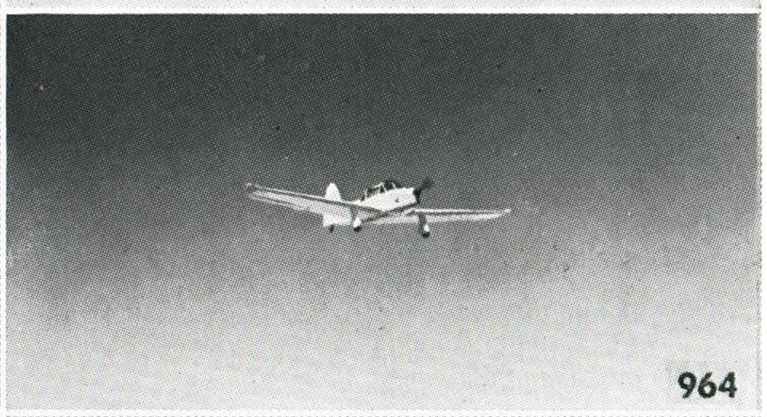

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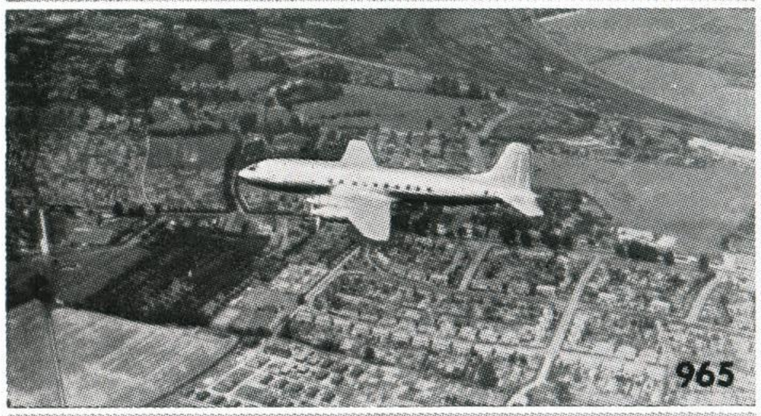

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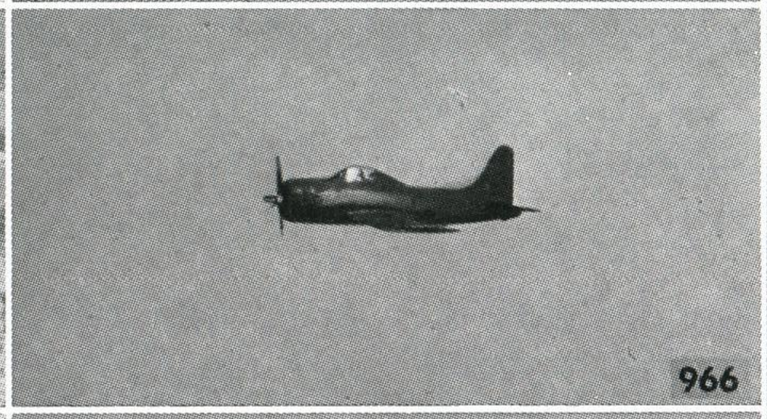

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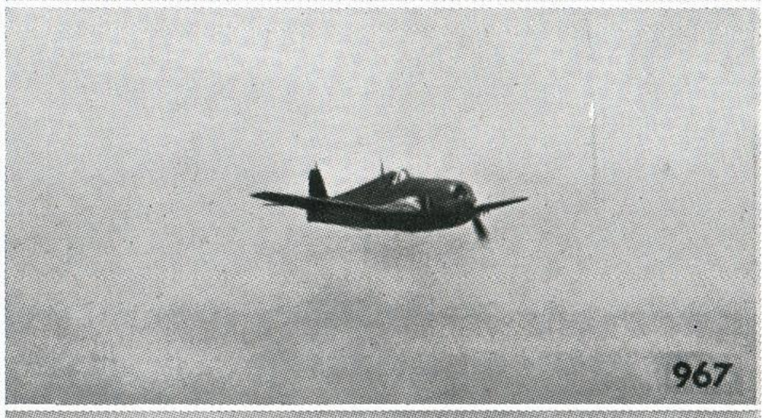

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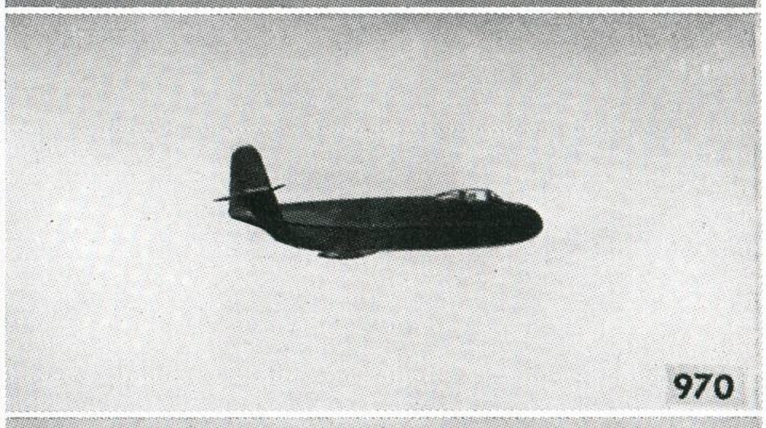

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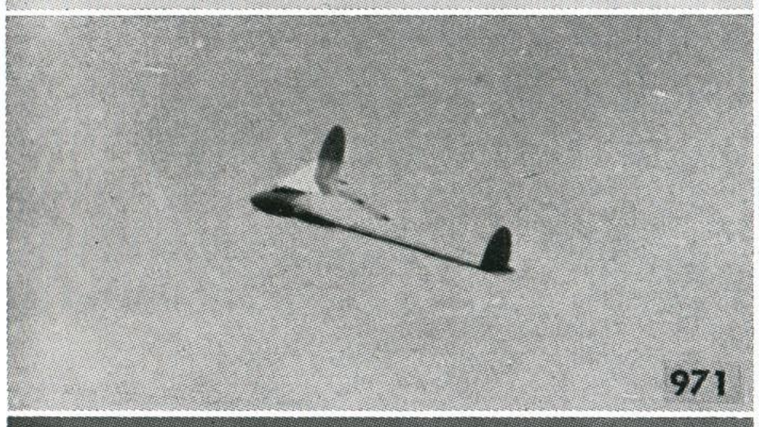

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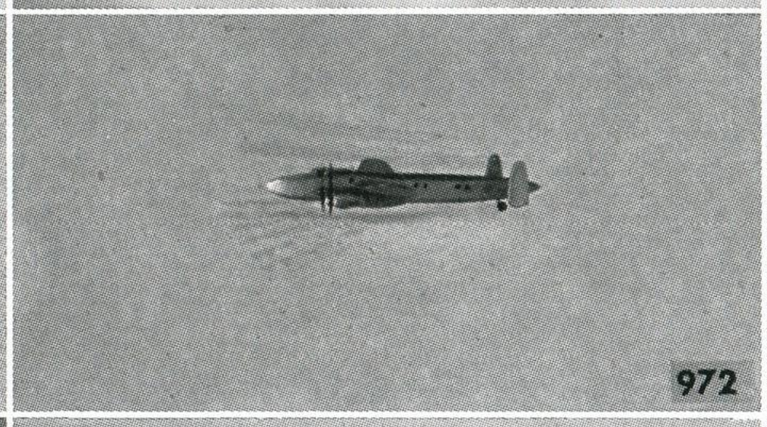

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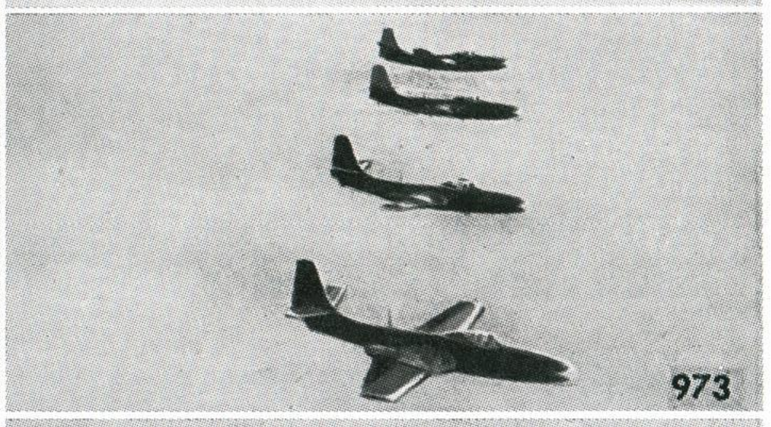

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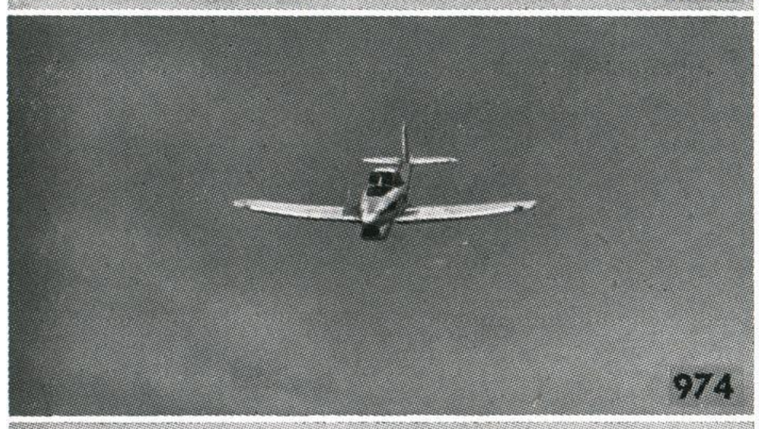

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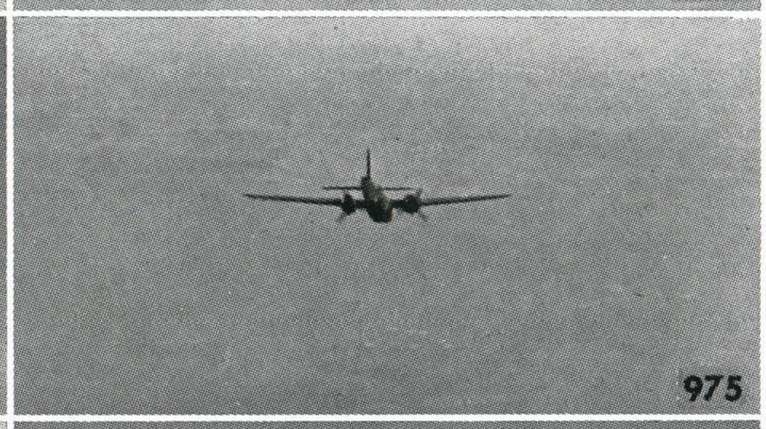

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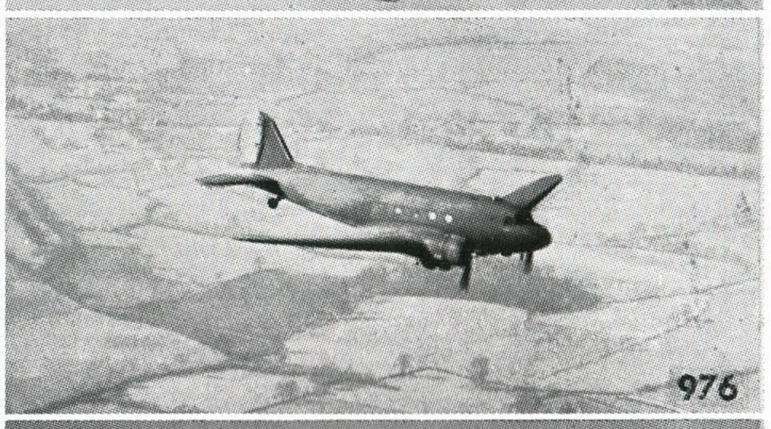

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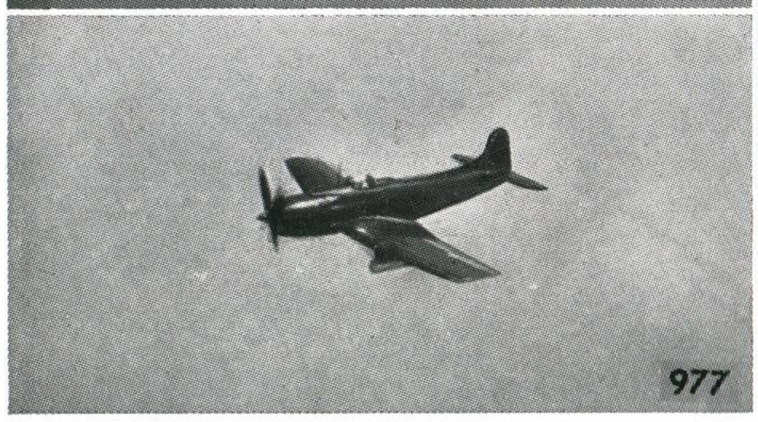

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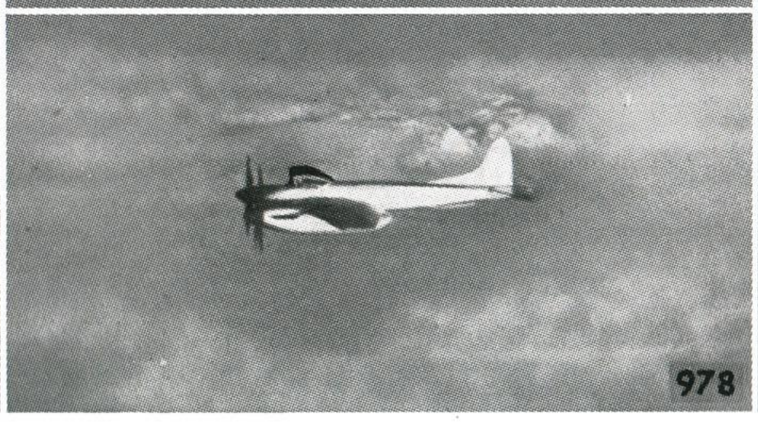

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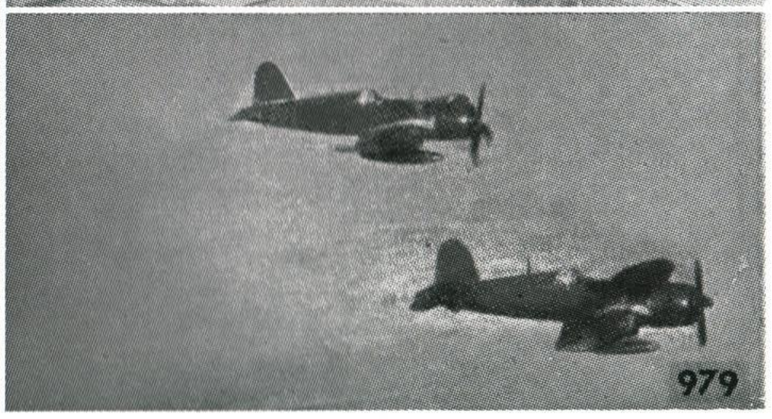

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CHARACTER STUDY

No. 5—Meteor 8

THE Meteor, to start with, is well named. It does indeed bring to mind some " transient celestial body that enters the Earth's atmosphere with great velocity ". To look at, the Meteor F Mk. 8 is a stiff smooth snake propelled through the air on a broad platform by two great swelled and screaming spindles. In no other aircraft in the world are the wings of less visual significance. They look as if they are just there to support those great whirling turbines, which seem quite capable of driving the rather smug snake unaided through the viscous air. The Meteor, like the Vampire, is a fascinating aircraft to watch, because every movement she makes is seen and appreciated much more quickly than most other aircraft ; this is because the engines are so large (the Vampire's twin booms serve the same function) that their changing relationship with the fuselage is instantly evident in the slightest movement, thus conveying a vivid impression to the mind.

The wings, platform-like and low on the fuselage, are short-span, have deep chord surfaces, and are chopped off so far inboard that one feels the machine can scarcely fly on such shorn stubs. The tapered centre section is flat and a moderate dihedral lifts up the sections beyond the motors.

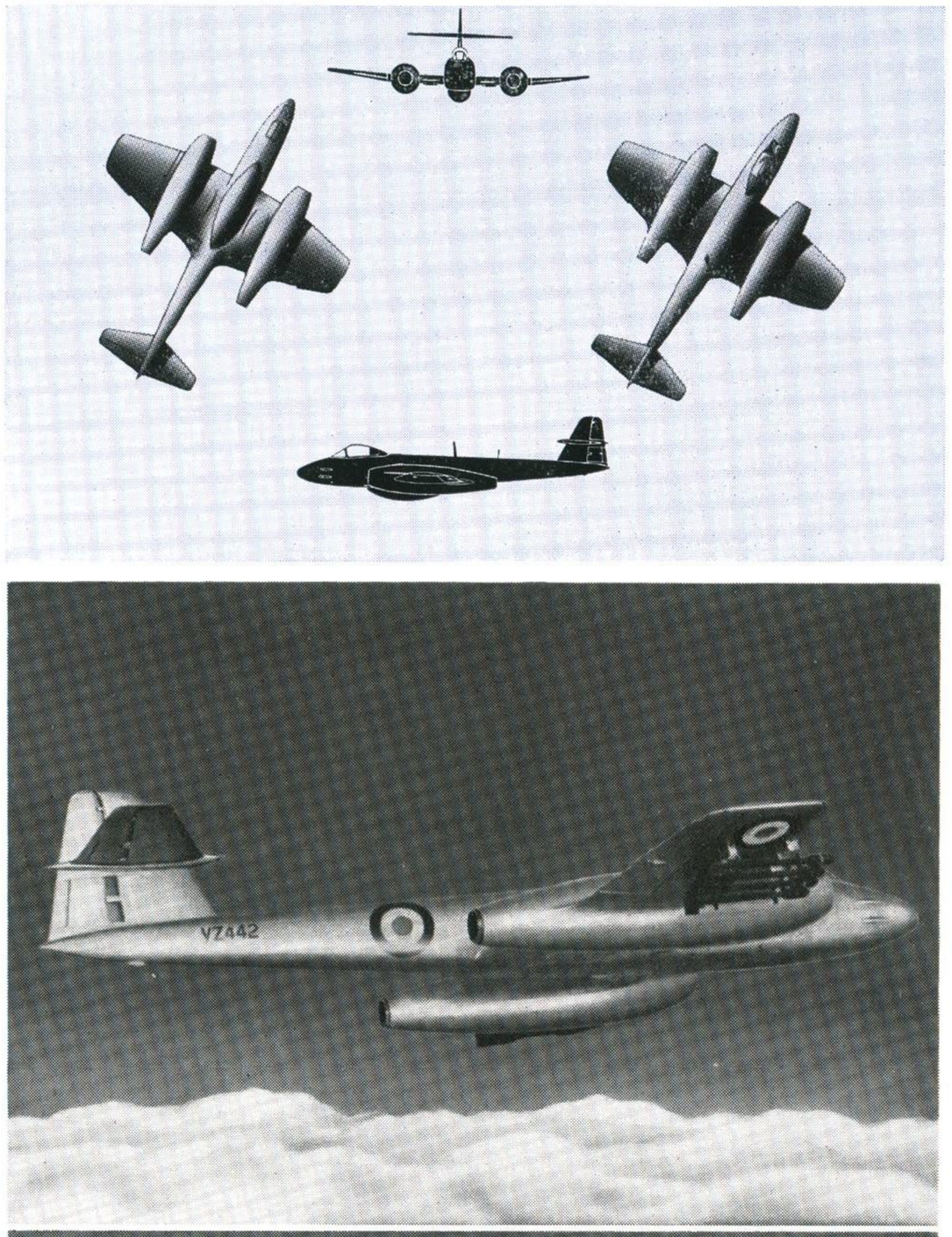
The engines are great smooth spindles transfixed by the wings and jutting far out in front and behind. The smoothness of the overall shape is accentuated, even at a considerable distance, by the lack of a broad collar round the jet nozzle. From in front the engines look nearly as large as the fuselage. A noticeable feature at all times is their considerable angle of attack, with noses high and nozzles low.

The fuselage is one of the smoothest ever ; from the hooded snake look of the cockpit, it tapers (rather flat in the belly) uninterrupted to a terminal pin point. It reaches almost as far in front of the wings as it does aft of them, and from on top gives the whole aircraft a peculiarly balanced pattern of shapes.

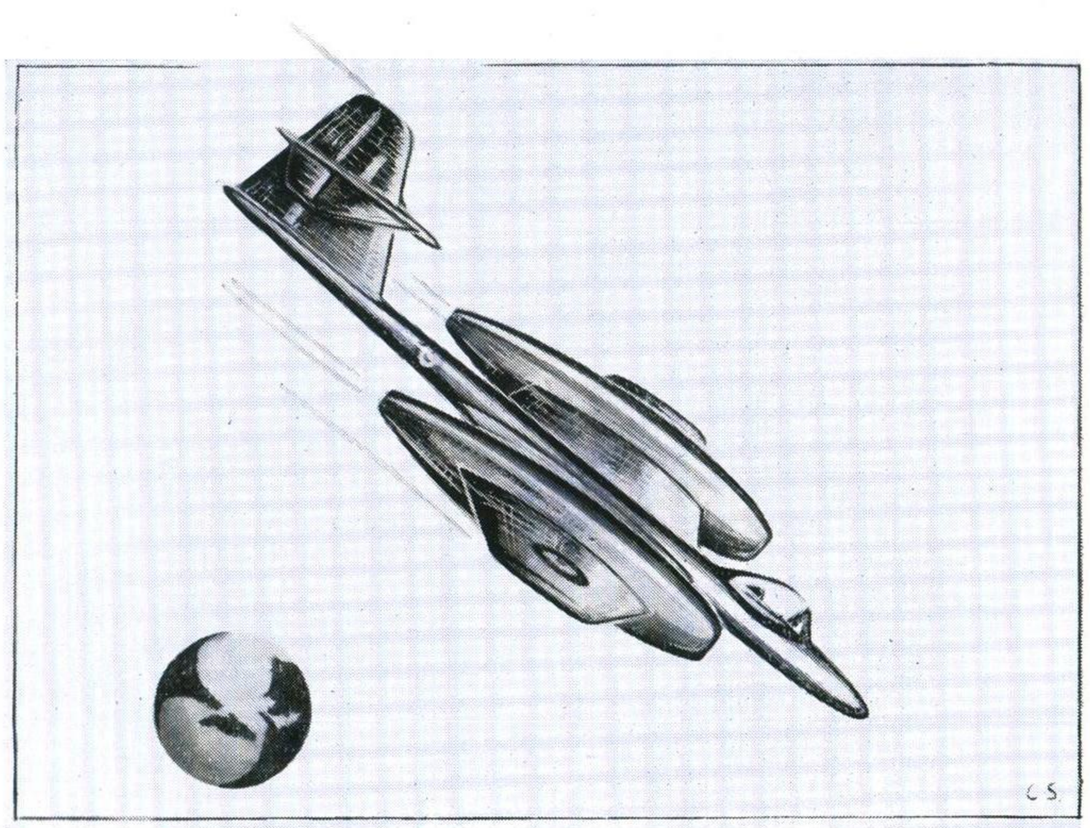
The tail unit is a stark uncompromising combination of straight lines, relieved by just a little curve on top of the fin and rudder. The latter stand up firm and clear from the fuselage, and the thin tailplane sprouts out sharply from them about half-way up. Straight taper is everywhere ; on fin and rudder ; on leading edge of the tailplane and, less sharply, on the elevators.

The Meteor, with a far less fashionable figure, first flew in 1943, and has particular interest for historians as the immediate descendant of Frank Whittle's E.28/39 of 1941. Essential figures for the Meteor F Mk. 8 are :— Origin : Great Britain. Length : 44 ft. 7 ins. Span : 37 ft. 2 ins. Max. speed : 600 m.p.h. plus. Maker : Gloster Aircraft Co. Engines : 2 Derwent 5 turbojets. Armament : four 20 m.m. cannon, racks for rockets and/or bombs under wings. Function : fighter.

C. H. GIBBS-SMITH



. . . two great smooth spindles transfixed by the wings . . .




SEA HORNET NF MK. 21
OVW 896
OVW 898

FLEET


ATTACKER F MK. I
O/S405


SEA VAMPIRE FB MK. 20
36
36
VVI
VVI

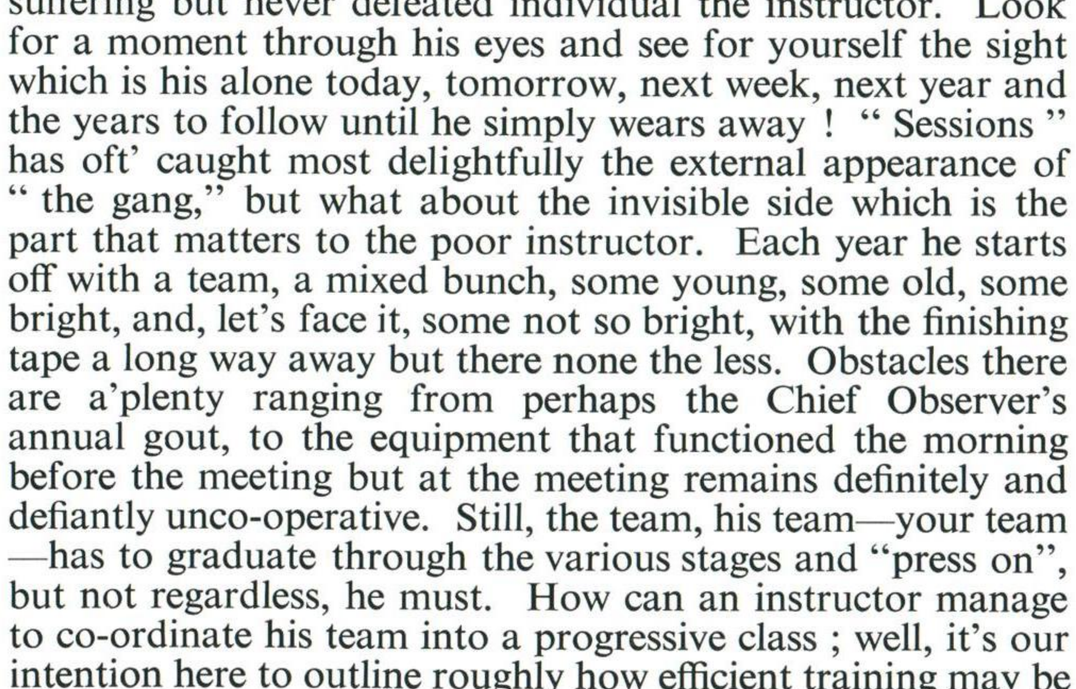
THE ROYAL OBSERVER CORPS GAZETTE

Vol. 3 No. 4 JUNE 1950

THE OFFICIAL ORGAN OF THE ROYAL OBSERVER CORPS

BRIGHTER, LIGHTER, TRAINING

CONFRONTED yearly with the Master Test and all it involves the average Observer is quite entitled to a little sympathy, but spare a thought please, for that long suffering but never defeated individual the instructor. Look for a moment through his eyes and see for yourself the sight which is his alone today, tomorrow, next week, next year and the years to follow until he simply wears away ! " Sessions " has oft' caught most delightfully the external appearance of " the gang," but what about the invisible side which is the part that matters to the poor instructor. Each year he starts off with a team, a mixed bunch, some young, some old, some bright, and, let's face it, some not so bright, with the finishing tape a long way away but there none the less. Obstacles there are a'plenty ranging from perhaps the Chief Observer's annual gout, to the equipment that functioned the morning before the meeting but at the meeting remains definitely and defiantly unco-operative. Still, the team, his team—your team —has to graduate through the various stages and "press on", but not regardless, he must. How can an instructor manage to co-ordinate his team into a progressive class ; well, it's our intention here to outline roughly how efficient training may be achieved with the co-operation of all concerned.



. . . meagre quantity and quality of instructional aids then available . . .

Those who served in the Corps before the last war will testify to the meagre quantity and quality of instructional aids then available, and those who have served from 1939 onwards will be able today to judge fairly the improvements that have and are still being made. Since 1945 a definite effort has been afoot to see that instructors have the wherewithal with which to instruct ; this ranging widely from the improved holdings at Group level of epidiascopes, flash trainers and aircraft models, down to the present policy of providing each post instructor with an episcope. In 1946 the *Aircraft Recognition Journal* made a welcome reappearance, and today its circulation amongst each and every member of the Corps is a most valuable contribution to the general scheme of training. The tried and trusted epidiascope card is still with us in quantity, and the trusty silhouette is today being strongly backed up by



Contrary to the common saying, money is of considerable object

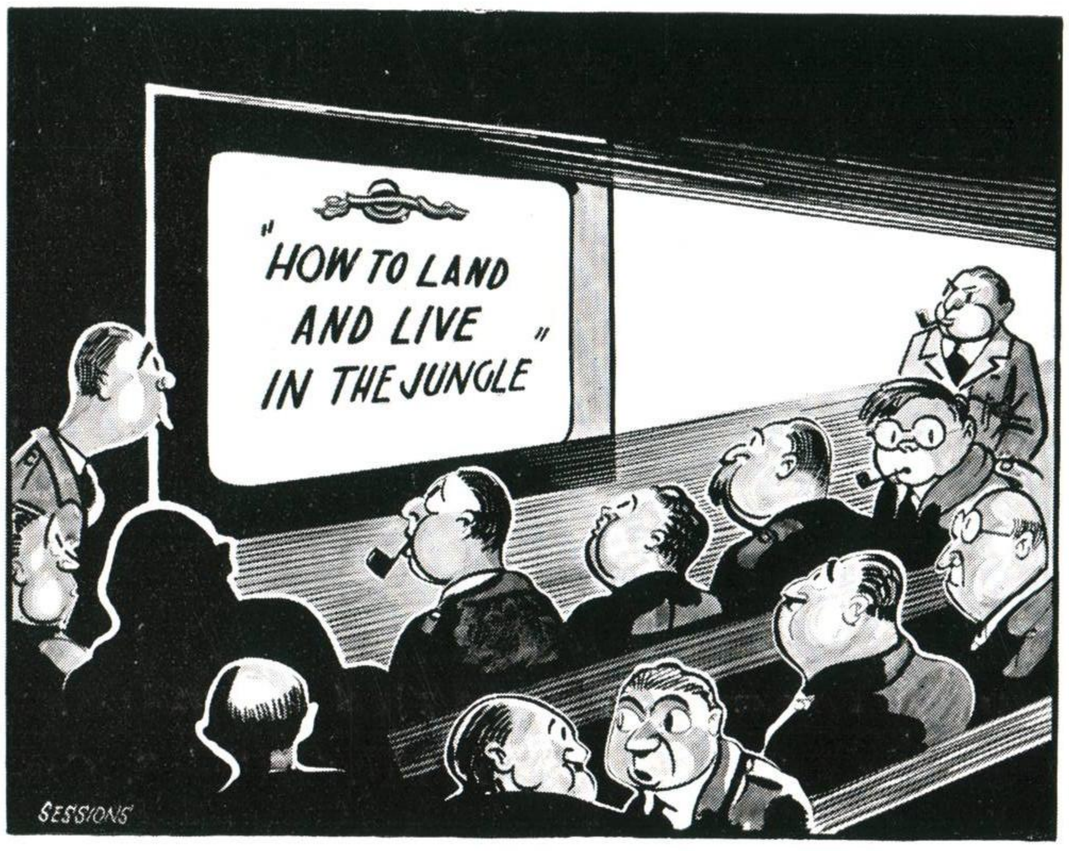
the photograph in the form of the " Pictorial Chart ". Contrary to the common saying, money is of considerable object, and today more than ever before expense has to be carefully watched. The instructional value of each projected training aid has to undergo a thorough examination by all concerned, but even in this time of crisis, money has been forthcoming to aid the instructor in his task. From this pertinent fact we can therefore take fresh heart.



. . . our training, if more amusing and interesting . . .

Enough, however, of these basic facts and now let us turn to the future. Brighter training is the immediate aim, but that is but the means to an end. Whatever means we adopt we must never forget that practical efficiency is our object, and though we can in peace-time allow an easing in tempo let us ensure that our training, if more amusing and interesting, is none the less thorough. During the war, time was always important and often vital, and we had then to accept a slightly lower over-all standard from instructor to pupil. However, now that we have time on our side let us see that it is not wasted.

It has been said that instructors are born not made, and it has also come to be the accepted thing that while some may become instructors voluntarily, the majority have that distinction thrust upon them. Let us then accept the majority outlook, if only for the reason that it is a democratic way, and allow that in the past instructors have not been all that they might. Today, with time at our disposal, all instructors ought to have some initial training, and indeed many have already experienced instructors' courses at the Central School of Aircraft Recognition, and more recently perhaps on the new series of courses on instructional technique. It is logical first to arrange for the thorough training of instructors and potential instructors for they are privileged persons, though most would make haste to deny this, privileged to look after



. . . are being accorded every possible assistance . . .

others. Too often in the past there has been undue complacency in the ranks of our " P.P.", complacency brought about mainly by a lack of appreciation of the importance of their position. Now the very opposite should be the case. Instructors are fully recognised as the key to improvement in the over-all efficiency of the Corps, and are being accorded every possible assistance from on high. It is the intention that within two years every instructor will have had first hand advice on how to instruct, and how to cater for a variety of students aiming at a variety of targets.

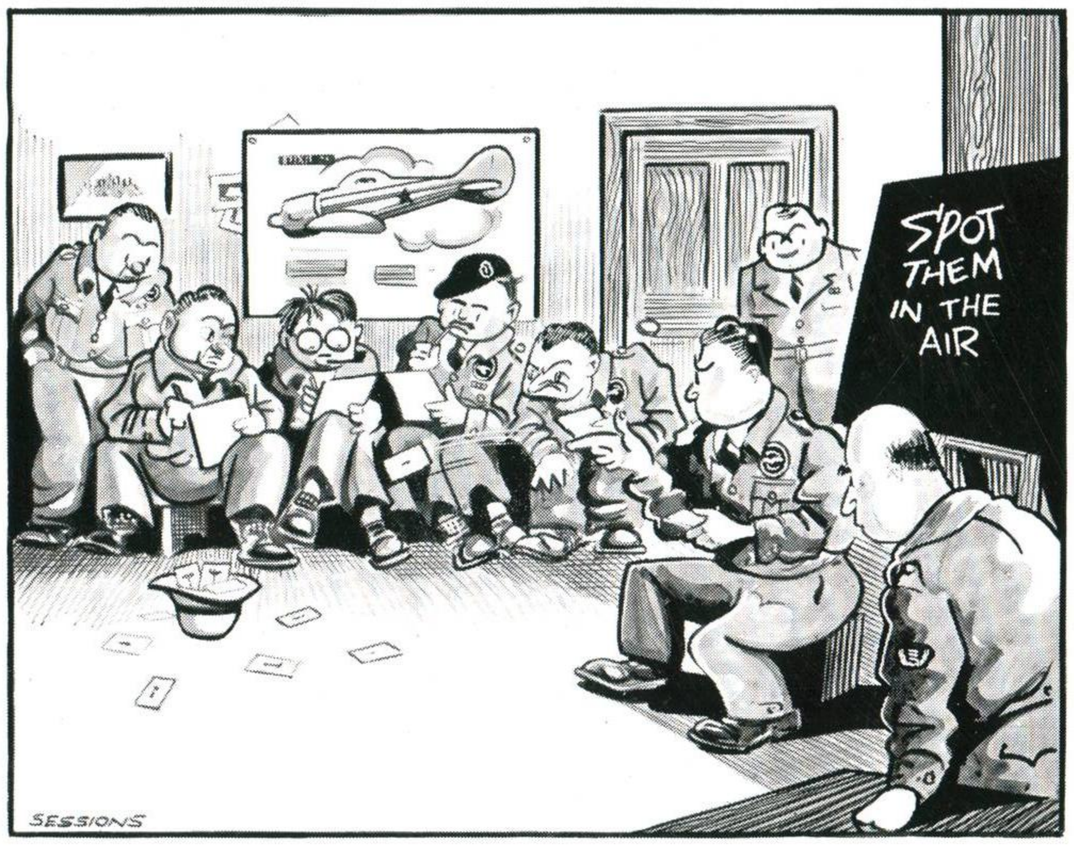
The silhouette which is the basis of all recognition training is an excellent example of the far reaching effect of the instructor, and was first known as such due to the influence of a certain 18th century exponent of the not so gentle art of income tax extraction. He, Etienne de Silhouette, gave his name to our black and white reproduction of basic shape through his injudicious extraction of taxes from the wealthy. In the process he reduced them to a shadow of their former selves, a shadow—an outline skeleton, or, " A la Silhouette " as was the current catchphrase. Strangely enough, the notoriety that surrounded the name then adhered most closely with the passage of time, and our diagram in its turn bore not inconsiderable disfavour. This disfavour, looked at in retrospect, was less the fault of the article itself as the way in which it was used. In the early days when little was known about the subject, recognition instruction was in the main based, to the almost complete exclusion of other ideas, upon the inoffensive black and white silhouette. Depending upon the instructor, it presented at the best a rather dull but definite picture of the aircraft, and at the worst, a monotonous diet of printer's ink that successfully defied the pupil's attempts to make it resemble a " live " aircraft and therefore gave him permanent recognition indigestion. Today the silhouette has a permanent place in our training which cannot wholly be replaced, and in the hands of a properly trained instructor can do much good where earlier in amateur hands it did little but harm.

Surely then from this evidence we can extract the moral that the instructor must in addition to being a capable teacher, have also a wide and sympathetic understanding of the learner's early difficulties. After all, we all tread a somewhat similar path to our goal of instantaneous and positive recognition, but while the expert who has forgotten by what method he attained his efficiency may remain unimpaired as a " teller of types ", he is a very long way indeed from being a successful instructor. To be selected to instruct others one must obviously possess something superior whether it is in knowledge or in purely personal qualities. But in themselves these attributes are insufficient unless coupled with at least confidence in one's self, in one's personal ability, and with enthusiasm for the subject to be taught. Once out in front that fact must never be forgotten, and at all times the instructor must lead as well as point the way. " To obtain and maintain the respect of the class " must be the watchword of every instructor in the Corps. A tall order in one's spare time it may be claimed, but when a job is worth doing it's worth doing well. Remember, the instructor's task is vital.

Consider then that a good instructor, keen, capable and knowledgeable, has got his hands on a group of spare time students, what then should be the attitude of the group? By group I mean instructor and student together. Here looms large the vital difference between the lecturer and the instructor. With the first, the policy is to put over as much information as is reasonable and expect the class to absorb it without further ado. But with the second comes the vital fact of " class co-operation ". Here the instructor imparts his information not only to the class as does the lecturer, but through the class. No more desirable nor more suitable method could indeed be devised for the closely knit camaraderie of the Corps—ready to wear but made to measure at the same time. Amid the friendly personal group formed by the average " Post ", " Cluster " or " Centre " meeting, instruction carried out with the spirited co-operation of all will go far even on the most difficult of subjects. It is naturally up to the instructor to shape the course to be followed and to control digression, but working on an individual yet competitive basis amid familiar and pleasant surroundings great things can be accomplished.

No longer should the beginner feel lost if spotting tests are so graded in photographic range that he can at least get some right in a showing to a collective audience of " Basic ", " Intermediate " and " Advanced " stage observers. Gone should be the day when the newcomer drew his basic pack and retired alone to nightmares, loss of appetite and hallucinations, till it was mastered. Once founded and operating as a team there should be no grumbles from the " master type " who wants only " C " class shots. It will be up to everyone in the team to assist the instructor to bring the new entrant deeper into the " magic circle ". Certain individual instruction must inevitably be given by the instructor at each separate stage, but his aim should always be to bring the team together again as soon as possible. Competitions and games are perhaps the simplest forms of co-operation, and yet when carefully devised they can be invaluable aids to progress. For example " Twenty Questions " can be played easily by six or more with a team of varying numbers. The instructor and his blackboard are out in front, the team out of line with this, and he controls the questioning, writing up the questions, which the audience have made out on paper in advance, along with the name of the questioner to make sure of no easy victories. " Housey-Housey " played with silhouettes,

models, photographs, etc., would enliven any " Cluster ", and all one requires is a quantity of old silhouettes on which to paste cut out photographs and bags of enthusiasm to produce an adequate number of test pictures. Until tried, most people would not admit the difficulty of a jumbled cut-about familiar silhouette in a new and confused guise, or a cutout photograph with its background removed. It's a grand test with learning and fun combined, and " unconscious " learning too ! Make a point of trying out " blind flying " at your next meeting. Have one type out in front with his back to the audience and then give him a model to identify by touch. Make teams out of the crowd and give your next meeting the competitive touch. The main requirement remains nevertheless that the instruction given should stick, and it matters not how pleasantly the task is tackled provided the desired result is obtained. When dealing in the lighter and more usual ways of giving instruction great care

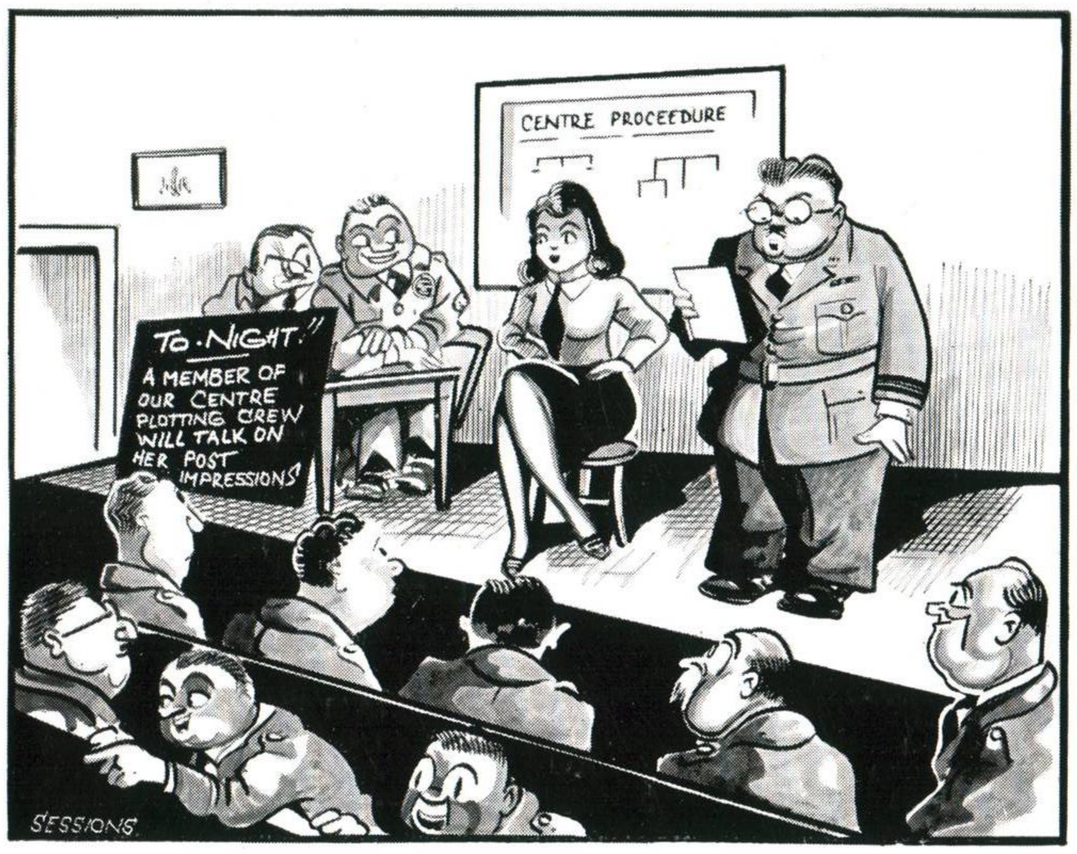


. . . keep the games fresh and progressive . . .

should be exercised to keep the games used fresh and progressive and to get the maximum amount of information across in the most interesting possible manner.

Perhaps a difficulty faced by your team is one which faces others, and co-operation may be the answer. Too often poor instruction is the fault of one person trying to do too much. It is hard to expect one man to be an expert in procedure, administration, " Post " or " Centre " training and to be efficient in earning his living, and it is obvious that something somewhere will suffer simply through the lack of time. A few capable persons may be able to cope with everything and good luck to them, but why not spread the burden a bit. Amongst a particular team, or from the personnel of two or three posts it may be possible to find an expert in some particular portion of the training in hand. Well, why not use the services of the expert—under supervision of course. In this way it may be possible that more interesting lectures will be forthcoming because of the increased time given over to the study of one particular aspect. Another angle is of course to be found in the drawing in of the expert from outside the particular post or centre. The introduction of a fresh face and manner may work wonders, and the developed knowledge of one man will be spread over a wider area. There are of course difficulties to be faced, but then there are always drawbacks and might not the benefits be the greater. Such ideas have in the past been ably exploited by " Cluster " and " Group " meetings, how about trying it out at lower levels ?

Operational efficiency must be based upon knowledge and backed by interest. Go to it !



The introduction of a fresh face . . .

❖ ❖ ❖

PRISMATIC BINOCULARS

THE issue of up-to-date prismatic binoculars to Royal Observer Corps posts places on each member a responsibility to assist in the care of these delicate instruments ; rough usage may render them unserviceable for long periods, as adjustments can only be made by skilled personnel.

Some idea of the complexity of a high grade prismatic binocular may be judged from the fact that as many as eighty to one hundred parts are required to make one model. When the external lens surfaces require cleaning this should be carried out with great care, using only soft material, such as a clean handkerchief. Each instrument consists of two optical systems, comprising an object lens, prismatic system, field and eye lenses. These are mounted in two castings joined together and shaped internally to form the seatings for the prisms, which are held in position by springs, while the lenses are secured by concentric rings.

To ensure that all light rays focus at one point, the object and eye systems are composed of two types of glass, ground to fit perfectly together, and cemented with Canada balsam.

In order that the glasses may function without strain on the observer's eyes both optical and mechanical axes must be aligned ; this demands precision in manufacture, and extreme care in mounting the components, rubber caps fitted to the eyepieces are shaped to prevent extraneous light reaching the observer's eyes, and at the same time keep his eyes at the correct distance from the lenses.

As the binoculars issued to the Corps are of a sealed type, specially made to prevent filming of the prisms and lenses under all climatic conditions, great care is taken during assembly to make them airtight, each screw hole and joint is carefully packed with a watertight preparation, and after testing, the air is drawn out and replaced by dried air, then sealed with the four screws (coloured red).

When in use, great care must be taken that the binocular is not jarred, otherwise the prisms may be displaced and double vision ensue. Under no circumstances should the lens holders or the red screws be tampered with, as this may break the air seal when filming of the internal surfaces of the lenses will result.

It should be clearly understood that the internal cleaning and adjusting of binoculars is a skilled operation and should not be undertaken by an amateur. Faults should be reported to the Group Officer and the binocular returned to Group Headquarters without delay.

The binoculars issued to the Corps are of a fixed focus type made to suit most sights, and Observers who wear spectacles should wear them when using the binoculars, if at all possible.

AIRBORNE HEADACHES

No. 15



The answers, headed "Airborne Headaches No. 15" must be sent on a postcard to reach Group Headquarters by August 10th, and Area Training Officers by August 15th, 1950.

R.O.C. TRAINING LISTS 1950-51

With effect on and from 1st May, 1950, until the termination of the Training Year on 30th April, 1951, the lists of aircraft for Royal Observer Corps Primary and Intermediate Training are as follows :—

PRIMARY LIST

BRITISH
Anson 19
Auster 6
Brigand TF Mk. 1
Chipmunk T Mk. 10
Canberra B Mk. 1
Dove
Firebrand TF Mk. 4
Firefly FR & NF Mk. 4
Hastings C Mk. 1
Hornet F Mk. 1 & PR Mk. 2
Horsa 1 & 2
Lancaster B Mk. 7
Lancastrian Mk. 2
Lincoln 1 & 2
Messenger 1
Meteor F Mk. 4 (clipped wing)
Mosquito PR Mk. 34
Prentice T Mk. 1
Sandringham 1
Seafire FR Mk. 47
Spitfire F Mk. 22
Sea Fury F Mk. 10
Sea Otter Mk. 1
Sunderland 5
Tempest 2
Tiger Moth
Tudor 4
Vampire Mk. 1 & 2
Viking 1A
Wayfarer
York C Mk. 1

AMERICAN
Banshee, F2H-1
Constellation, C-69
Constitution, R-60
Packet, C-82
Shooting Star, F-80A
Sikorsky S-51
Skymaster, C-54
Skytrain/Dakota, C-47
Stratocruiser, YC-97B
Superfortress, B-50A
Thunderjet, F-84

RUSSIAN
IL-18
LA-9
MIG-9
YAK-9
YAK-15

FRENCH
Bellatrix, SO.30R-2
Languedoc, SE(SO)161
Latécoère, 631

Additions to Primary List to form the INTERMEDIATE LIST

BRITISH
Athena T Mk. 2
Ambassador
Attacker F Mk. 1
Balliol T Mk. 2
Comet
Gemini
Marathon
Sea Hawk F Mk. 1
Shackleton GR Mk. 1
SR A/1
Viscount
Wyvern TF Mk. 2

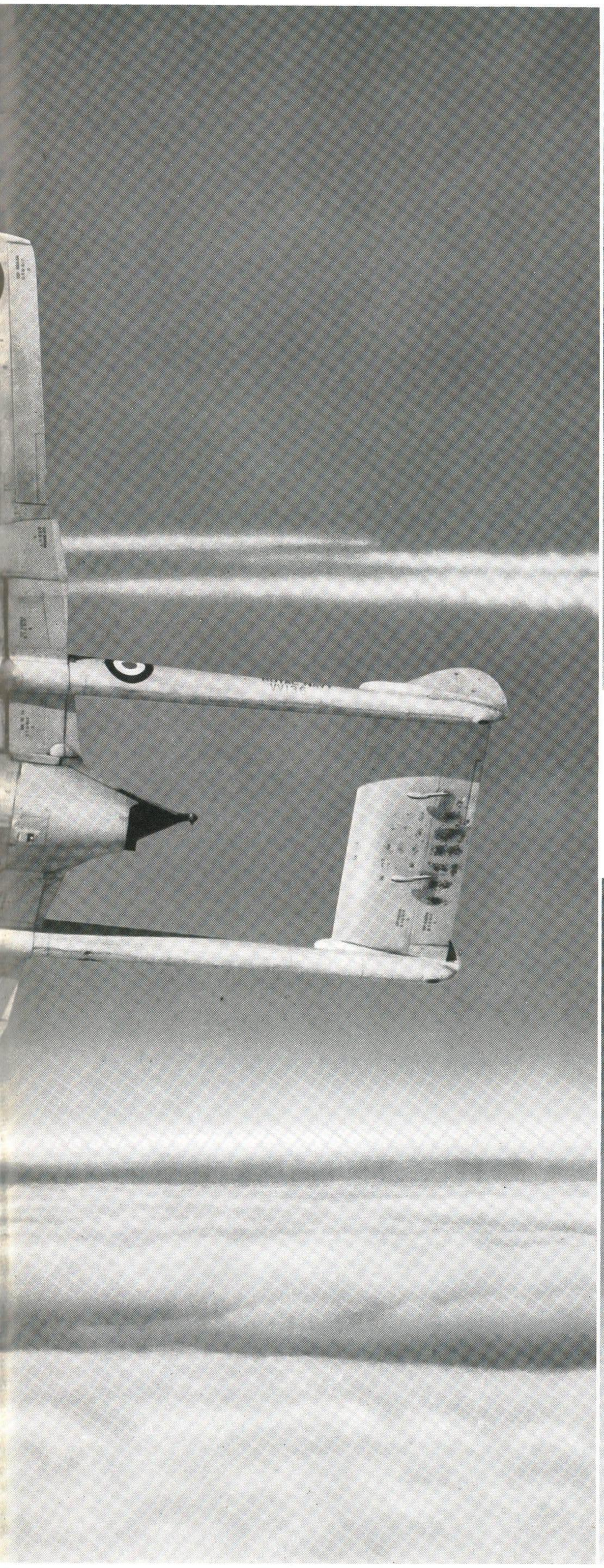
AMERICAN
Corsair, F4U-4
Convair B-36A
Douglas DC-6
Fury, FJ-1
Mariner 1, PBM-3
Martin, 2-0-2
Mauler, AM-1
Neptune, P2V-2
Panther, F9F-2
Reporter, F-15
Sabre, F86A
Skyraider, AD-1
Stratojet, B-47
Tornado B-45A

RUSSIAN
IL-4
IL-10
IL-12
MDR-6
PE-2 (modified)
PE-8
SHCHE-2
TU-2
YAK-8

FRENCH
Arsenal, VB10C-1
Goëland, C.449-1

ITALIAN
Fiat G12L
Fiat G212
SM 95s

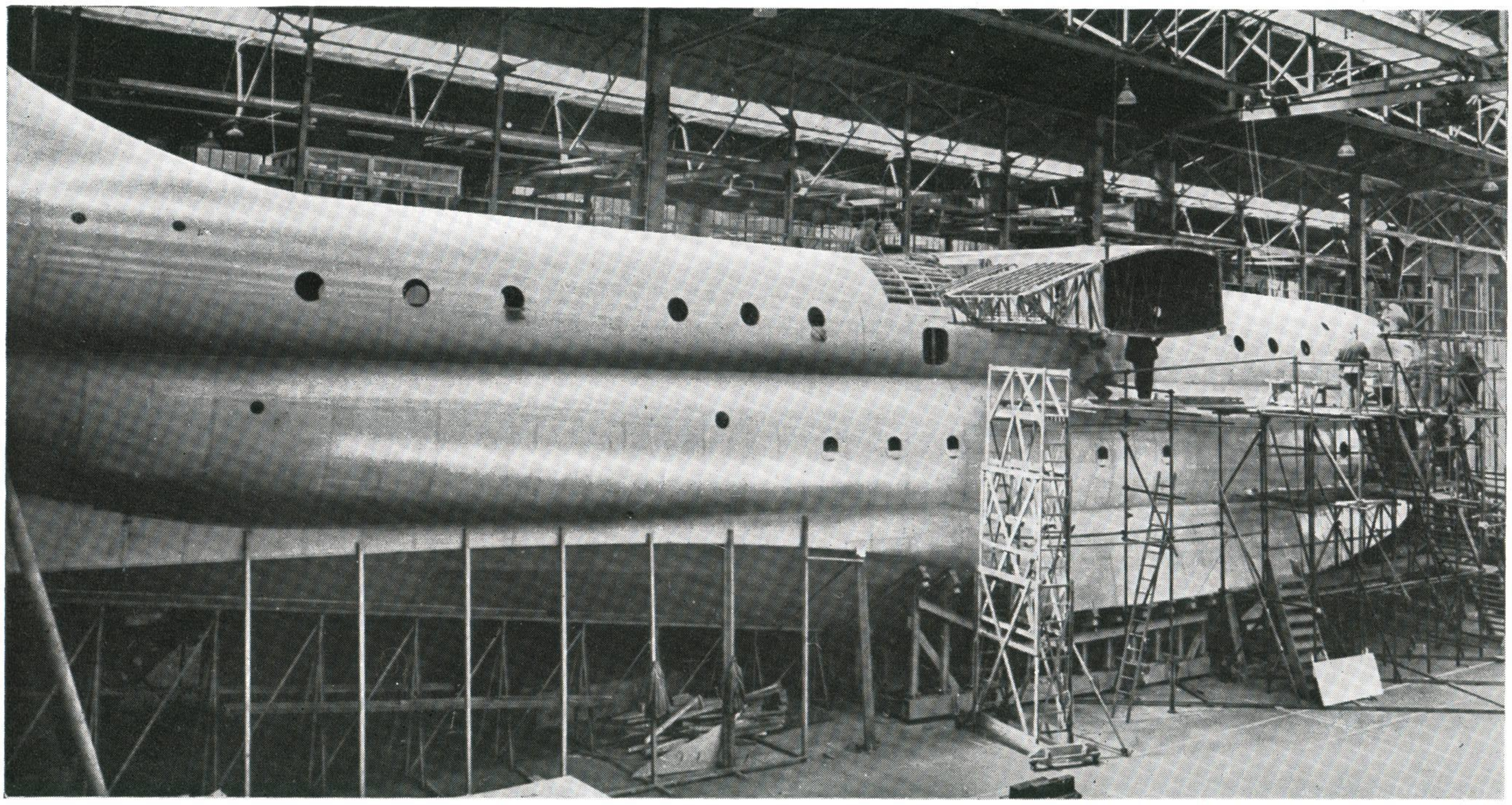
NOTE : "Airborne Headaches" will now be based upon the above-mentioned Lists.





TYPES





The Progress of the "Princess"

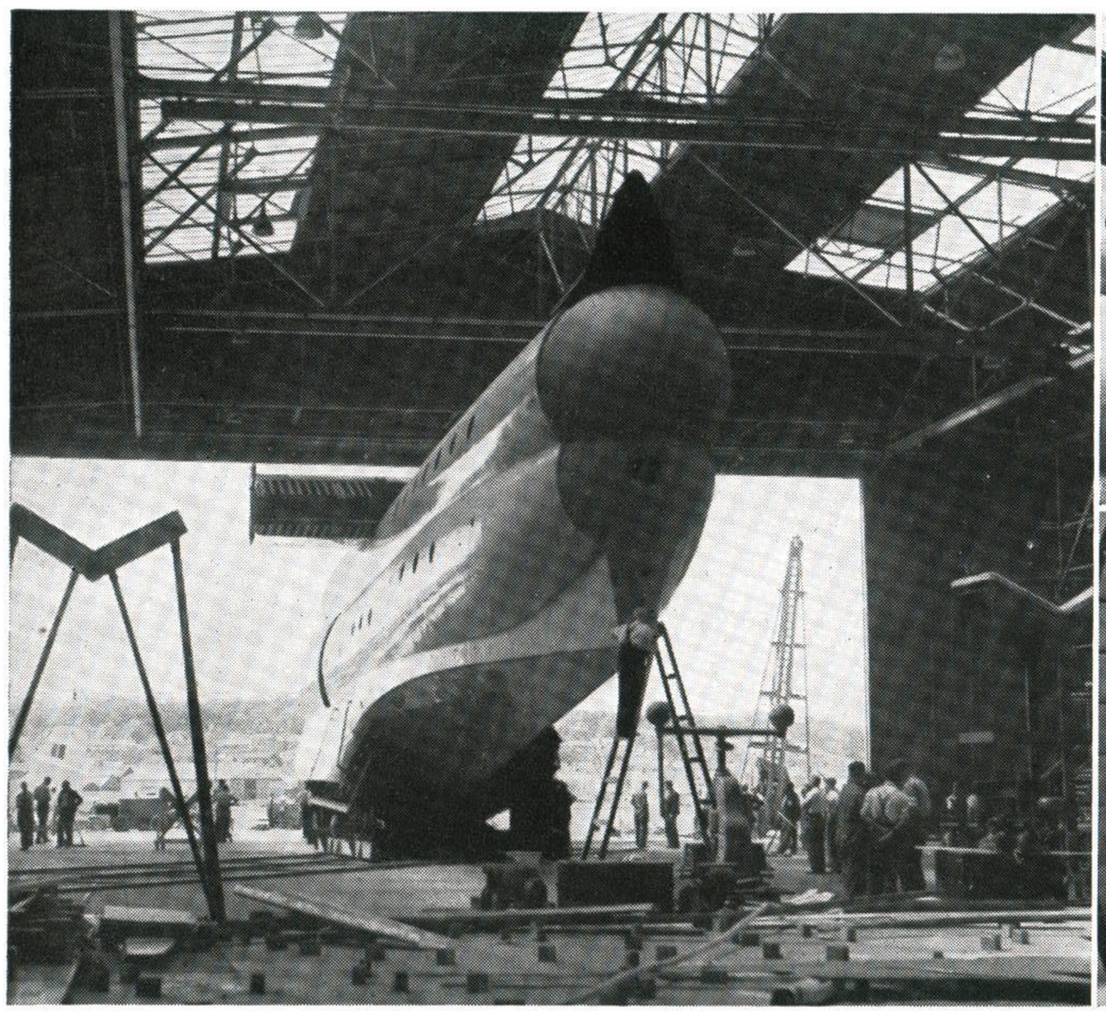
THESE PHOTOGRAPHS of the first of the steadily completing "Princess" flying boats give some idea of their spectacular proportions, and do some justice to the greatness of the underlying conception of long-stage trans-ocean air travel.

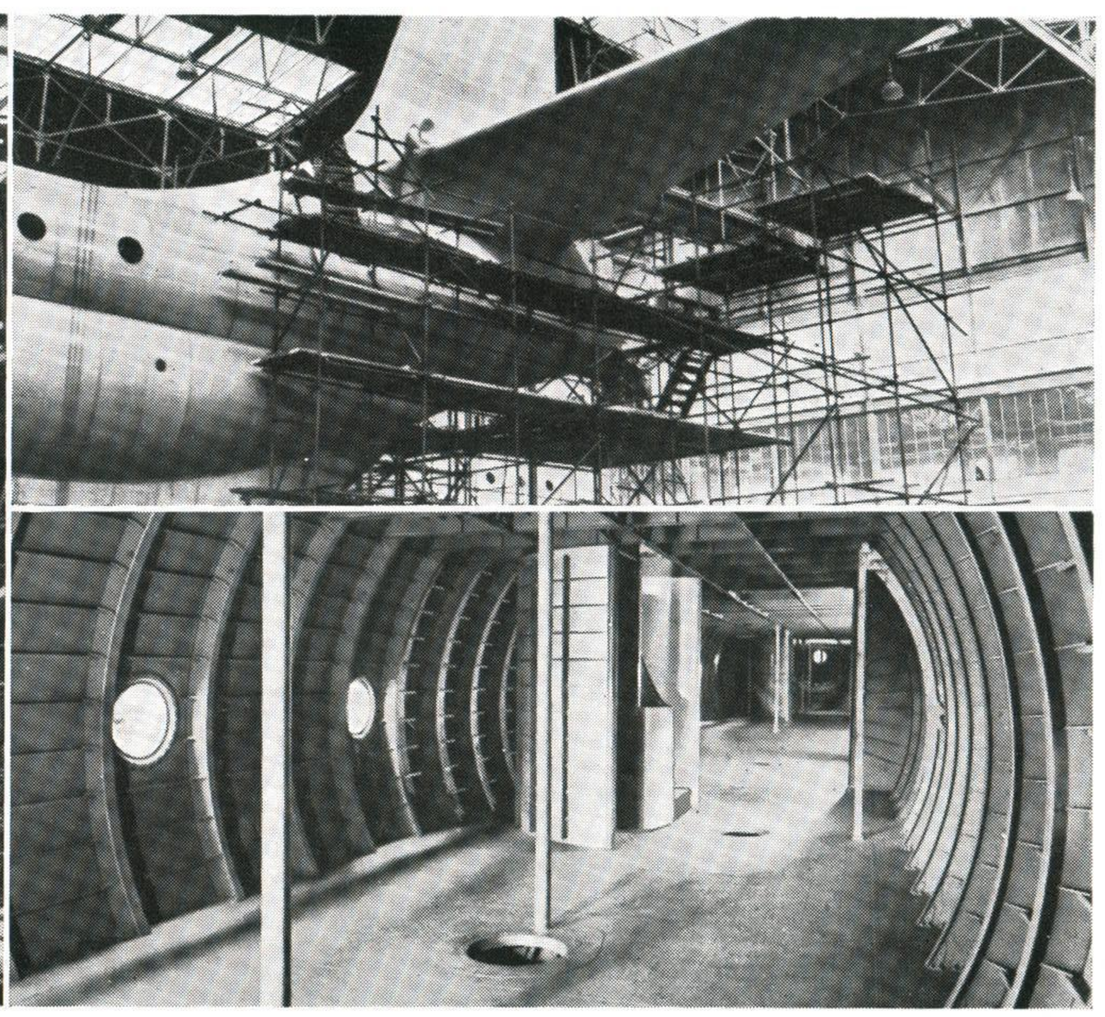
A tailplane as large as the complete mainplane of the present day airliner has been installed on the first of the three 140 ton Princess class flying-boats being built by Saunders-Roe. The centre section of the wings has now been installed in the hull of the second, and work is well advanced on the third.

Fitted with specially designed Bristol Proteus Mark 2 turboprop engines, Princess flying-boats will cruise at 340 m.p.h. and have a range of over 4,000 miles. Bristol engineers are going ahead with a Mark 3 version of the Proteus engine which is expected to increase the speed to 385 m.p.h. and range to 5,000 miles. The Princess is powered by ten Proteus engines fitted in coupled pairs in the inboard and middle positions and two single units semi-buried in the outboard positions. Each engine drives two de Havilland eight-bladed counter rotating propellers, and each outer pair of propellers is reversible so that the flying-boat can manœuvre easily in harbours or busy waterways and shorten its landing run.

It is expected that the "Princess" fleet will operate initially on routes to South Africa or South America, carrying 105 passengers in a "double-bubble" hull calculated to be equal in cubic capacity to 3½ Constellation airliners. They should be in operation in 1953.

Saunders-Roe Ltd., have a design in hand for a 500 m.p.h. six-jet 72-seat flying boat which will be known as the "Duchess." See page 193 opposite.





BOOK REVIEWS

by JOHN W. R. TAYLOR

The History of United States Naval Aviation by Captain Turnbull and Lt. Cdr. Lord might well have been sub-titled " The Modern Forty Years War." It gives the impression that the Service's hardest battles were fought not against the Germans or the Japanese, but against American Admirals !

Nor were these " Battleship Admirals " the only " enemies " on the home front, for it appears that the U.S.A.A.F. also took an exceedingly poor view of the fact that certain young sailors should wish to dabble in aviation. Nevertheless, despite this, or perhaps because of this, plus the incidental effects of a couple of wars against Germany and Japan, U.S. Naval Aviation grew in 35 years from a handful of young enthusiasts in box-kites, with their caps turned backward, to the mighty force of 41,272 planes and 60,747 pilots, based on 28 large and 71 small carriers, which swept the Atlantic and Pacific from Pearl Harbour 1941 to Tokyo Bay 1945.

The History of United States Naval Aviation does not always make easy reading, and it glosses over Naval Aviation achievements in World War Two in only 15 pages. But it is a record which no student of military aviation can afford to miss.

From military to civil aviation, in the shape of **The World's Airways and How they Work,** published by Odhams Press. Like most of their books, it is comprehensive, extremely well illustrated and reasonably priced. There are chapters on every aspect of commercial aviation from air route planning and air traffic control and landing systems to one on how an air liner works and another on how the weather can stop it working. Every chapter is contributed by an acknowledged expert on the subject.

There are even two pages of " Aircraft Recognition " pictures, consisting of drawings and silhouettes of 11 transport aircraft, though one cannot help wondering why the artist included such types as the Martin 2-0-2 and Latécoère 631, but omitted the Viking and Stratocruiser. Apart from that, the book is good value for the money.

Finally comes welcome news that His Majesty's Stationery Office has reprinted **Wings of the Phoenix,** the Story of the Air War in Burma. It tells of no easy victory, for "Japanese airmen possessed none of the caricaturist's attributes. They were neither runt-sized nor cowardly and they could see at night. Their aircraft were more manœuvrable than either our own or the Americans' then available in the theatre (in 1942). They had long-range fighters and efficient bombers and they were in overwhelming numbers." It was, in fact, a bitter struggle against a clever, ruthless enemy, and against Nature herself. For example, we can read how five Hurricanes returning from patrol flew into a vast cumulo-nimbus cloud, and of how three were never seen again ; of 16 Spitfires which entered another such cloud and lost eight of their number.

Wings of the Phoenix is a story of which we can be proud, for it tells of " the courage and skill of (British) air and ground crews, the vision and enterprise of commanders, that enabled an army to advance to victory on the wings of an air force in the most dangerous flying country in the world."

" HISTORY OF UNITED STATES NAVAL AVIATION ", by Archibald Turnbull and Clifford Lord. Published by Yale University Press, and in the U.K. by Oxford University Press. 345 pp. Illustrated. 40s. net.

" THE WORLD'S AIRWAYS AND HOW THEY WORK ", Published by Odhams Press Ltd. 320 pp. Illustrated. 8s. 6d. (standard) or 9s. 6d. (de luxe edition).

" WINGS OF THE PHOENIX "—the official story of the Air War in Burma. Published by H.M. Stationery Office. 143 pp. Illustrated. 5s. net.

INTELLIGENCE

Rapid Refuelling

Record turn round time for the Gloster Meteor in a recent flight from London to Copenhagen was 8½ minutes. This time included approach, touchdown, taxi-in, refuelling, starting, taxi-out and take-off. Refuelling was accomplished in a mere 4½ minutes.

White Argonauts

B.O.A.C. report that experiments are being made to improve passenger comfort in hot climates by painting the top surfaces of Argonaut fuselages white. It is hoped that this will reduce the cabin temperature when the aircraft are on the ground at tropical airports. If the idea is a success, all Argonauts in tropical conditions will receive white " top " coats. Also on test for B.O.A.C. is a cabin cooling plant capable of cooling, heating, or testing cabin pressurization.

Freighter Fertilizer

In a recent demonstration to show how land can be re-fertilized from the air, a Bristol Freighter spread no less than eight tons of granulated phosphate over farmland in Montgomeryshire.

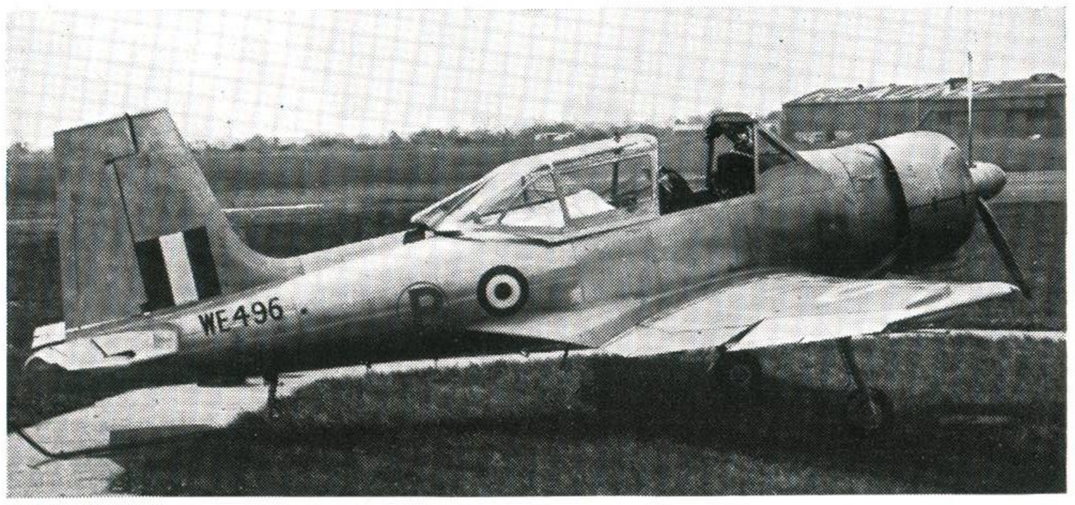


The Duchess

Saunders-Roe announce a new jet flying boat project called the " Duchess ". The new boat will be powered by six de Havilland " Ghost " jet engines buried in a wing which is similar in shape to that of the Comet. All flying surfaces are swept back, and the tailplane is of the " crosstree " type with a dihedral angle. Retractable wing-tip balance floats are fitted and wing span is 135 ft. 6 ins.

Turbo-Triads

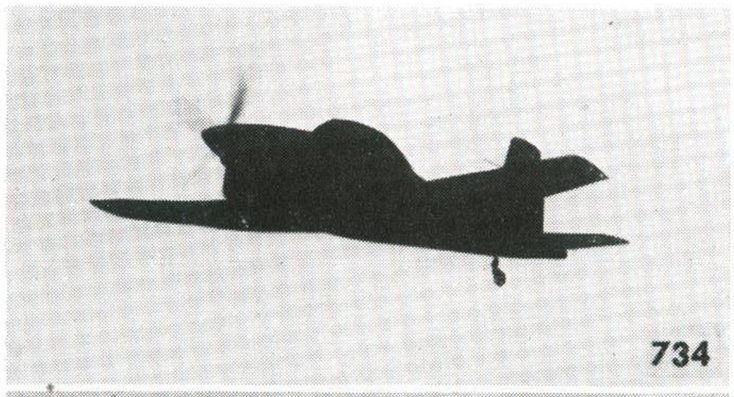
Second Martin XB-51 three-jet ground support bomber recently made its first flight. The first prototype of the XB-51 is now undergoing advanced flight tests. Both models now have modified " torpedo " shaped fairings at the fin/tailplane juncture. See also page 87, January, 1950, Journal.



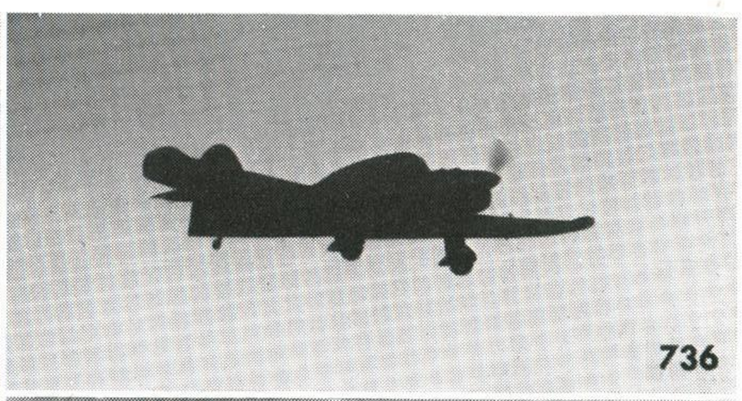
Side-by-side

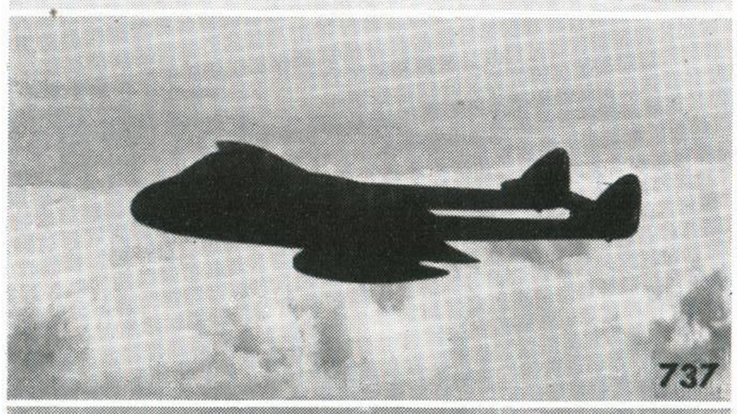
New side-by-side dual-control basic trainer built by Handley Page is the H.P.R.2. Powered by an Armstrong Siddeley Cheetah 17 radial engine, the H.P.R.2 has square-cut flying surfaces and a " crystal palace " cockpit canopy.

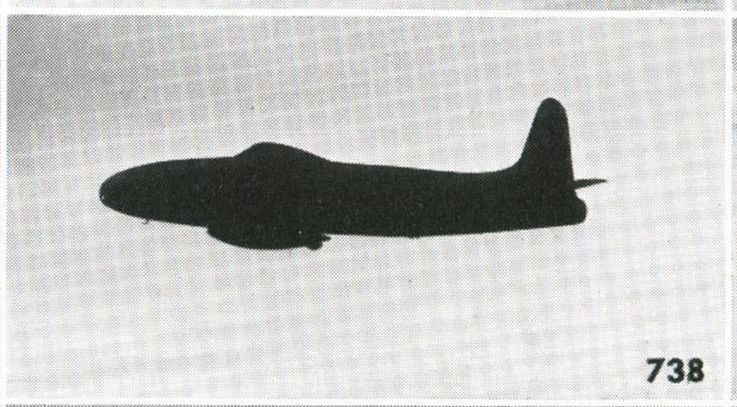
SILLOGRAPHS

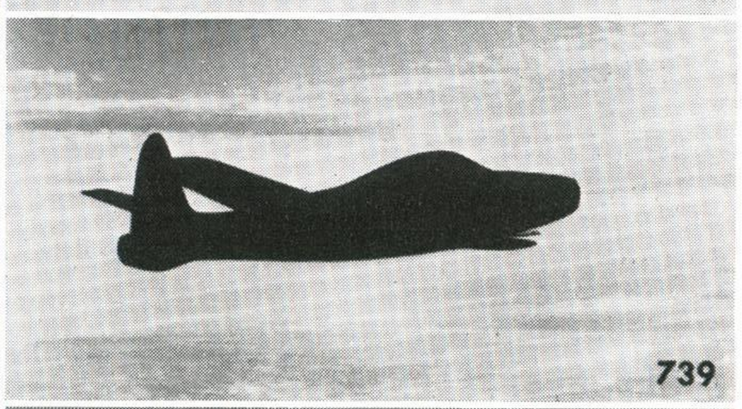

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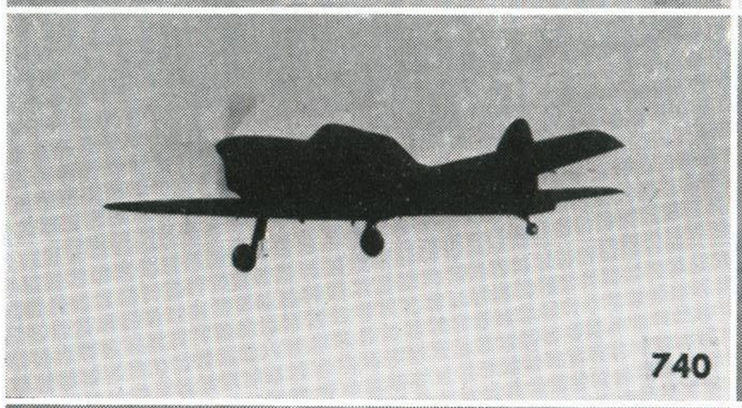

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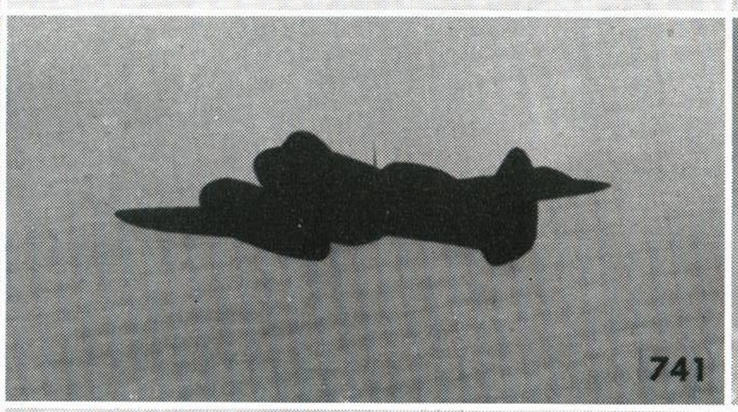

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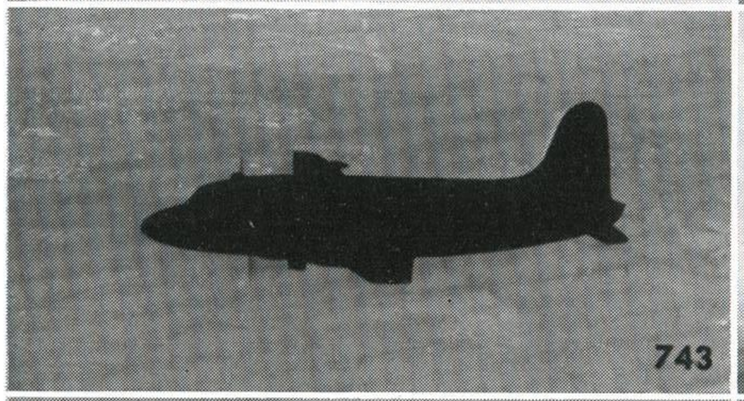

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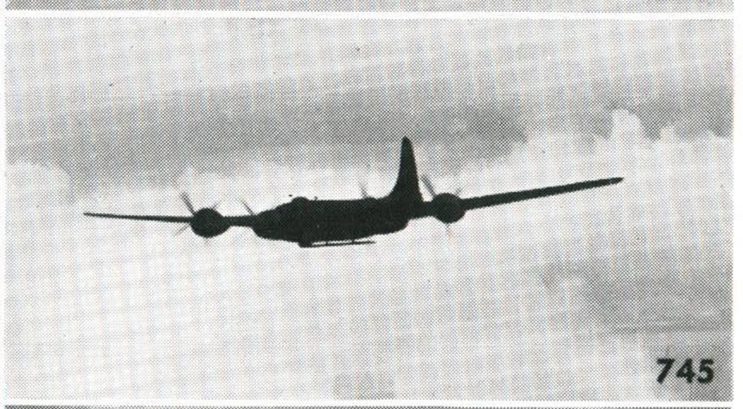

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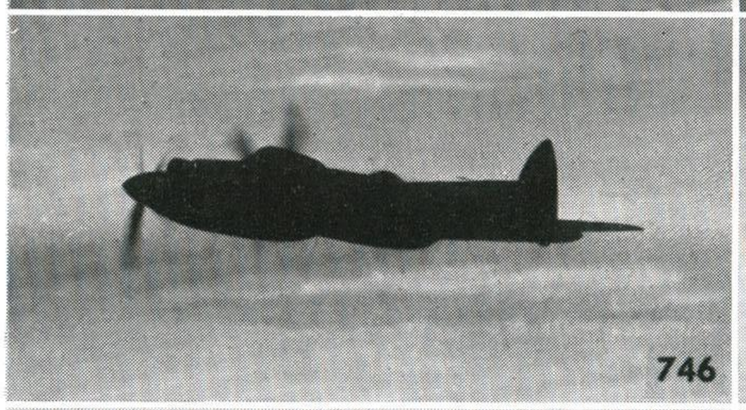

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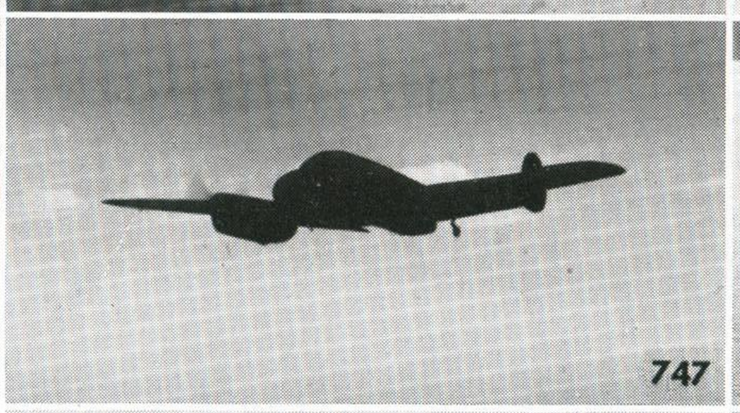

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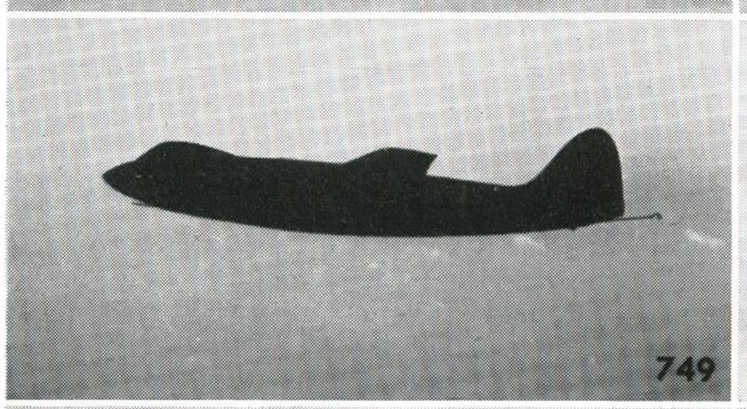

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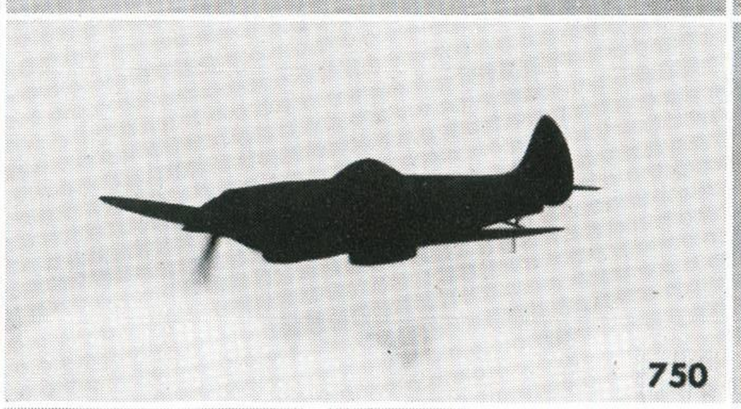

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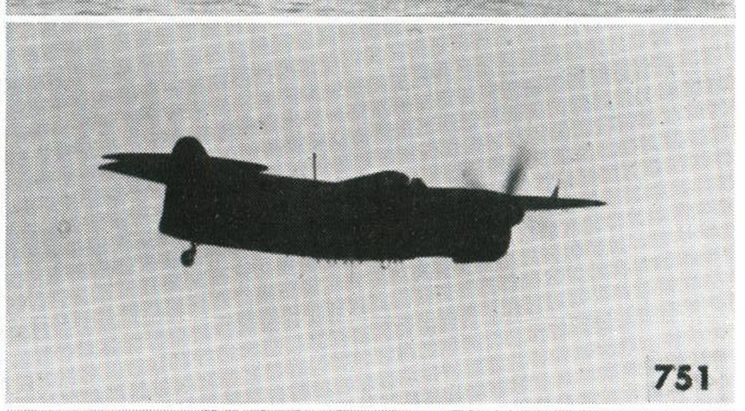

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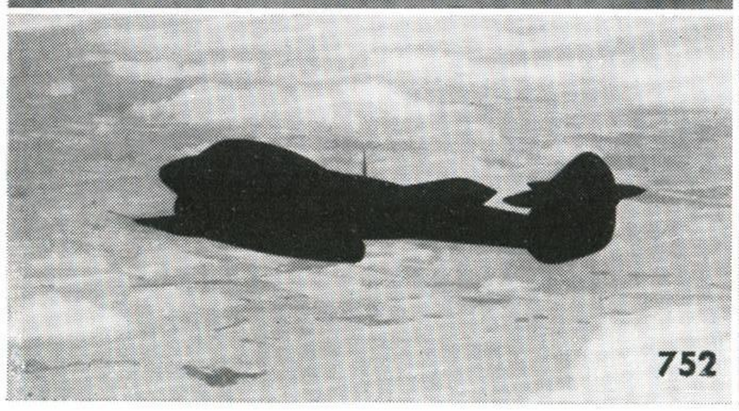

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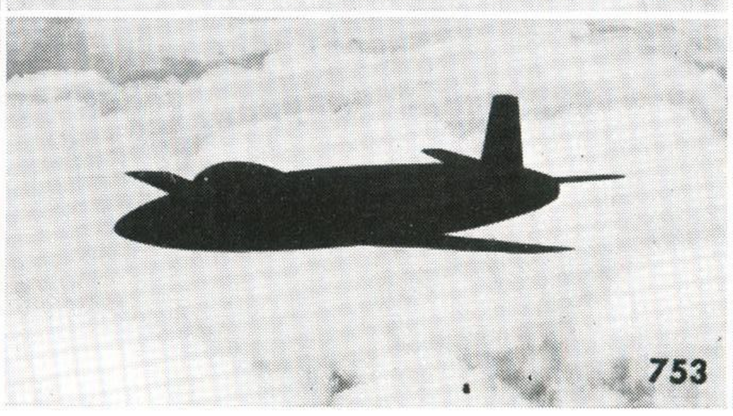

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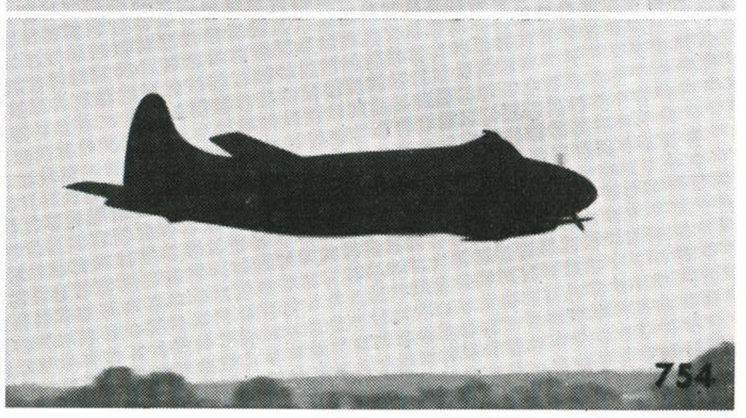

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Tactical Fighter Formations used by the Soviet Air Forces

The tactics and formations mentioned below were developed during the War for propeller-driven fighters. They served well and are probably still in use; and are likely to remain in use so long as the S.A.F. has propeller-driven fighters in service. The jet-fighters are comparatively new and their formations and tactics are probably still under development.

THE basic fighter tactical unit in the Soviet Air Force is the "Para" or pair, two pairs make up a "Zveno" or flight and three flights make up one squadron. A Fighter Regiment equipped with conventional propeller-driven aircraft flying at full operational strength would consist of four Squadrons each having three flights of four aircraft. The strength of formations would be dictated by the operational situation and squadrons may operate as a "Gruppa" with three or four pairs as shewn in diagram 3.

The principal offensive tasks of Soviet fighters are :—

(*a*) Sweeps over the battle area
(*b*) Sweeps over forward enemy airfields
(*c*) Co-operation with tanks and motorized units
(*d*) Reconnaissance
(*e*) Escort for tactical bomber sorties
(*f*) Free lance patrols

Defensively the main task is the protection of forward areas. The internal air defence of Russia is the responsibility of an independent fighter air force under the Protivovozdushnaia Oborona (P.V.O.); this force does not operate in a tactical rôle and is purely defensive. The P.V.O. also includes the early warning observer corps organisation, A.A. and searchlight defences.

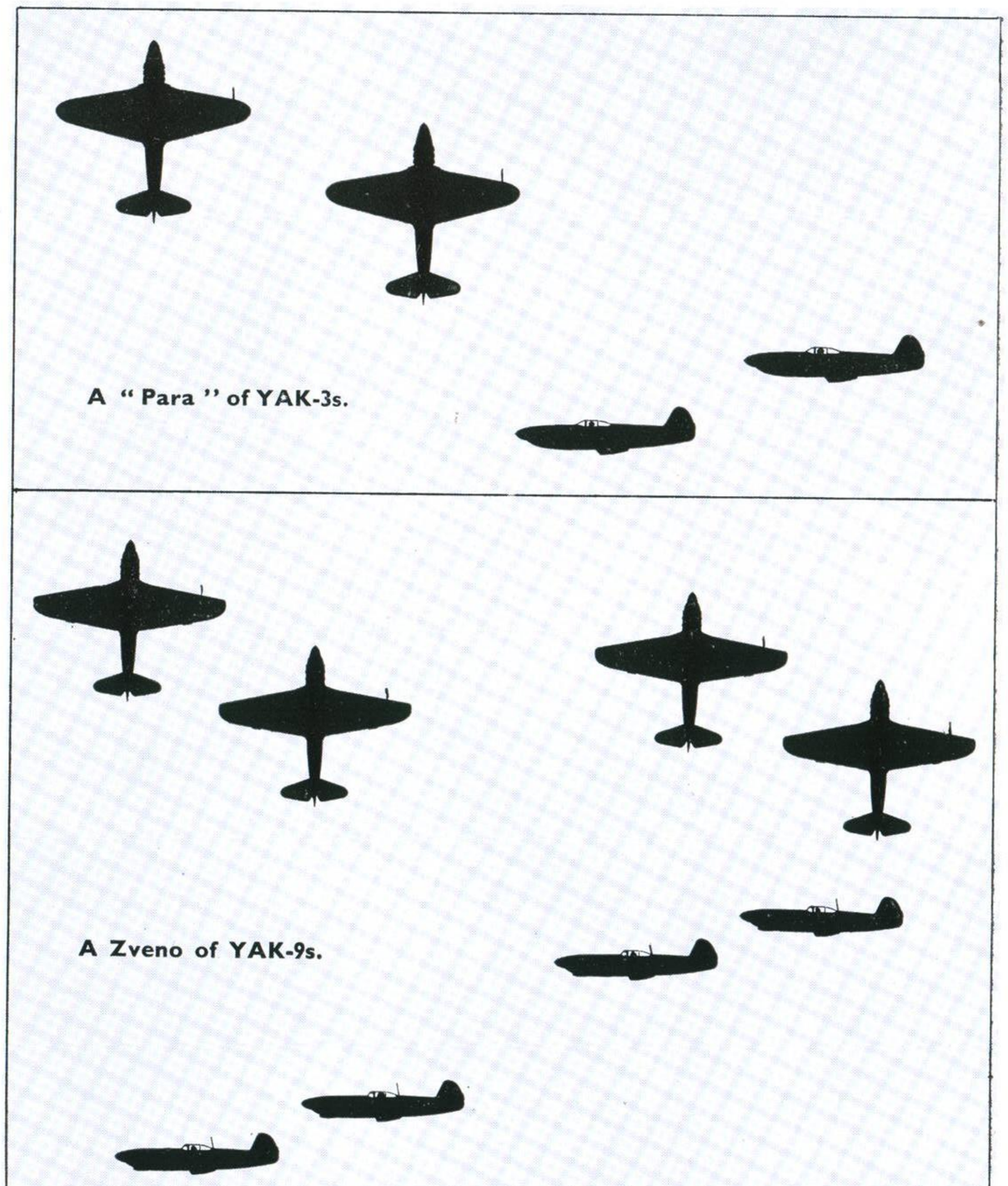
Co-operation with armoured and tank formations reached a high degree of efficiency in the last war and fighter aircraft were given their orders in the air by R/T direct from the commander of the tank unit engaged. The number of fighters co-operating depended entirely on the tactical air and ground situation but a typical example is a squadron of eight aircraft operating as follows :—

(*a*) One "para" flying between 1300/5500 ft.
(*b*) One "zveno" (4 aircraft) flying between 6500/10,000 ft.
(*c*) One "para" ranging between 6,000/12,000 ft.
(*a*) and (*b*) remained over the tanks and (*c*) would patrol the surrounding area with the task of spotting approaching hostile aircraft and direct the "zveno" to intercept; they themselves would remain in reserve unless the situation became serious.

Fighter escorts for ground attack and tactical bomber operations by day were always provided; the strength of escort formations varied widely but as a general rule a ratio of 1 : 1 was employed. Typical fighter escort tactics by a fighter Regiment operating at full strength with four squadrons of 12 aircraft each are as follows :—

(*a*) The first and second squadrons each flying their "zvenos" in finger fours, line abreast or line astern, would be the assault squadrons, responsible for the immediate destruction of hostile formations
(*b*) The third squadron would operate as medium high cover to the 1st and 2nd squadrons
(*c*) The fourth squadron would operate as top cover and reserve.

Throughout engagements Soviet fighter pilots are instructed to try to retain flight (zveno) formation, and unwarranted breaking of formation leads to a court martial.



A "Para" of YAK-3s.

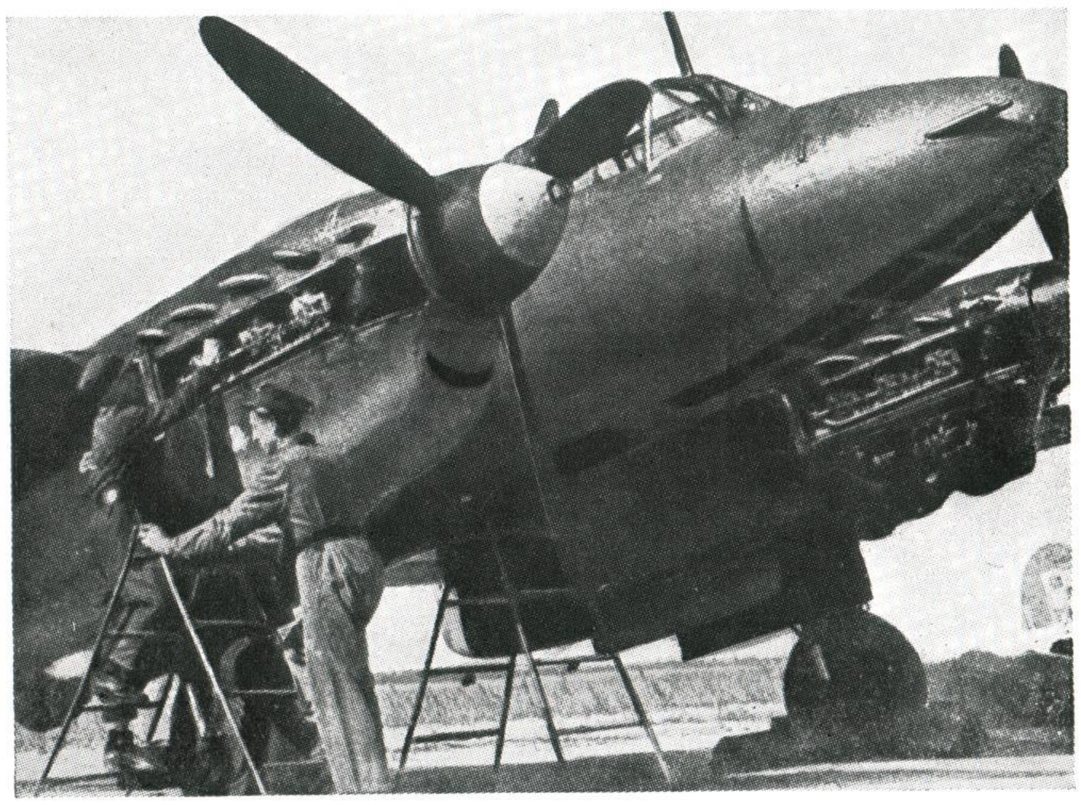
A Zveno of YAK-9s.

A "Gruppa" of LA-9s.

THE POLISH AIR FORCE

History

The history of the Polish Air Force begins with the re-emergence of Poland in 1918 as an independent state, after her long subjection to Russia, Prussia and Austria. The first aircraft to fly operationally was a hybrid assembled from salvaged parts of aircraft abandoned by the various Powers who had been using Poland as a battleground for four years. This was in November, 1918, on a reconnaissance against insurgent Ukrainians. By 1919-20 the Air Force was sufficiently strong to take part in operations against the invading Bolsheviks. After 1921 when hostilities were formally ended, the Polish Air Force was able to settle down to more routine development, though internal political stresses seriously interfered, on occasion, with its smooth growth. Up to



PE-2 of P.A.F.

1926 its average strength was between 700 and 900 aircraft, mostly French. As time went on, more and more Polish-built aircraft were introduced and these replaced the old French machines which were by now obsolete. The Polish aircraft industry, however, was not capable of producing aircraft of a sufficiently high standard to compete with those of other more highly developed countries. By 1939 the Air Force was equipped entirely with Polish-designed aircraft, which were, however, largely obsolete, even though recently delivered, and despite the gallantry of its pilots, the Air Force was no match for the attacking Luftwaffe. Ninety per cent. of the operational aircraft and seventy per cent. of the crews were lost in the brief campaign of that year.

From the defeat of Poland until the end of the War the Polish Air Force, like the Polish State ceased to exist as an independent body, though its spirit was kept alive in exile. The great record of the Polish squadrons with the R.A.F. is well known.

Apart from these, Polish Air Units were formed in Russia after the German invasion of that country in 1941. They took part in the operations on the Eastern front as units of the Soviet Army Air Force and naturally were the first to arrive back in Poland. These formations formed the nucleus of the present Polish Air Force, which has been in existence since 1945.

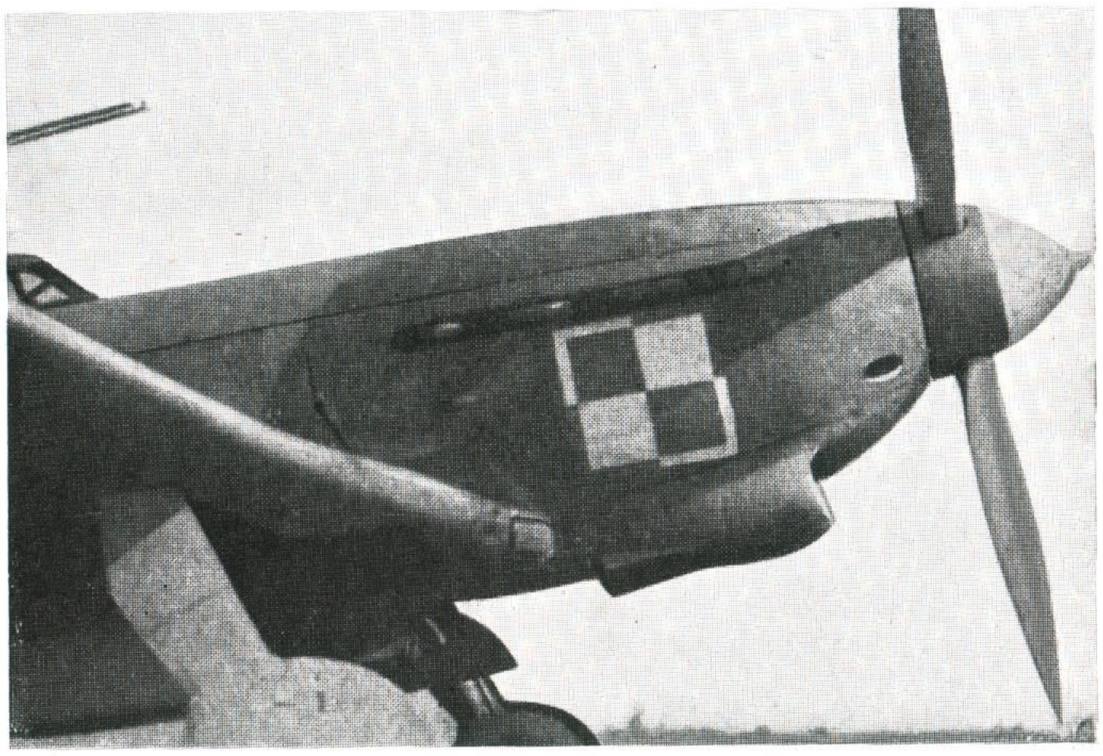
Organization

Like all Communist-dominated Air Forces, the present Polish Air Force is modelled on that of Russia, and is intended primarily as a tactical force. The Poles have never had an independent Air Force, after the style of the R.A.F. but have always kept it subordinate to the Army High Command. The Polish Air Force is now an integral part of the Armed Forces of the " People's Poland." The Commander-in-Chief of the Armed Forces, and Minister for War is Marshal Rokossovsky the distinguished Soviet Officer, who was born in Warsaw, but whose entire service life has been spent in the Russian Army, having been a conscript in the Tsarist army of 1914 ; and subsequently a revolutionary army leader. The Commander of the Polish Air Force is General Romejko, an officer of Ukrainian extraction, who has lived for a long while in the Soviet Union and served as an officer in the Soviet Air Force. He is said to speak with a Russian accent and to use Russian modes of speech, although he always wears Polish uniform and only Polish decorations.

The basic operational unit of the Polish Air Force is the Air Regiment. Regiments are classified according to the function they perform. These are Fighter, Ground Attack, Bomber and Transport.

Aircraft

The combat aircraft used by the Poles are all Russian types. The Fighter Regiments are equipped with YAK-9 aircraft, the Ground Attack Regiments with IL-2 Stormoviks and the Bomber with PE-2 twin-engined light bombers. The Transport Regiment has some



YAK-9 with P.A.F. Insignia.

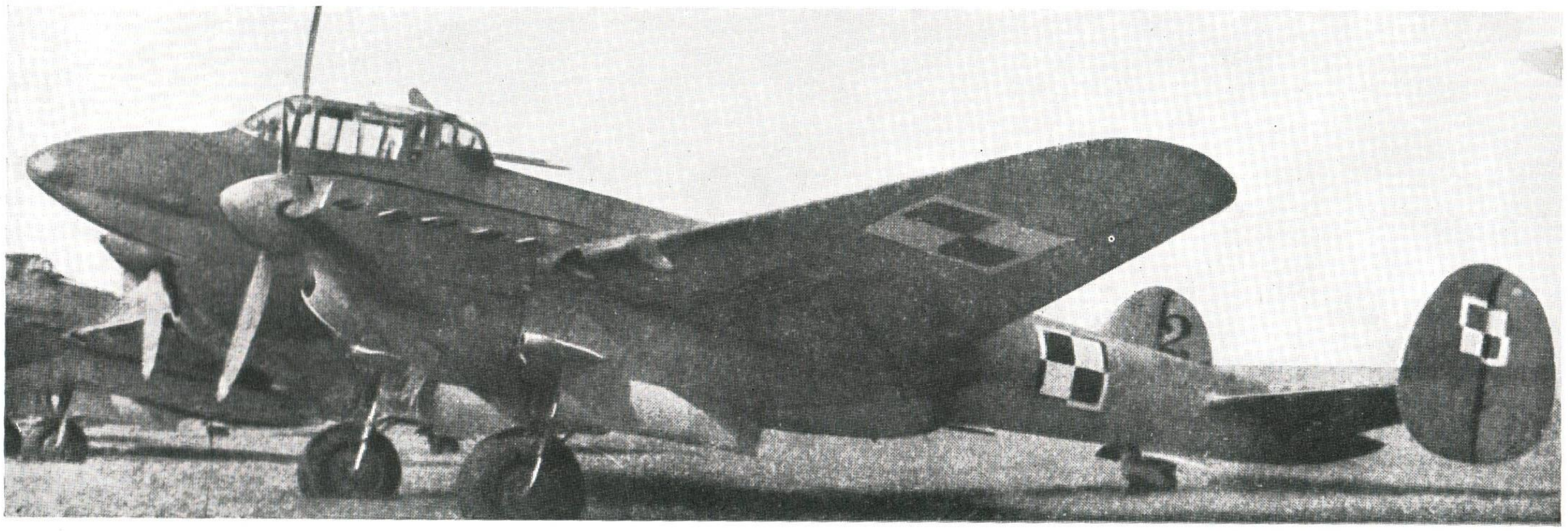
Dakotas and some Russian-built LI-2s, the Russian version of the Dakota. For training and communications PO-2 bi-planes and UT-2s are used.

As will be seen the Poles have no outstandingly modern aircraft in their Air Force. Their aircraft industry is only producing light training and small touring planes and a number of gliders ; and the Russians apparently do not yet consider them sufficiently trustworthy to receive their more modern aircraft.

Combat value

As may be judged from the foregoing, the Polish Air Force is not in a very happy state. In spite of their immense efforts during the war the Poles still find themselves under thinly veiled foreign domination, and their Air Force, together with the rest of their institutions, is being made to serve ends which are alien to them. As a result there have been purges in all ranks, more especially of those who served with the R.A.F. during the war ; and for advancement good airmanship has been a secondary consideration to political, which is to say communist, reliability. In this way the Polish Air Force has lost its best trained crews, and though there are signs that politically it is now gaining the confidence of the communist regime, this is no substitute for fighting efficiency. It is this quality which the present Polish Air Force most conspicuously lacks.

PE-2 of P.A.F.



SUMMARY OF TYPES AND COUNTRIES OF ORIGIN OF "IRON CURTAIN" AIRCRAFT

Russian origin :—

BLOCHAVINDIN : MDR-6 (old method of designation).
ILYUSHIN : IL-2, IL-4, IL-10, IL-12.
LAVOCHKIN : LA-5, LA-7, LA-9, LA-11.
LISITSIN : LI-2.
MIKOYAN AND GUREVICH : MIG-9.
PETLYAKOV : PE-2, PE-8.
POLIKARPOV : PO-2 (UT-2).
SHCHERBAKOV : SHCH-2.
TUPOLEV : TU-2, TU-4, TU-6.
YAKOVLEV : YAK-1, YAK-3, YAK-6, YAK-7B, YAK-8, YAK-9, YAK-11, YAK-12, YAK-14, YAK-15, YAK-16, YAK-18.
UNKNOWN : MBR-2.

American origin :—

BELL : P-39 Airacobra, P-63 Kingcobra.
CONSOLIDATED : PBY-5 Catalina.
CURTISS : P-40 Tomahawk.
DOUGLAS : A-20 Havoc, C-47 Skytrain or Dakota, DC-2.
FLEET : 10G.
NORTH AMERICAN : AT-6 Harvard, B-25 Mitchell.

British origin :—

DE HAVILLAND : Mosquito 6.
HAWKER : Hurricane 1 and 2.
VICKERS : Spitfire 5 and 9.

German origin :—

ARADO : Ar 96.
BÜCKER : Bu 131 Jungmann, Bu 181 Bestmann.
FIESELER : Fi 156 Storch.
FOCKE-WULF : Fw 44 J Stieglitz, Fw 58.
HEINKEL : He 114.
JUNKERS : Ju 52.
MESSERSCHMITT : Me 109 G, Me 109 G (two seater).
SIEBEL : Si 204 (Czech designations C 103 and D-3).

Italian origin :—

NARDI : F.N. 305.
SAVOIA-Marchetti (now SIAI-Marchetti) : SM. 79.

Czechoslovakian origin :—

AERO : 2.
ZLIN : 20, 26.

Rumanian origin :—

IAR-39, IAR-80.

Finnish origin :—

Vilma, Pyry.



R.A.F. Display Programme

A reconstruction of the attack on Amiens prison in February, 1944, when a formation of Mosquitos liberated French patriots under sentence of death, by breaching the prison walls in a low bombing attack, will be one of the high-lights of the Royal Air Force Display, to be held at Farnborough, Hants, on July 7 and 8. The King and Queen will attend during the afternoon of Friday, July 7.

The display, starting at 10.30 a.m. and lasting until 5.30 p.m., will consist of 27 events. The ten morning events will include six devoted to R.A.F. ground activities, and all the 17 afternoon events will be flying items.

Flying will include individual and formation aerobatics by Meteor and Vampire jet fighters, large formation fly-pasts by representative aircraft drawn from 35 regular and auxiliary squadrons, " crazy " and precision formation flying by instructors, a helicopter circus, demonstrations by the new Venom jet fighter-bomber and Canberra twin-jet bomber (both in production for the R.A.F.) and by two research aircraft. Veteran aircraft dating from the 1914-18 war and earlier will be demonstrated, as well as a modern high-performance sailplane.

In addition to the reconstruction of the Amiens prison raid, other events showing R.A.F. operational techniques will include an attack on a strong-point by armoured cars of the R.A.F. Regiment and Vampire fighter-bombers, and a spirited defence of the airfield when attacked by " hostile " Mosquito bombers.

The aerobatics will be performed by the most skilful pilots of the R.A.F., selected by competition from the various squadrons and flying units.

The Royal Auxiliary Air Force will have a prominent place in the Display. The final of the Cooper Trophy high-speed handicap race—an annual event for the 20 R.Aux.A.F. fighter squadrons—will be flown on the Friday. On the Saturday this event will be replaced by air drill, executed by two auxiliary squadrons. The R.Aux.A.F. will also participate in the Amiens prison event and the fighter section of the fly-past.

R.A.F. Volunteer Reserve pilots will demonstrate the aerobatic capabilities of their new De Havilland Chipmunk trainer, and cadets of the Air Training Corps will give a gliding display.

Ground events will include a demonstration by R.A.F. Police dogs, physical training by the Women's Royal Air Force, mortar firing by the R.A.F. Regiment, and a mass physical training display by R.A.F. recruits. Nine R.A.F. bands, the Central band of the W.R.A.F., and the massed bands of the Air Training Corps will also take part in the morning programme. A Royal Air Force exhibition on the airfield will be open from 9 a.m. to 7 p.m.

Admission charge to the spectator enclosures will be 3s. and 10s. ; individual seats in boxes will be available at 12s. 6d., 15s. and £1 ; and boxes to seat six will cost from £3 15s. to £6. The admission charge for cars will be 10s., motor cycles 2s. 6d. and bicycles 6d. The parking charge for coaches will be £1.

Tickets will be available from May 15 from Messrs. Alfred Hays, Ltd., 26, Old Bond Street, London, W.1, and the usual agencies.

This Month's Nonsense

Hot from our tame typewriter comes the de Havilland Diminie—obviously for training backward pilots. Also the Aster T 7—an absolute daisy of an aeroplane.

More Moving Pictures

Anyone who has difficulty in recognising a C-54 Skymaster should see " The Big Lift." As will be assumed from the title, it features the Berlin Air Lift. But not as the complete story ; nor even the American part in it ; but as a background to a story of one aspect of life in Berlin today. It is played, apart from the leading parts, by personnel of Troop Carrier Command, U.S.A.F., and since almost all the " shooting " was done during Operation Vittles, it is entirely convincing and completely interesting from all points of view. There is much aerial photography of great merit, but with the exception of glimpses of a Dakota, a C-82 Packet, and P-47 Thunderbolts (simulating unidentified fighters) it is almost all of Skymasters.

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 :

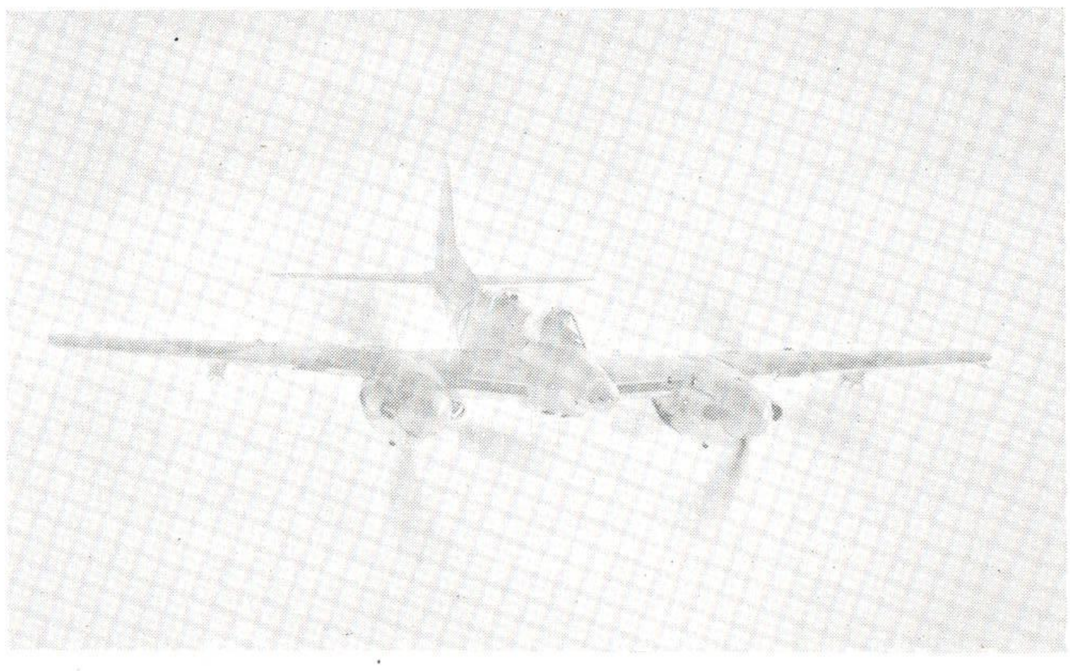
Pictorial Charts	
A.D. 4693 (Issue 2)	Attacker F Mk. 1
4922	Marathon Mk. 1
4923	Chipmunk T Mk. 10
4997	Mosquito PR Mk. 34
Large Silhouettes	
A.D. 4635	Ambassador
4636	Hornet F Mk. 3
Working Drawings 1/72nd Scale Models	
A.D. 4998	FJ-1 Fury
A.D. 5011	F9F-3 Panther
1/72nd Scale Model	
Stores Ref. 52/898	IL-18
Night Silhouettes	
A.D. 4961	C-47 Skytrain/Dakota
4962	Wayfarer
4994	FJ-1 Fury

QUOTE

" Every ground watcher of the skies, observing from a fair vantage point with a good pair of binoculars, has within his spotting range some 135 cubic miles of sky. The crew of an aeroplane flying at 25,000 ft. in clear weather has within its vision some 455 cubic miles . . ."

Inter-Services Aircraft Recognition Journal, March, 1943.

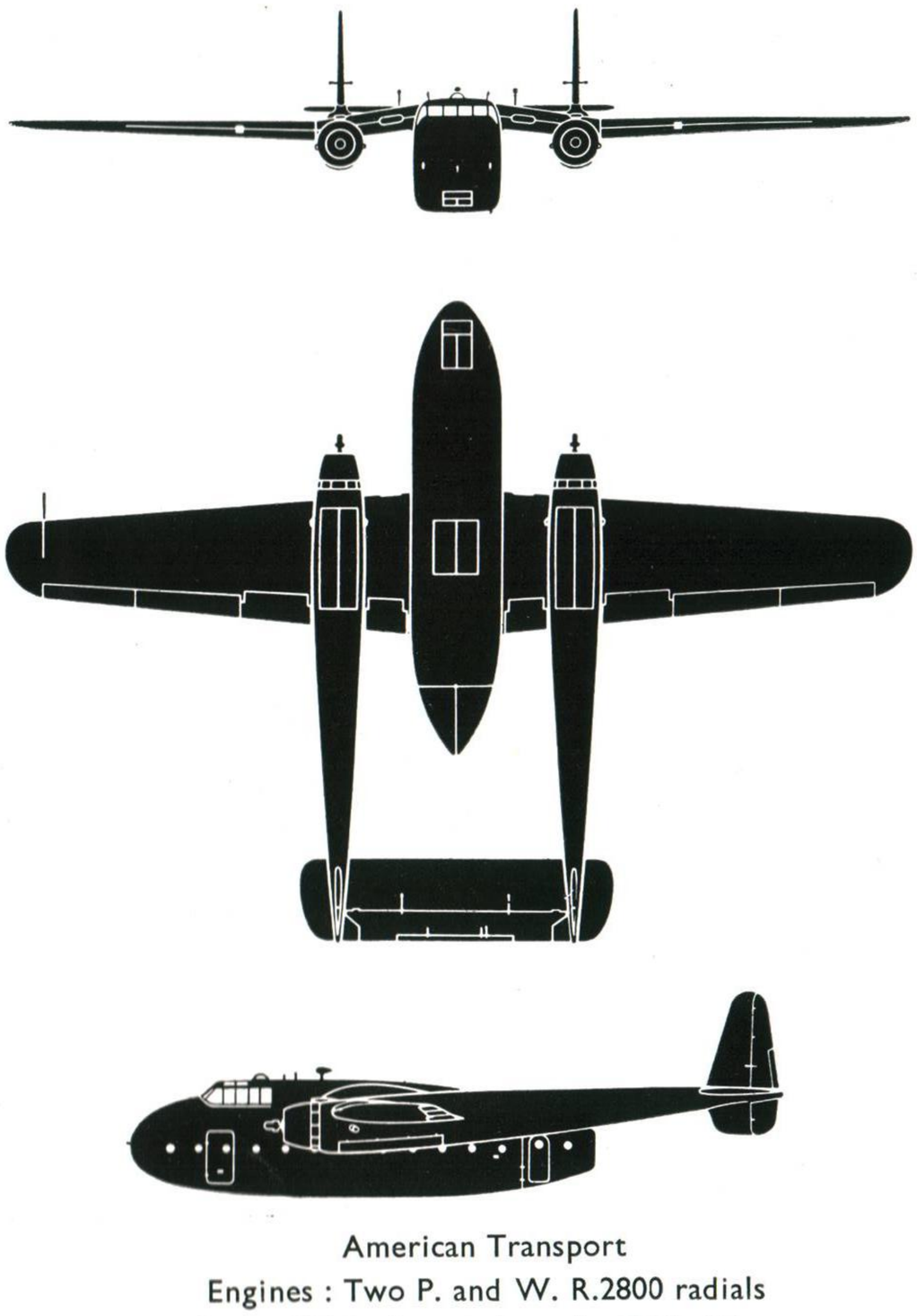
Aerogram



No Heaters (*Answer on rear cover*)

PACKET SILHOUETTES

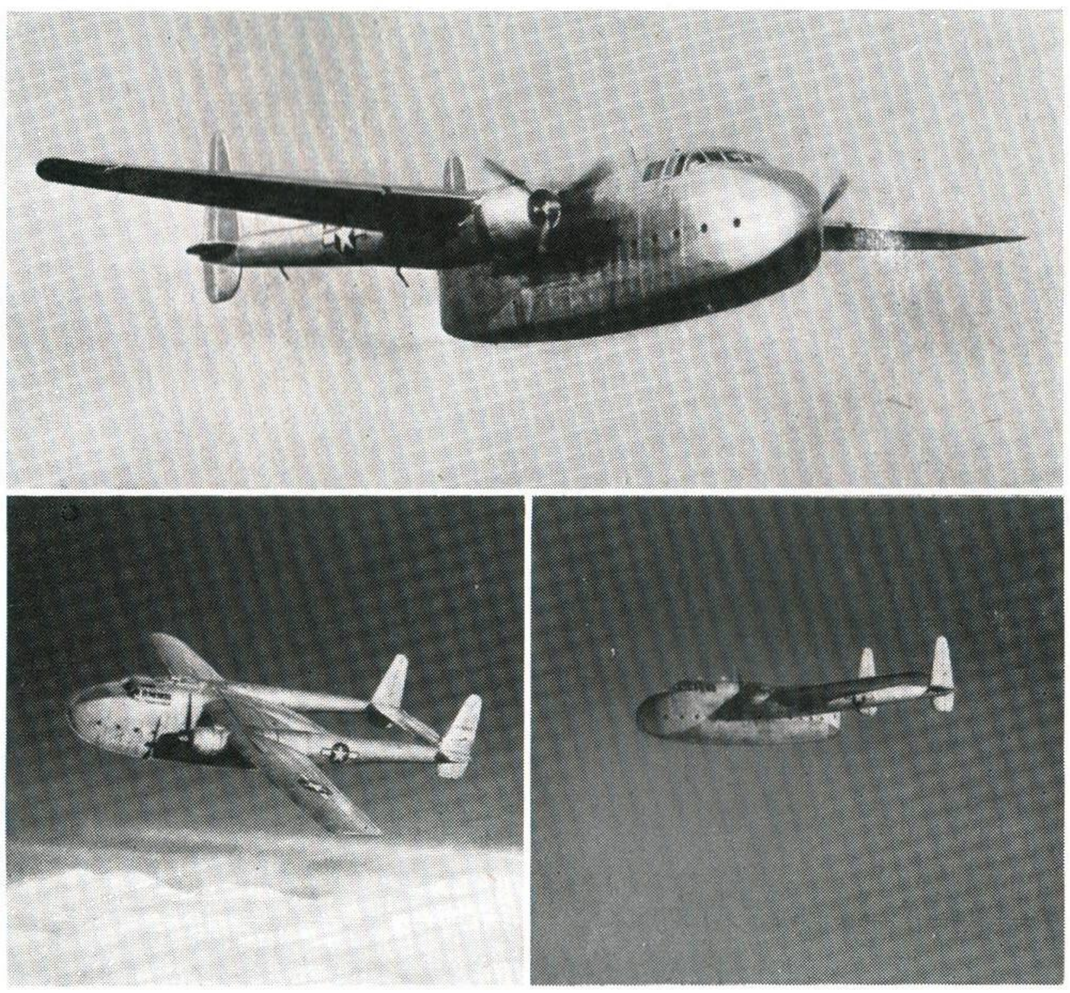
FAIRCHILD C-82 PACKET



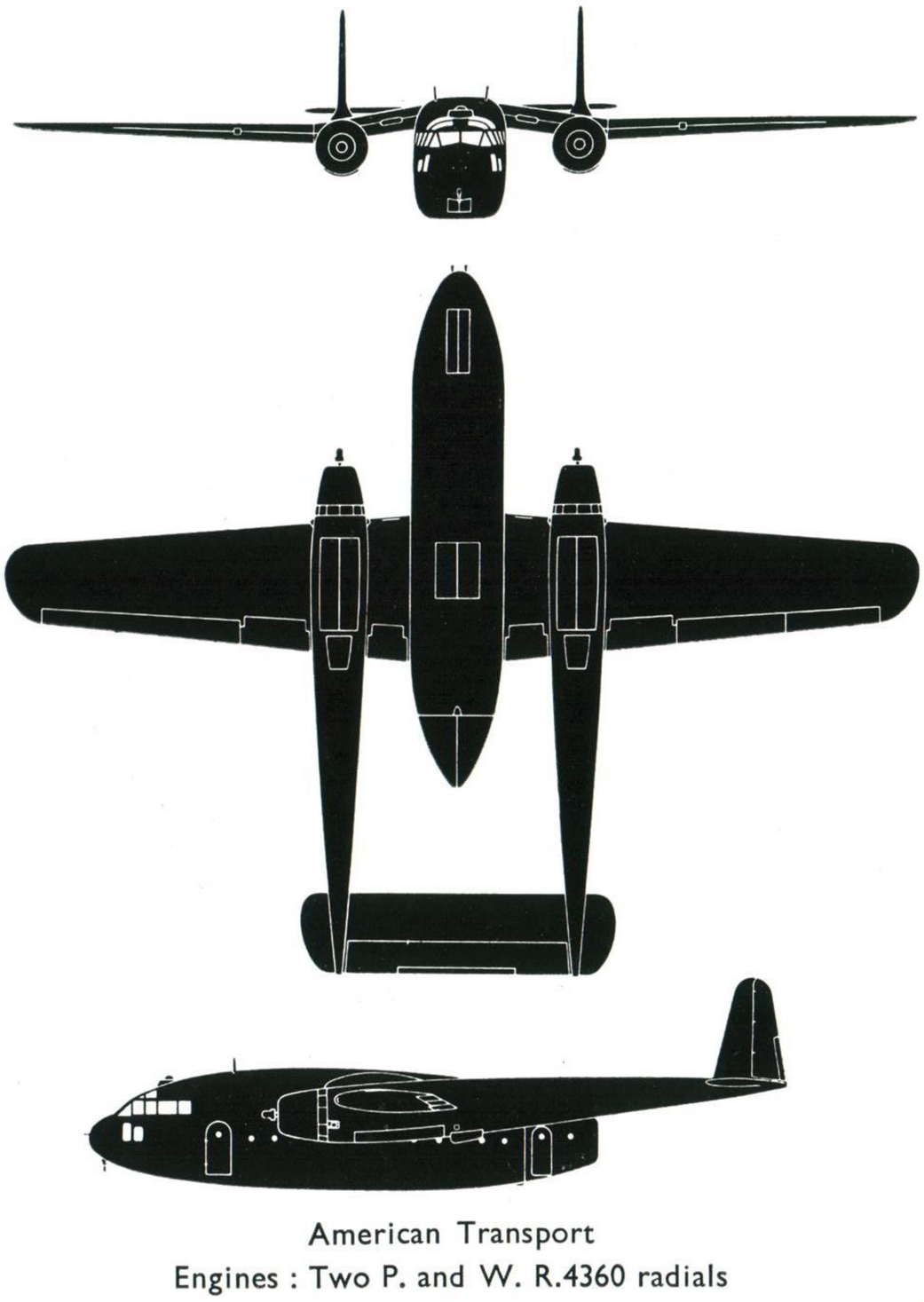
American Transport
Engines : Two P. and W. R.2800 radials
Span : 106 ft. 6 ins. Length : 77 ft. 0 ins.

Recognition Points :

Wings : high, " inverted gull " type, straight taper, duo-curve tips.
Engines : underslung, mounted in torpedo-shaped twin booms.
Fuselage : box-shaped, pointed at each end in plan view, rounded nose and blunt rear in side view.
Tailplane : rectangular with outrigged duo-curve tips.
Fins and Rudders : tall, triangular, blunt tipped under-fins.
Detail : stepped-up flight deck canopy.



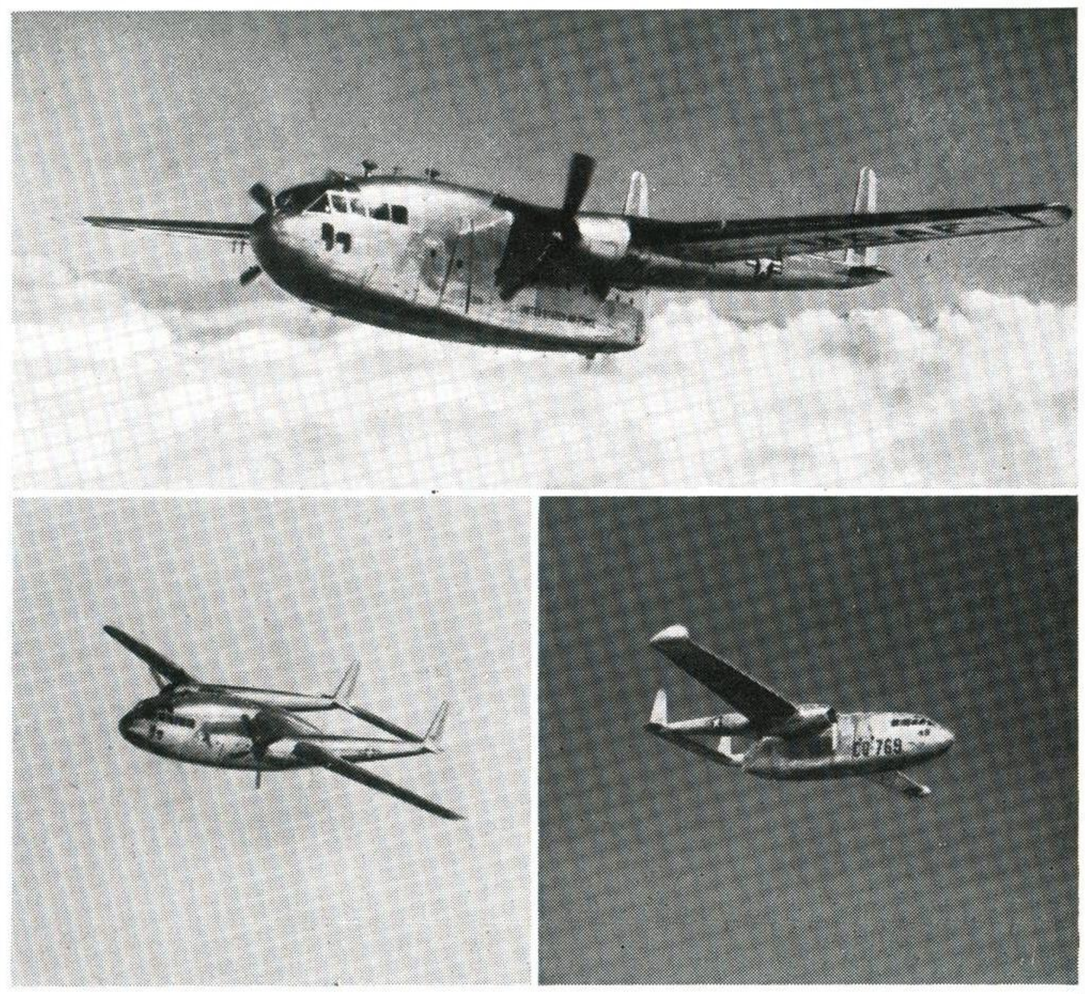
FAIRCHILD C-119B PACKET



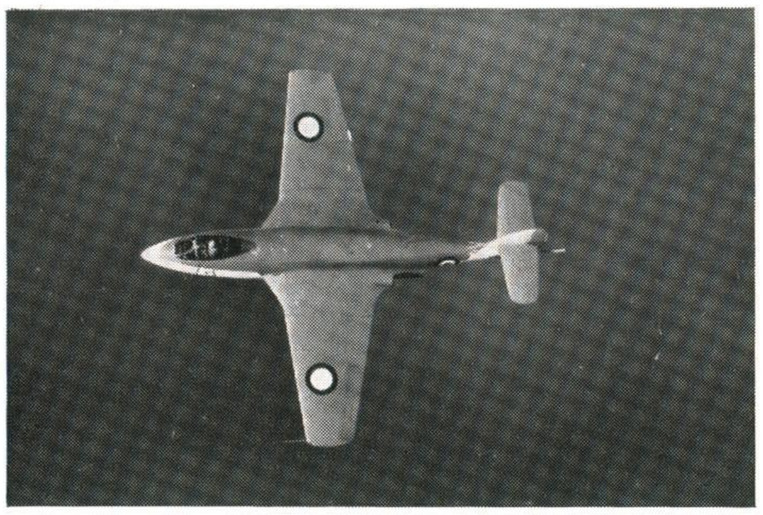
American Transport
Engines : Two P. and W. R.4360 radials
Span : 106 ft. 6 ins. Length : 85 ft. 10 ins.

Recognition Points :

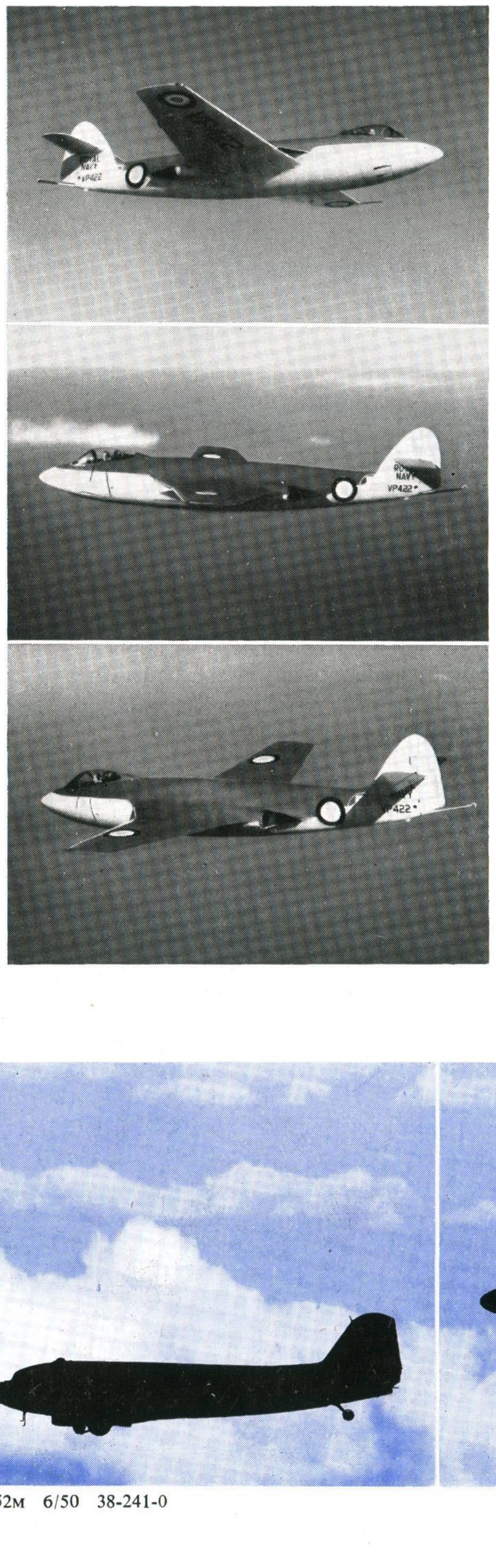
Wings : high, " inverted gull " type, straight taper, duo-curve tips.
Engines : underslung, mounted in torpedo-shaped twin booms.
Fuselage : box-shaped, pointed at each end in plan view, longer pointed nose and blunt rear in side view.
Tailplane : rectangular with outrigged duo-curve tips.
Fins and Rudders : tall, triangular.
Detail : flight deck canopy streamlined to pointed nose.







COVER: The Hawker Seahawk F Mk.1 showing clean lines, square-cut mid-wing, high set tailplane and extending arrester-hook. For silhouette see page 119, February, 1950, *Journal*.



SOLUTIONS TO RECOGNITION TESTS IN THIS EDITION:

ELEMENTARY

781 Chipmunk T Mk.10
782 Halifax A Mk.9
783 Horsa 2
784 Marathon 1
785 Meteor F Mk.4
786 Harvard T Mk.2
787 Hastings C Mk.1
788 Balliol T Mk.2
789 Seafire F Mk.17
790 Meteor F Mk.8
791 P2V-2 Neptune
792 Meteor T Mk.7
793 Sea Vampire FB Mk.20
794 Gemini
795 Wyvern TF Mk.2(P)
796 Firefly F Mk.4
797 B-29 Superfortress
798 Air Horse (P)
799 Lancastrian
800 Firebrand TFB Mk.5
801 Shackleton GR Mk.1 (P)

ADVANCED

959 Ambassador
960 Seahawk F Mk.1
961 Freighter (Military)
962 Meteor (Avon)
963 Ambassador
964 Prentice
965 Hermes 4
966 FR-1 Fireball
967 F6F Hellcat
968 Firebrand TFB Mk.5
969 Dominie
970 F6U-1 Pirate
971 A.W.52
972 Lancastrian
973 FH-1 Phantom
974 Balliol T Mk.2
975 Wellington T Mk.10
976 Dakota
977 AM-1 Mauler
978 Sea Hornet F Mk.20
979 F4U-4 Corsair

SILLOGRAPHS

734 Balliol T Mk.2
735 PO-2
736 Prentice T Mk.1
737 Vampire F Mk.3
738 F-80A Shooting Star
739 F-84 Thunderjet
740 Chipmunk T Mk.10
741 Meteor F Mk.4
742 Firebrand TFB Mk.5
743 Valetta C Mk.1
744 Proctor T Mk.4
745 B-29 Superfortress
746 Sea Hornet NF Mk.21
747 Gemini
748 Dakota
749 Seahawk F Mk.1
750 Seafire F Mk.17
751 Barracuda TBR Mk.5
752 Meteor T Mk.7
753 Attacker F Mk.1
754 Dove

AEROGRAM

No Heaters = Sea Hornet

TRICKY TRIO

Left to right: Dakota; DC-4; Hastings

OPEN WIDE!

Huge clamshell doors in the nose of the Douglas C-124 Globemaster 2 provide a space of over 11 ft. square. Size of the cavernous interior can be judged by the figures inside. Whichever way you look at it the Globemaster 2 is an outsize fuselage with a "bull" nose and a receding chin line. Attached are a pair of low-set "Douglas" wings upon which are mounted four Pratt and Whitney radial engines. Blunt tipped tail surfaces, dorsal fin forming angle with tall fin and rudder and pointed tail-cone complete the picture. See May, 1950, *Journal* for other pictures and information.



TRICKY TRIO



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