

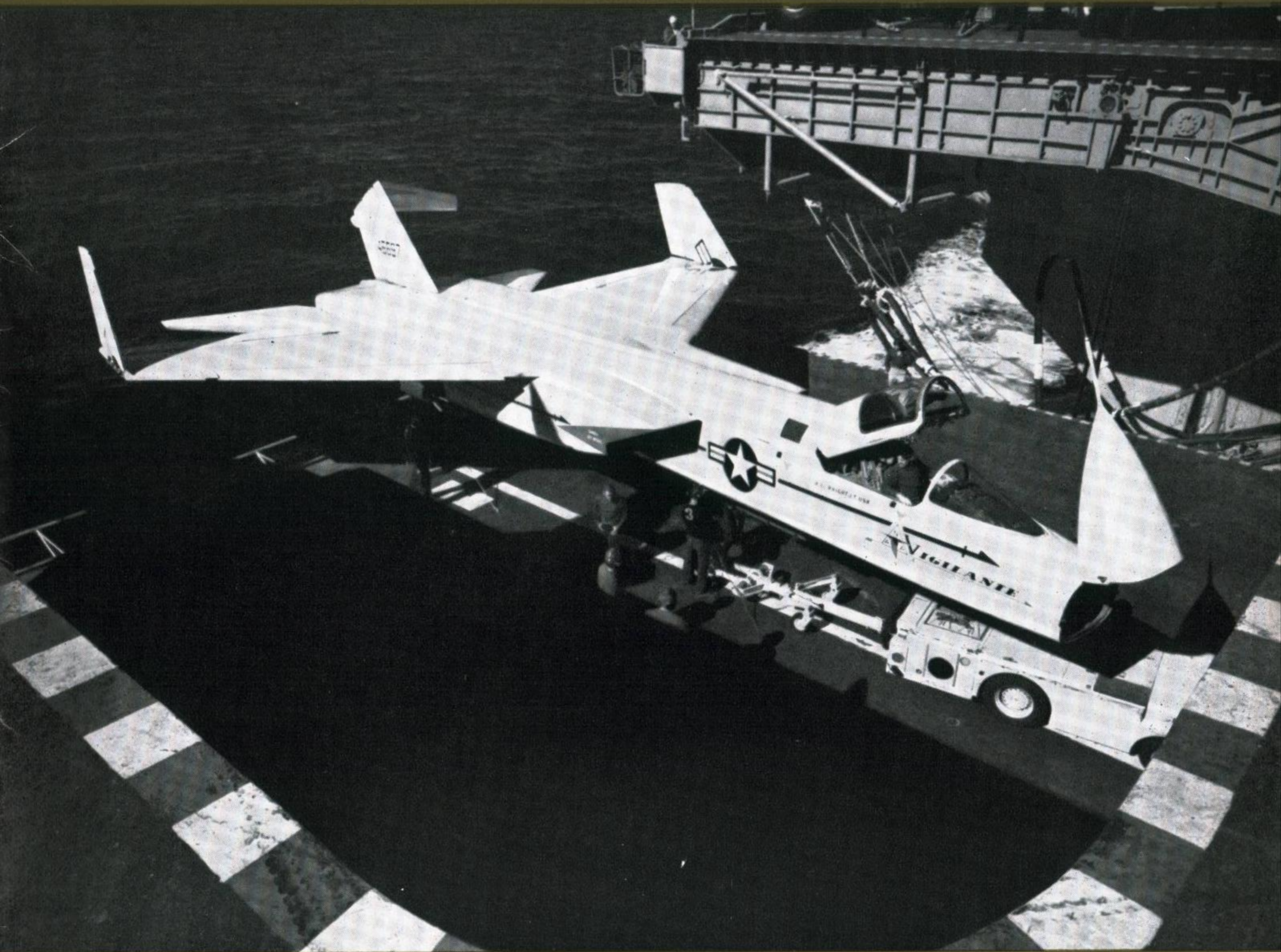
THE ROYAL



OBSERVER CORPS

RECOGNITION

Journal
and R.O.C. GAZETTE



Vol. 3 JUNE 1961 No. 6

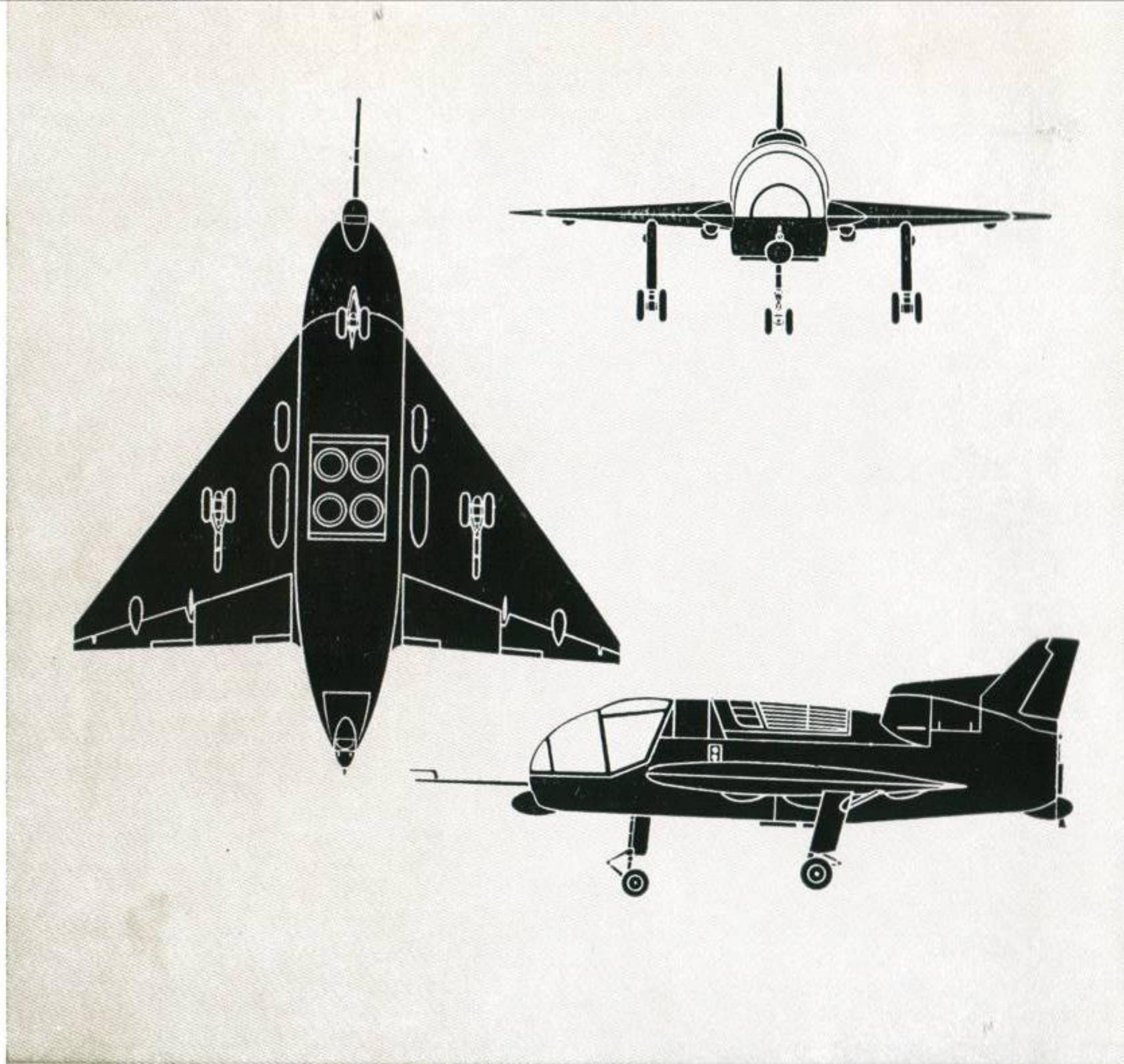
SHORT SC.1

A delta-wing aeroplane with the performance characteristics of a helicopter, the Short SC.1 is the first aeroplane built in Britain capable of taking-off and landing vertically.

Comparatively small, with a wing span of $23\frac{1}{2}$ feet and a length of $24\frac{1}{2}$ feet, it is powered by five Rolls-Royce RB.108 jet engines, four of which are mounted vertically to give lift and one horizontally for forward propulsion.

Two have been built to meet a Ministry of Aviation research requirement in vertical take-off for both military and civil needs. If completely successful and adaptable, such a trend would revolutionise naval fighters, and in particular aircraft carriers which would no longer need long flight decks. The first SC.1 flew in April, 1957, but it was three years later before successful transition from level to vertical flight was achieved.

Tom Brooke-Smith, who flight tested this aircraft said, "We can take the aircraft off a small platform with great ease, hover it accurately and land on the proverbial sixpence. Now we can take it off vertically, fly it away and bring it back again for a vertical landing—just as we will with supersonic airliners in a few years' time."





THE ROYAL OBSERVER CORPS
 RECOGNITION JOURNAL
 AND R.O.C. GAZETTE

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*Identification Lessons



“ For Official Use Only ”

WHEN readers complain to the Editor about the *Journal* it is unpleasant but not news. When the Editor complains about the readers that is not only unpleasant news but is also serious, for it is about a serious subject—Security.

Security is a function of Intelligence: its object is to keep information out of the hands of our friends the potential enemy. It is a thankless job and is often criticised for being too water-tight and at the same time as being full of leaks—depending upon how those who criticise stand to suffer. However, our grouse is not with the Security people but with our readers.

The job of weighing up the value of information in order to decide whether the balance of advantage lies in “releasing it” or in “keeping it back” is not an easy one and, fortunately, is not for the Editor alone to decide. But we can say for certain that nothing appearing in the *Recognition Journal* has a security grade, that is to say it is information which is knowable by—though not necessarily known to—all and sundry.

This does not mean—and we must emphasise the point—that the *Recognition Journal* is of no value to potential enemies of this country. It is, very much so. It collects, collates and presents in convenient form information which can aid an enemy not only by the fact of its being in summarised form but upon recognition training matters also. It is obvious that it would be a great convenience to him if our ways of thinking and our ideas on the subject could be used for the

benefit of his own forces, which is what some readers may be allowing him to do—albeit in all innocence.

Apart from careless people who have left the odd *Recognition Journal* in trains and buses it seems that attempts have been made to buy or sell it, and even to advertise that it is available for sale, or that someone would like to buy a copy. To say that it is wrong to do so is to understate the seriousness of the matter.

The Security folk say, quite rightly and very firmly, that this sort of thing must cease. The first step, they suggest, is to remind all readers that the *Journal* is “FOR OFFICIAL USE ONLY.” These words are imprinted in bold type at the head of the page and if you have not already seen them—read them now. They mean exactly what they say. Everyone who has copies of the *Journal* is therefore responsible for seeing that whilst they should have the widest possible distribution among those officially entitled to see them, they must not be shown to anyone else.

Worse could follow. The Security people say that unless these words have the desired effect they will cause other words to be put upon the cover which can only mean that far fewer people will have a chance to see the *Journal* at all. So, in our personal as well as our official interests, we must keep our *Journals* under our official hats.



The Operational Use of the Ground Zero Indicator

Indicator

INTRODUCTION

An article on the Ground Zero Indicator appeared in the November, 1958 issue of the *Journal*. Since then, production of the instrument has been completed and many practical trials have been made. As a result, it has been possible almost completely to finalise the methods of using the instrument under operational conditions and this article will explain them in advance of an official instruction to the Corps.

Some parts of this article (relating to the duties of Nos. 3 and 4 Observers and the phrase "Attack Warning Red") may not be known to readers, but these will be explained in later articles and official instructions.

DESCRIPTION AND STORAGE OF INSTRUMENT

The G.Z.I. is issued in a cylindrical transit case complete with a mushroom-shaped base and one set of cassettes. A spanner is also provided. The base is detached from the instrument and concreted in position at the post (see Fig. 1) and then the G.Z.I. itself is stored in its transit case in the underground post.

The normal position of the G.Z.I. base mounting will be on the front ventilator turret next to the access hatch. If this is not suitable the rear ventilator turret will be used or, in exceptional cases, it may be mounted on the above-ground post or a purpose-built pillar. Whichever position is used, it will be correctly levelled and orientated before being concreted in place.

The complete equipment required for operational purposes comprises:—

- One Ground Zero Indicator,
- Two sets of four cassettes (N, E, S and W),
- One spanner,
- One light-proof satchel,
- Printing-out paper.

All these items, including one box of printing-out paper, will be stored at the post. The main stock of printing-out paper will be stored at group headquarters for immediate distribution in the event of an emergency.

The spanner is chromium-plated and double-ended. The end marked $\frac{1}{2}$ " BS $\frac{17}{16}$ " W fits the nuts which hold the G.Z.I. to its base mounting; the other end now serves no useful purpose.

A spare light-proof satchel is provided for use if required.

PREPARATION FOR OPERATIONAL USE

Mounting the G.Z.I. is carried out by removing the three nuts from the bolts projecting from the underside of the instrument, lowering it into position so that the bolts pass through the corresponding holes in the base mounting, replacing the nuts and tightening them with the fingers. It should be noted that the three holes in the base mounting and the three bolts in the underside of the G.Z.I. are placed eccentrically so that incorrect orientation is impossible. In addition, one face of each nut is of a

Fig. 1. The base mounting after concreting in position

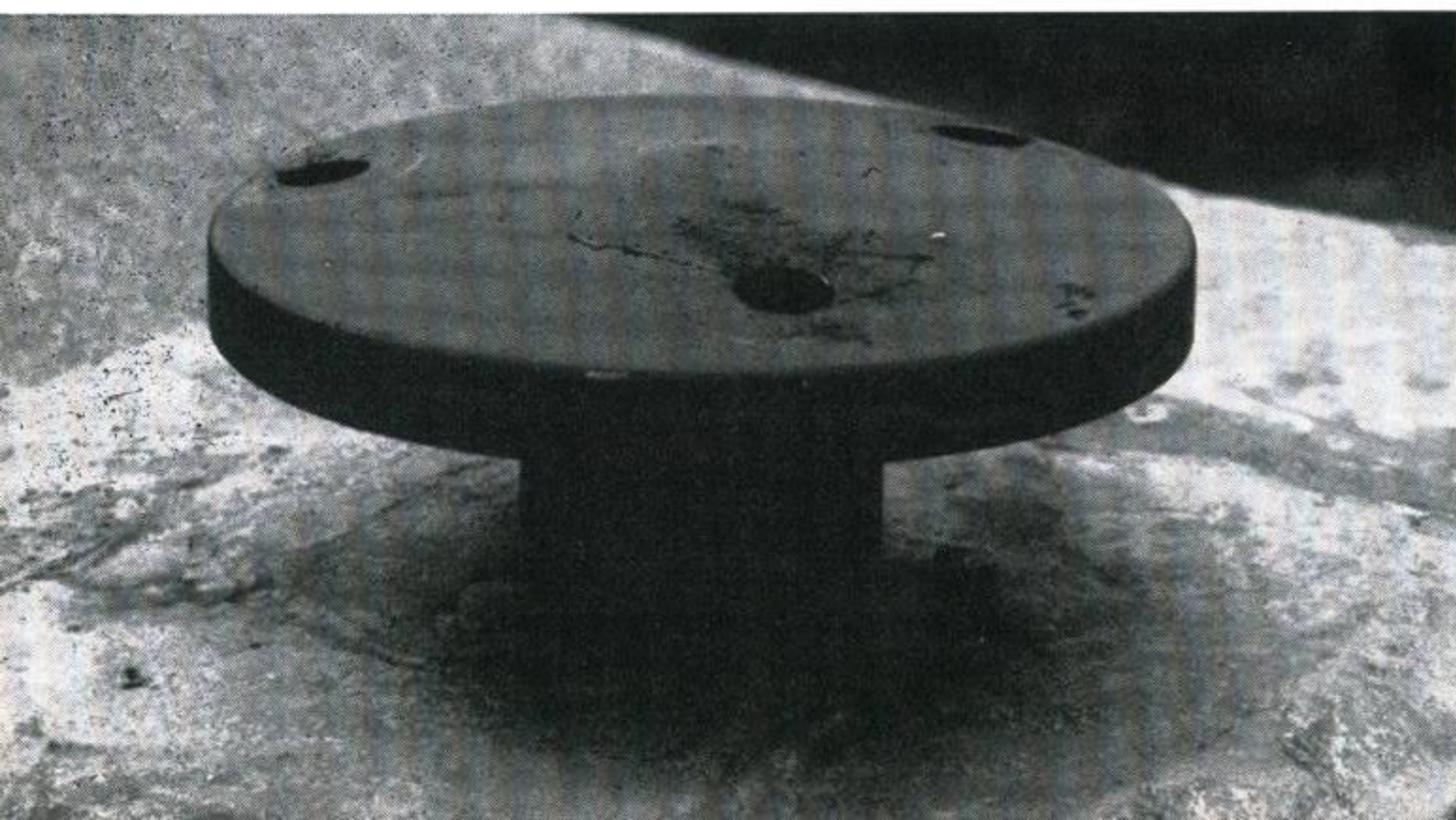


Fig. 2. The G.Z.I. in position on its base mounting

conical shape and fits into a countersinking in the underside of the base plate.

It is sufficient to tighten the nuts with the fingers and the spanner is not to be used for this purpose; it is provided in case a nut becomes jammed by grit, etc.

The next stage in the preparation of the G.Z.I. is the pre-exposure of printing-out paper. It is now considered doubtful whether, in the weather conditions prevailing in this country, the flash from a nuclear weapon would expose the paper sufficiently to print out the graticule and numerals clearly enough to be easily read. In order to obviate this, at least ten sets of papers should be prepared by exposing them in cassettes to daylight for about 1 to 30 seconds according to the strength of the light; that is, just sufficient to print out the lines and numbers.

As they are prepared, the papers, except for the last two sets, should be returned to their box in sets ready for re-loading cassettes as may be necessary; before this is done, however, the appropriate letter (N, E, S or W) should be pencilled on the back in one corner to facilitate loading the correct exposed sheet of paper in its proper cassette. The last two sets prepared should remain in the cassettes ready for immediate use, but before they are placed in the light-proof satchel the paper should be locked in position in each cassette by two small pieces of cellotape to prevent slip.

When further pre-exposed sets are loaded into cassettes care must be taken to ensure that the pre-exposed lines correspond with the lines on the cassettes and, of course, that each paper is loaded into the appropriate cassette. The paper should again be locked in position with cellotape.

When placing sets of cassettes in the satchel, each set should be arranged in the order N, E, S, W and placed so that when the satchel is worn the sensitized side of the paper is next to the wearer's chest.

As has been mentioned above, in the first instance two sets of cassettes will be placed in the satchel. The set of cassettes from the inner pocket, i.e. that nearer the wearer's chest, should then be loaded into the G.Z.I. using the procedure described later in this article. The satchel, now containing one set of cassettes in the outer pocket, should be returned to the underground post where it is stored until required.

The G.Z.I. is now ready for operational use.

ROUTINE MAINTENANCE

If there is a waiting period between a post being brought to readiness and the commencement of an attack, some routine maintenance will be required. This will consist of changing the papers regularly to ensure that they are reasonably fresh when the attack develops; if this were not done, the paper might be so darkened by exposure that it would be extremely difficult to distinguish any marks caused by nuclear bursts.

The intervals at which papers will be changed have not yet been decided but it is known that the papers can safely be left in the instrument for longer periods in the winter than in the summer, because during the winter the light is less strong.

Whatever interval is decided upon, the changing of papers will always be carried out just after sunset so that as long a period as possible can elapse before the papers start to darken. As sets of pre-exposed papers are used up for these routine changes, further sets should be prepared so that the stock remains at ten complete sets in all.

A routine reminder to change the papers will be given by the operations room.

In addition to the routine changes, the papers should be changed upon receipt of an "Attack Warning Red," if a considerable period of daylight has elapsed since the papers were last changed.

DUTIES OF OBSERVERS

Before describing in detail the drill for changing the G.Z.I. papers it is necessary to refer to the duties of the four observers at the post.

Nos. 1 and 2 Observers will be carrying out their normal duties in the above-ground post or, if there should be no essential air reporting task, they will form the off-duty watch in the underground post, resting on the double bunks.

Nos. 3 and 4 Observers will be the duty watch. No. 3 Observer, who will be in operational charge of the post, will be seated at the instrument table, wearing the head and breast set, watching the Bomb Power Indicator and Fixed Survey Meter and reporting and logging as required. He will also be responsible for assessing the G.Z.I. papers when they are brought in. No. 4 Observer will be seated on the single bunk ready to carry out such duties as No. 3 Observer directs. These may include changing G.Z.I. papers, handling dosimeters, etc.

WHEN TO CHANGE THE PAPERS

When a nuclear burst takes place its occurrence will be evident to the observers in the underground post in one or both of two ways; an explosion will be heard or felt and there may or may not be a movement of the needle on the Bomb Power Indicator (B.P.I.).

If a movement of the B.P.I. needle takes place, No. 3 Observer will instruct No. 4 to change the G.Z.I. papers.

If no movement is seen but a loud explosion is heard, No. 3 Observer will log the fact, wait one hour, and then instruct No. 4 to change the papers. The reason for the hour's delay is that it is unlikely that a mark will have been made on the G.Z.I. papers and it is considered that in this case, the risk that another burst might occur is greater than the risk that information might be missed.

The papers may also be changed on instructions from the duty controller, if he knows that a burst has occurred but the triangulation team has insufficient information to work on and if he considers that the post might be able to supply information which would enable the triangulation team to complete their task.

In order that there shall be no delay in changing the G.Z.I. papers, No. 4 Observer will put on the light-proof satchel as soon as an "Attack Warning Red" is received. (See Figs. 4 and 5.) When it is worn the inner pocket should be empty and the outer pocket should contain a fresh set of cassettes.

CHANGING THE PAPERS

On receiving instructions to change the G.Z.I. papers, No. 4 Observer will leave the monitoring room, closing the door behind him to prevent the entry of unnecessary daylight which may spoil the vision of No. 3 Observer who has become accustomed to the rather dim light in the post. He must take with him the key for the access hatch as he will require it for re-entering the post. He will then climb the ladder and open the access hatch. Stepping out of the post, he must then close the access hatch to prevent the possible entry of blast which, in a small structure such as a post may be greatly intensified by bouncing off walls, floors and ceiling and may cause greater damage inside the post than outside. At this stage he should insert the key in the access hatch. He will then unscrew the handle of the G.Z.I., remove the cover and place it on the ground. Immediately he has done this, he will take out all the exposed cassettes and place them in the empty inner pocket of the satchel. Next, he will take the fresh set of cassettes from the outer



Fig. 3. The G.Z.I. in its normal position next to the access hatch

pocket and insert them in the holders, starting on the North face and continuing clockwise, i.e., N, E, S, W.

The best method of inserting each cassette is to place one vertical edge in position with the bottom edge about half an inch above the bottom step, snap in the other vertical edge and tap the top of the cassette so that it drops down on to the stop. This is quicker and more satisfactory than sliding the cassette all the way down as it then tends to stick and often causes damage by cracking the edges of the cassette.

Whilst the cover is off the G.Z.I. great care must be taken to ensure that no unnecessary light falls on the papers. Particular care must be taken when the sun is shining, and the observer should place himself between the sun and the papers to prevent sunlight falling directly on to the papers.

When all the fresh cassettes have been inserted, he will replace the cover, screw the handle down, re-enter the post, removing the hatch key and closing the hatch behind him, descend the ladder and hand the cassettes to No. 3 Observer for assessing.

If fall-out has previously affected the post, No. 4 Observer must pass the cassettes through the door to No. 3 Observer and then take any necessary decontamination action before re-entering the monitoring room.

As soon as the cassettes are handed to him, No. 3 Observer will remove the papers, assess them and report accordingly. The empty cassettes will be handed to No. 1 or No. 2 Observer for re-loading, after which they will be given back to No. 4 Observer who will place them in the outer pocket of the satchel ready for use if a further burst occurs.

THE IMPORTANCE OF TRAINING

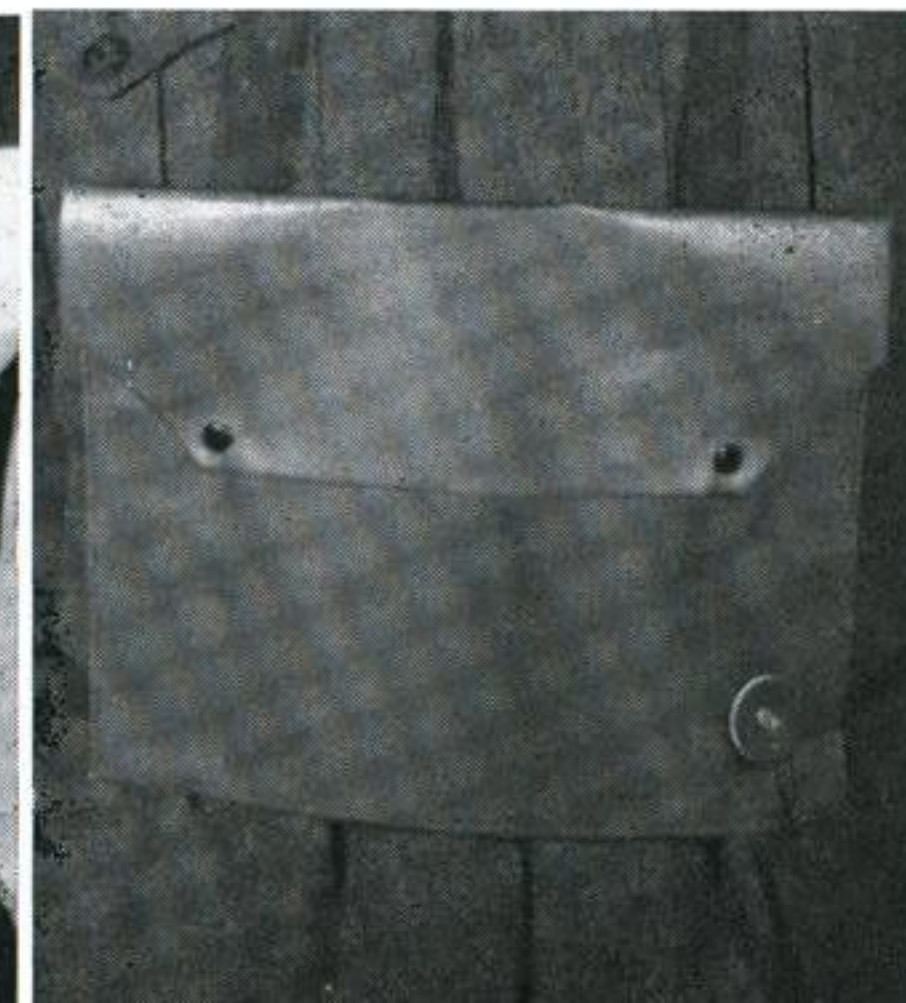
It is essential that the whole procedure of changing the G.Z.I. papers is carried out as quickly as possible, so that the information can be passed to the operations room without delay—the triangulation team cannot start its work until the G.Z.I. detail has been received.

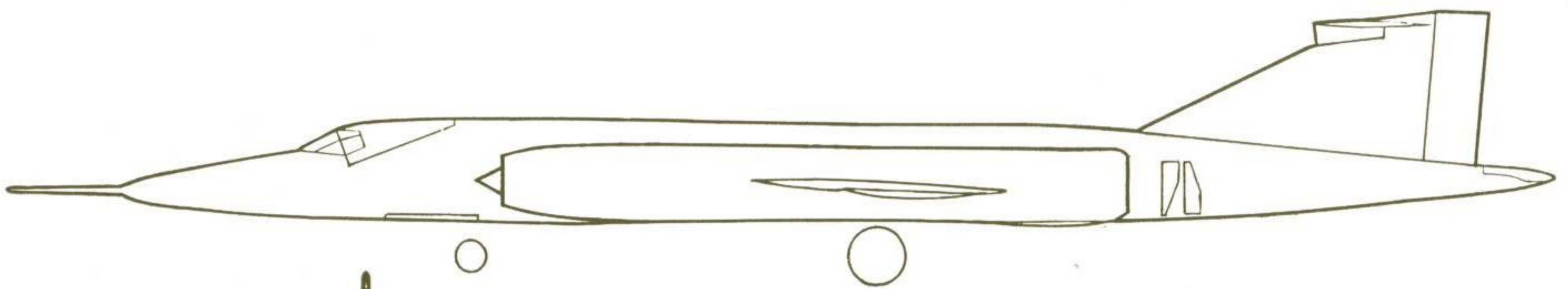
To achieve speed, it is necessary for every observer to have complete and regular practice in the drill at the post. Each action must be known so thoroughly that it is carried out automatically; practices will, no doubt, normally be carried out in daylight and in reasonably good weather, but those who have experience of all-night exercises will know that this is very different from carrying out the same task on a dark night and in pouring rain. This is certainly a case of "Practice makes perfect."

Fig. 4. The light-proof satchel



Fig. 5. The light-proof satchel





THE BRISTOL TYPE 188

High Supersonic Speed Research Aircraft

THE BRISTOL TYPE 188 is an important instrument for the investigation of the complex problems associated with flight at high supersonic speeds. Constructed of a special kind of stainless steel, it will carry out research flying at speeds of more than 1,500 m.p.h., its main object being to investigate the problems of intense heat met at speeds several times the speed of sound.

As flying speeds move into the higher supersonic regions problems of construction and operation of aircraft increase rapidly both in number and complexity. There are not only difficulties of aerodynamic design, but problems connected with the selection and supply of suitable structural materials, methods of fabricating the airframe and perfecting systems for controlling, navigating and cooling the aircraft as well as methods of propulsion.

The configuration of the Type 188 has been dictated by the varied research role which the aircraft will be called upon to fill. The thin wing, which has a span, incidentally, of 35 feet 1 inch and an area of 396 square feet, is of constant chord between the body and the nacelles, but outboard of the nacelles the leading edge is swept back at an angle of 38°. The wing-tip, formed by the balance-area of the aileron forward of its hinge, has a leading-edge sweep back of 64°. The 71-foot fuselage has an oval cross-section and this was determined by the size of a pilot and his seat. There is some waisting in the fuselage. The tail-plane is mounted on top of the swept-back fin clear of the jet exhaust from the twin engines.

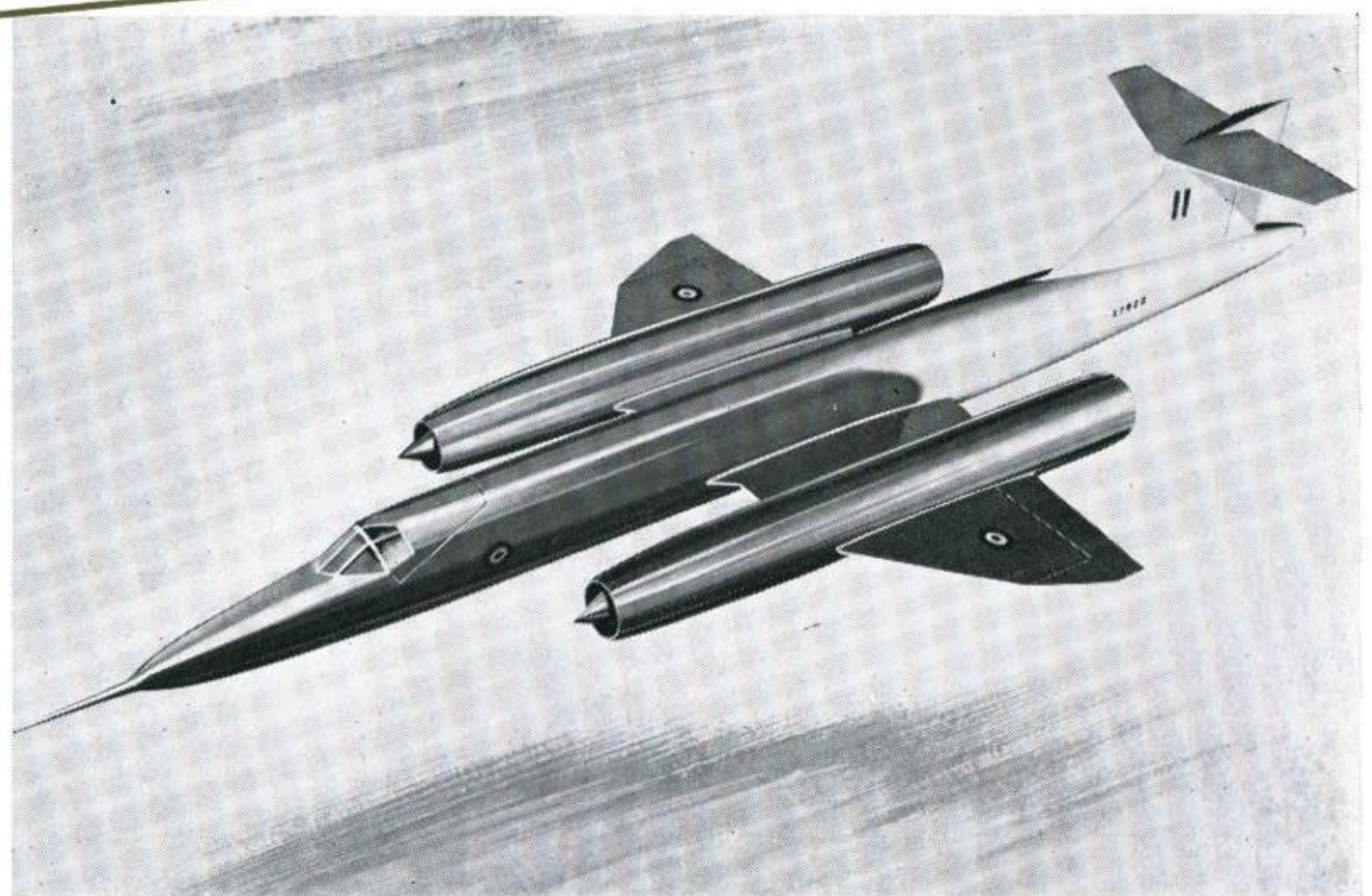
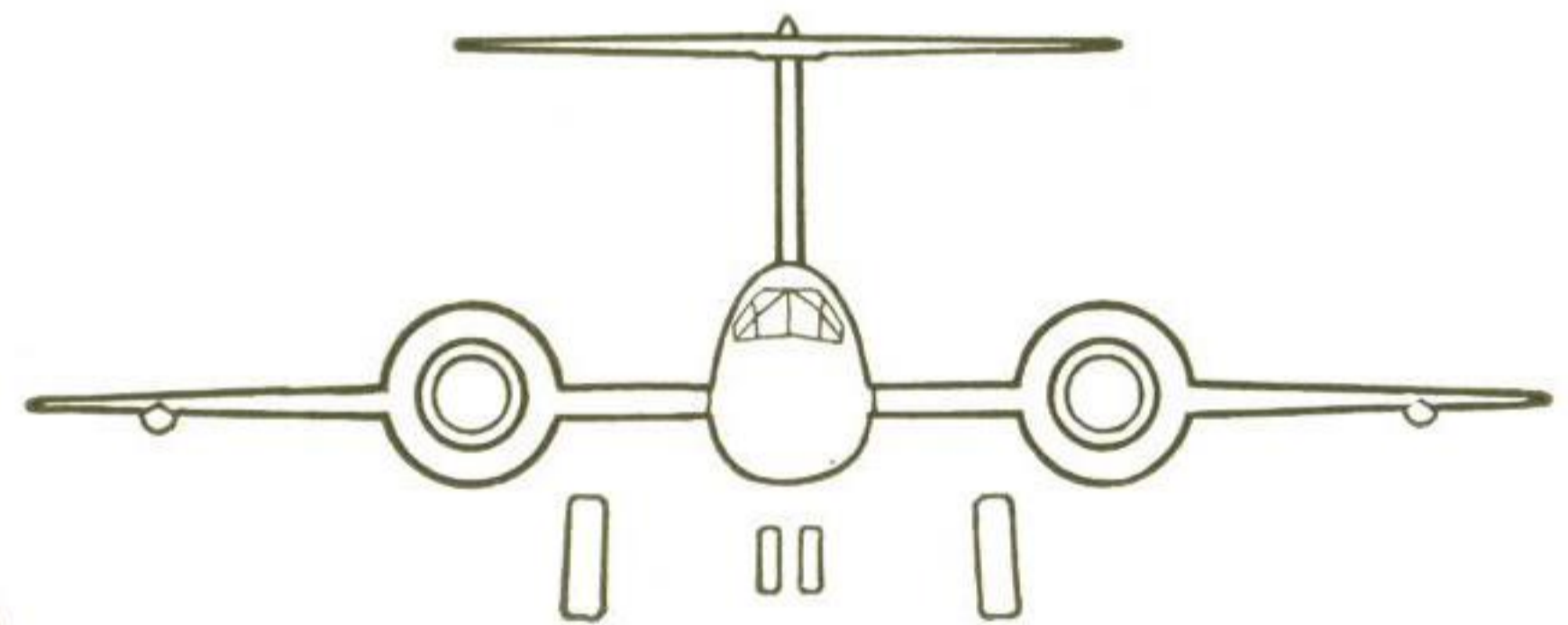
The first engines with which the Type 188 will be powered are de Havilland Gyron Junior reheated turbojets. They are installed centrally on the wings to facilitate changes in air intakes and/or exhaust nozzles necessary for propulsion research which is to be one of the basic duties of the aircraft—as supersonic speeds increase, the efficiency of the turbojet depends to an increasing extent upon the efficiency of its air intake.

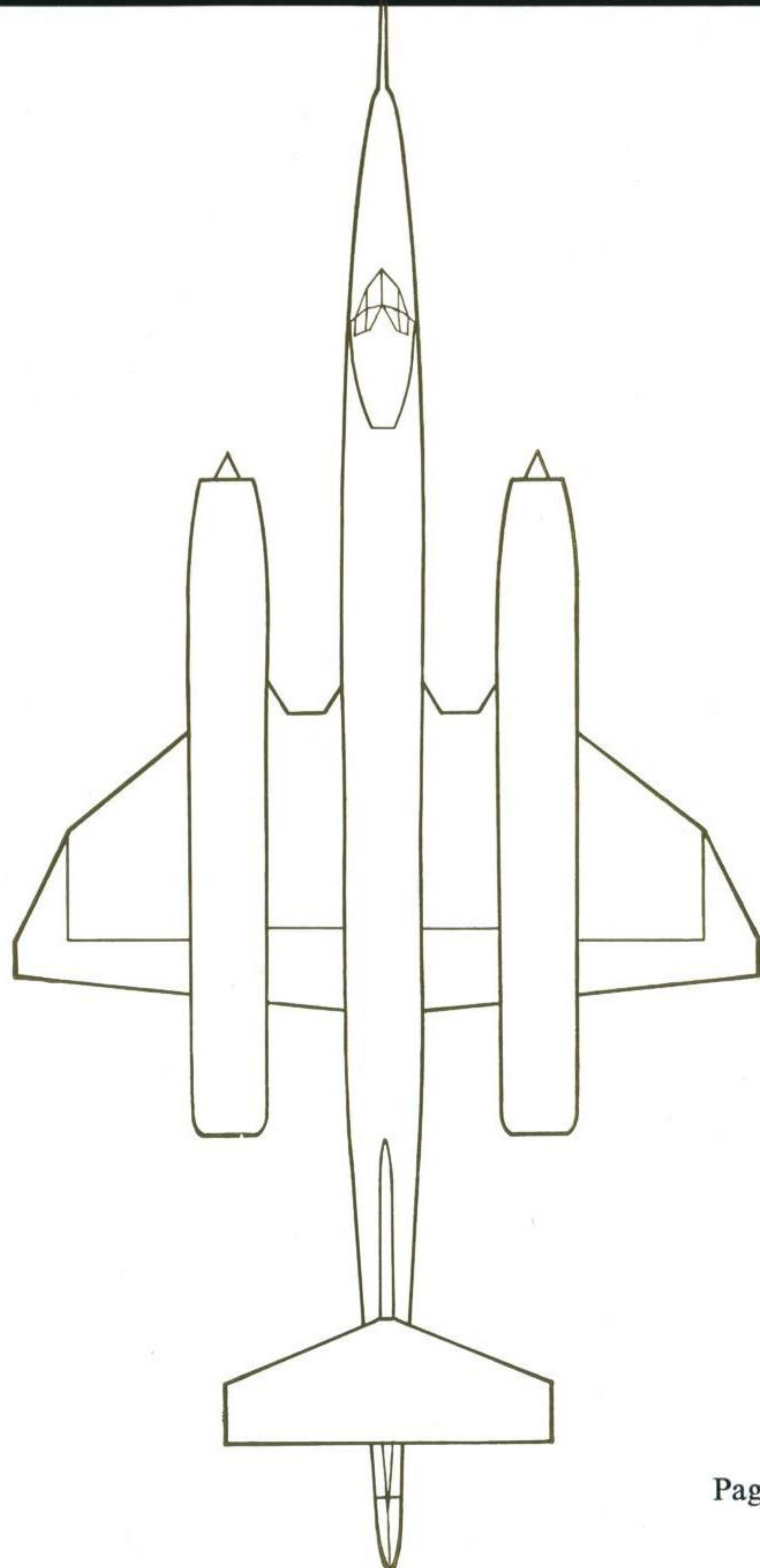
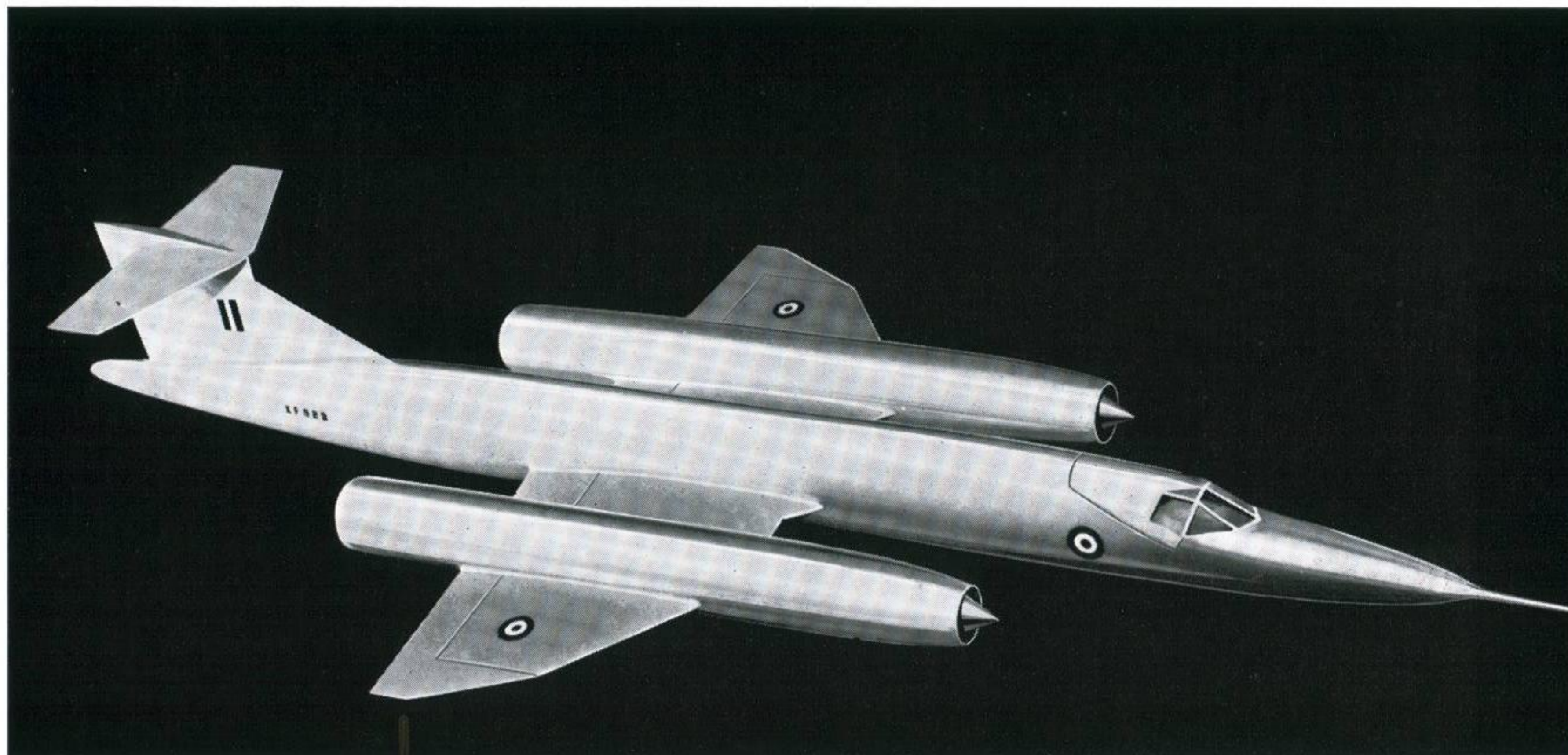
The use of separate, wing-mounted engines makes possible a substantial reduction of drag at supersonic speeds by inducing favourable shock wave interactions between fuselage and nacelles.

Unlike some American supersonic research aircraft the Type 188 is not launched from a parent aeroplane. It takes off under its own power (the undercarriage is of a conventional tricycle type) and is expected to operate at high supersonic speeds over a wide range of altitudes. Thus any research programme can be considerably speeded up.

The choice of material for the construction of the airframe of the Type 188 has been the subject of very close study. At speeds above about twice the speed of sound, aerodynamic heating subjects the aircraft structure to temperatures at which conventional metals deteriorate and even melt. A considerable research and development programme was necessary to find the special steels required for the Type 188.

At three times the speed of sound, even in the deep cold of the upper atmosphere, the skin of the Type 188





might well be subjected to temperatures of up to 280° C. (536° F.).

Such extremes of temperature of course demand protection for the pilot and the extensive instrumentation carried in the Type 188 and to deal with this problem a high capacity refrigeration system has been installed. Ordinary glass will break under the conditions of heating, cooling and pressure which must be withstood by the windows of the small pressurised cockpit, and special transparent materials have had to be developed for the cockpit canopy.

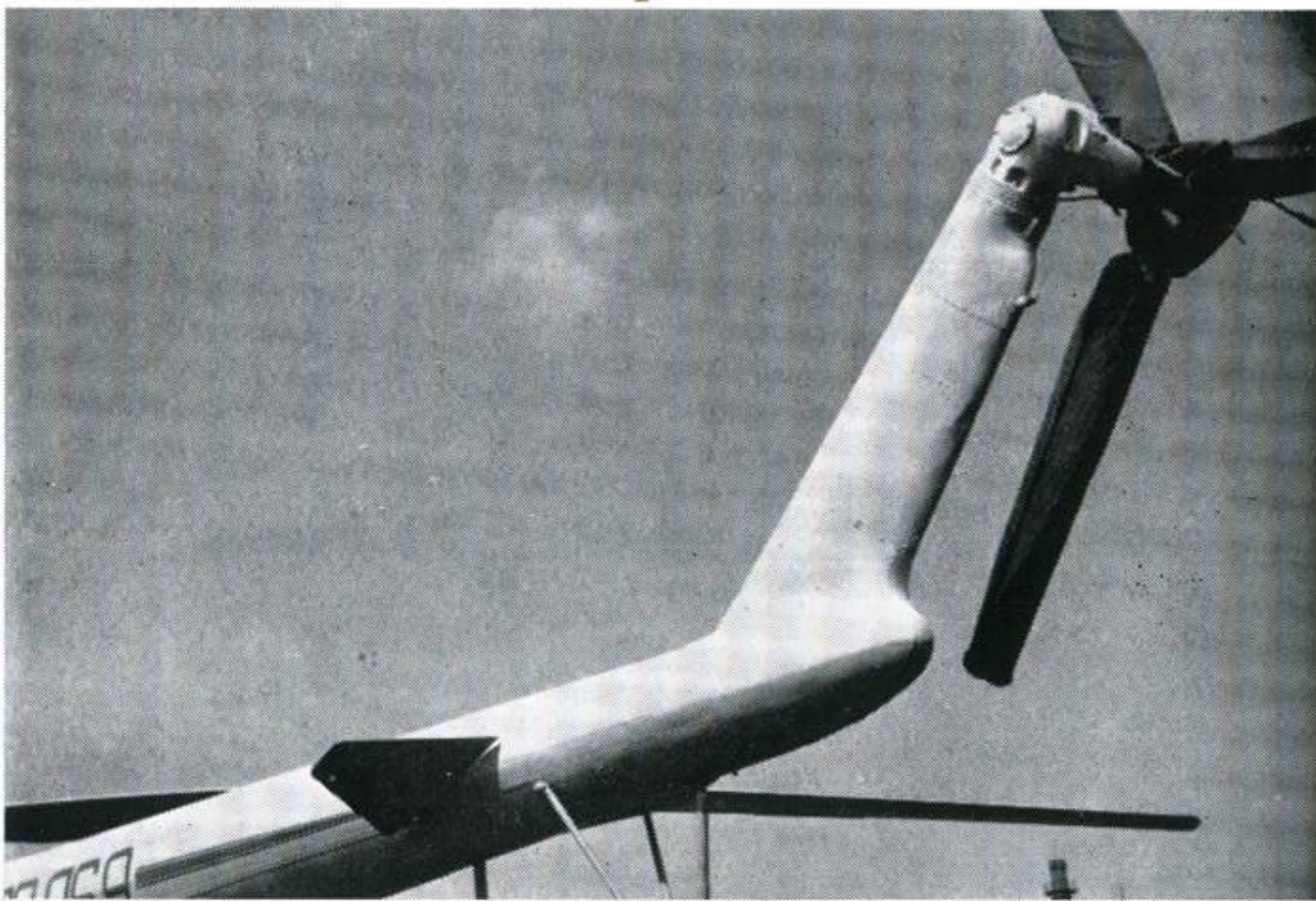
The mass of equipment with which the aircraft is to be equipped must in most cases also be protected so that it can work properly in the wide range of working temperatures. Some equipment cannot be protected and this must be built to withstand extreme temperature ranges.

On the other hand some items of equipment have to be cooled and since air cooling is impossible it is necessary to adopt measures to use the aircraft's own fuel for cooling.

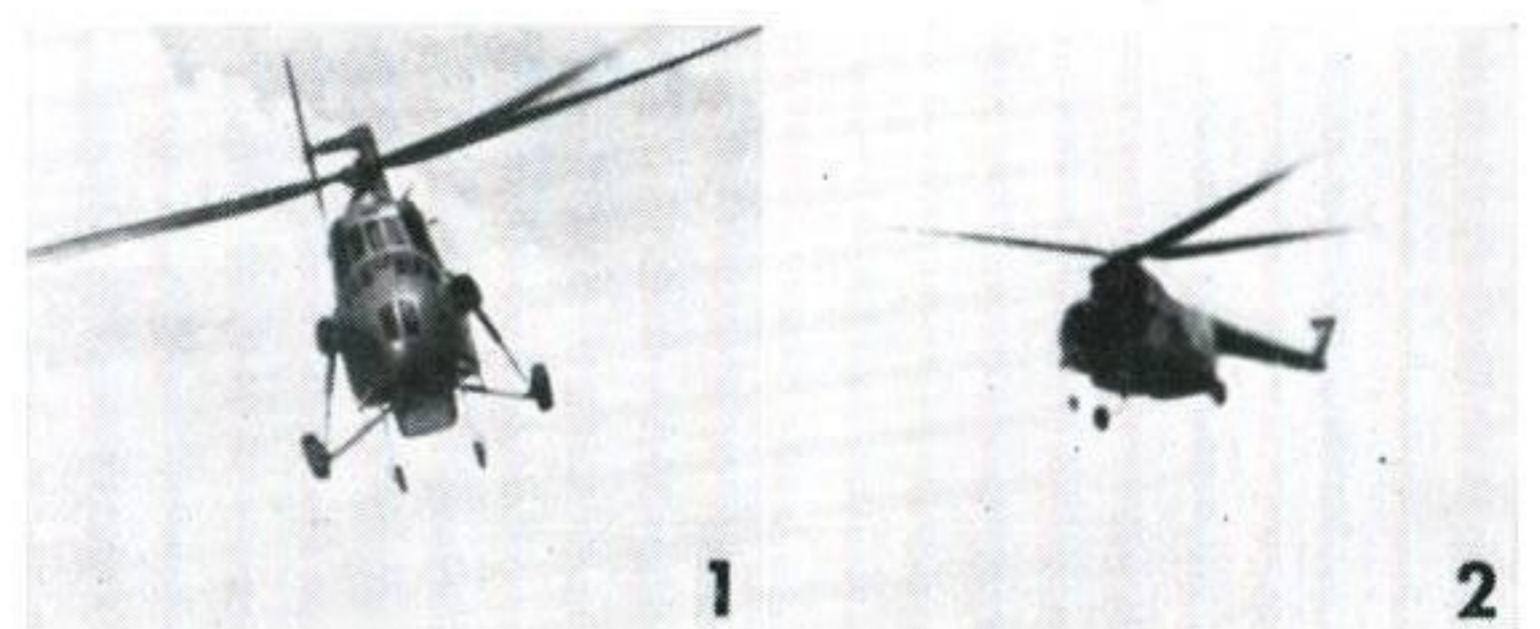
Some of the instruments carried in the Type 188 will measure and record the behaviour of the aircraft whilst others will measure the conditions in which it flies. Some of the information produced by the instruments will be recorded and stored in the aircraft for later examination and analysis, other data will be telemetered to the ground during flight and be recorded on the ground for later interpretation and analysis. The Type 188 will be flown by the Chief Test Pilot of Bristol Aircraft Ltd., Mr. Godfrey Auty. The first take-off will be from Filton, and the test programme will then be continued at the Aeroplane and Armament Experimental Establishment at Boscombe Down. Once the basic flying qualities and handling characteristics of the aircraft have been proved in flight, speeds will be gradually advanced in progressive stages through subsonic, transonic and ultimately to supersonic speed ranges.



Hound Mi-4

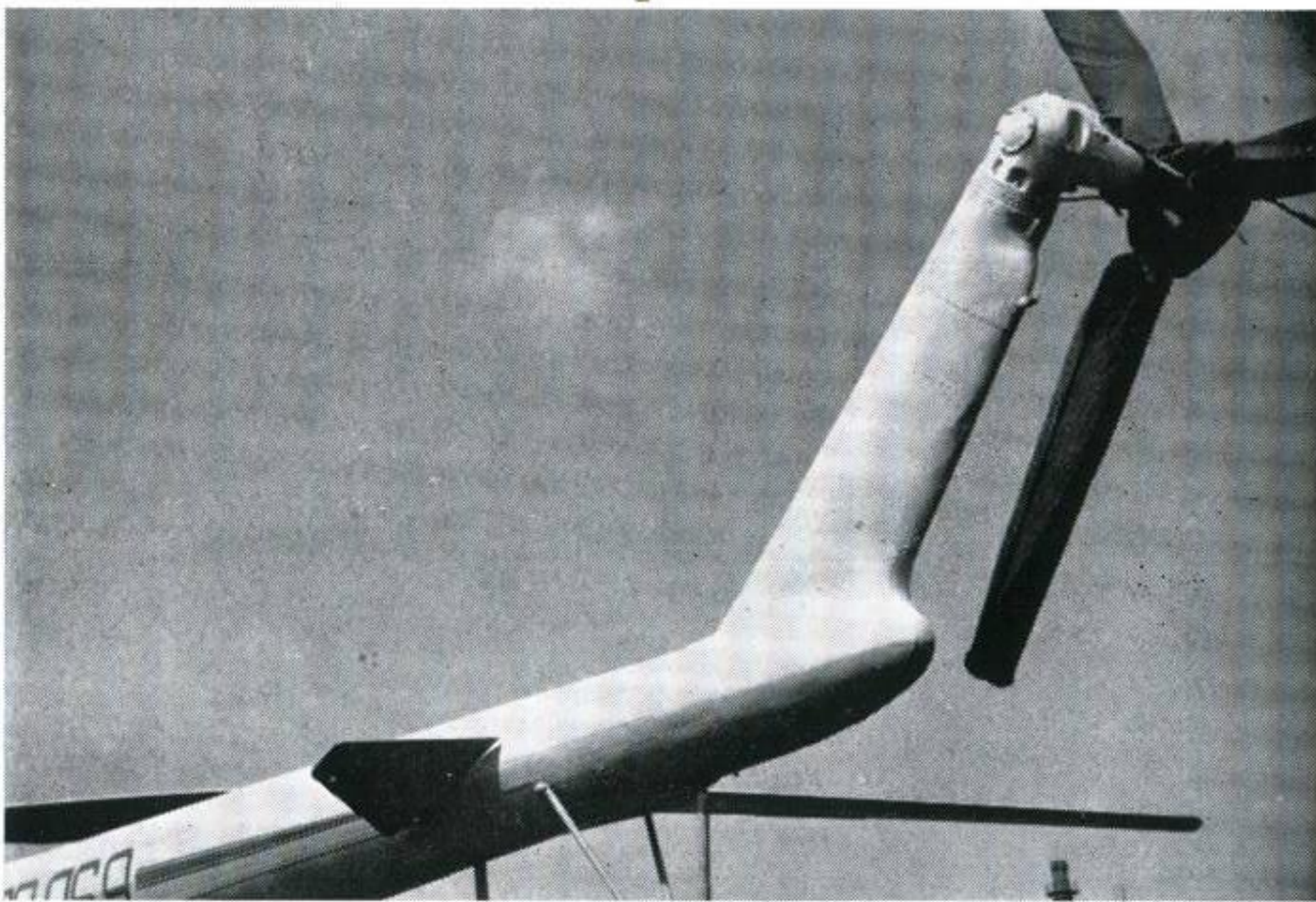


THE MI-4 HOUND is the U.S.S.R.'s work horse helicopter both in the armed forces and for passenger-carrying with Aeroflot. It is also supplied to the Air Forces of Soviet satellite countries and has been exported to Austria, Belgium, Cuba, Italy, Switzerland, the United Arab Republic and Yemen. Variations in the basic military Mi-4, which has an underslung gondola for a navigator, are the passenger-carrying Mi-4P without gondola but usually with spatted wheels and square instead of round windows; the Mi-4's crop spraying or fire fighting versions have special underslung equipment (see target 24, for example). An odd fact is that whereas Russian helicopters have the tail rotor on the starboard side, it is the opposite for all British and American helicopters in the same class. Begin this lesson by identifying the close-up views first. This will familiarise you with the details of the Mi-4, then go on and do the rest.

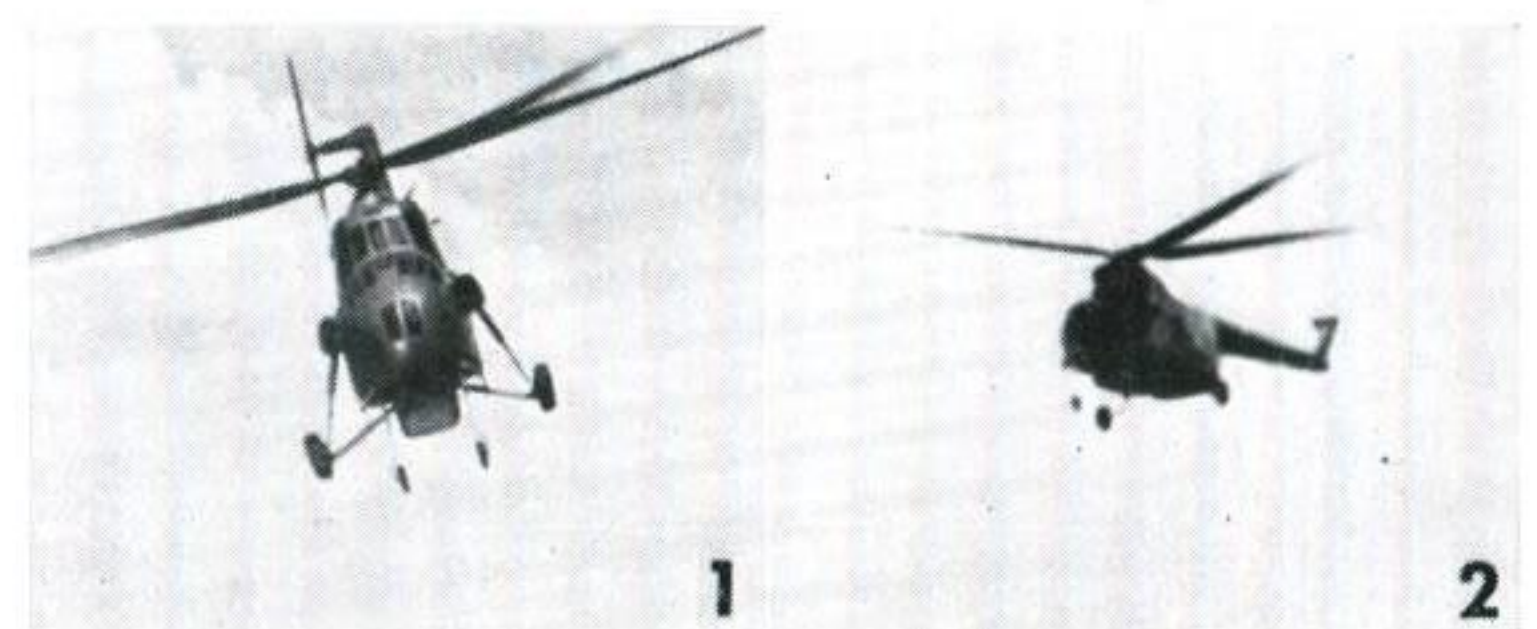




Hound Mi-4



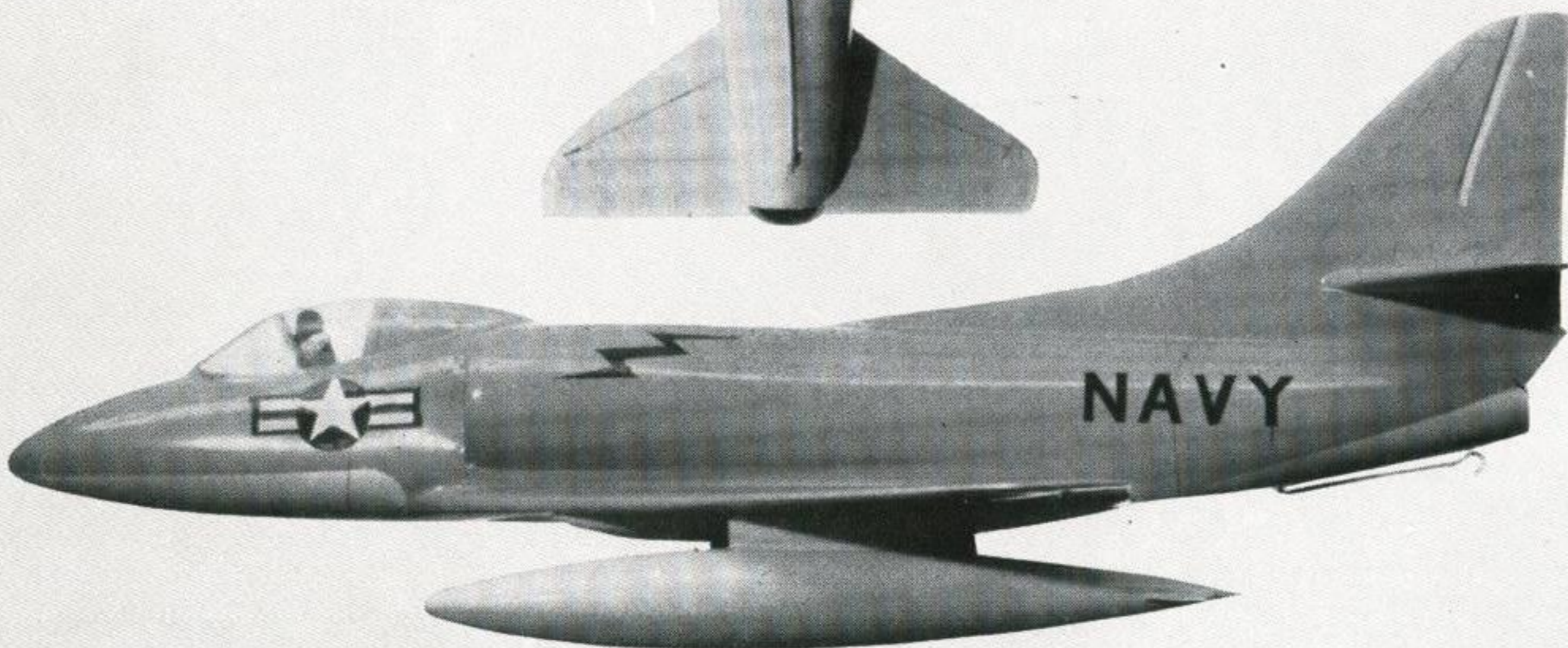
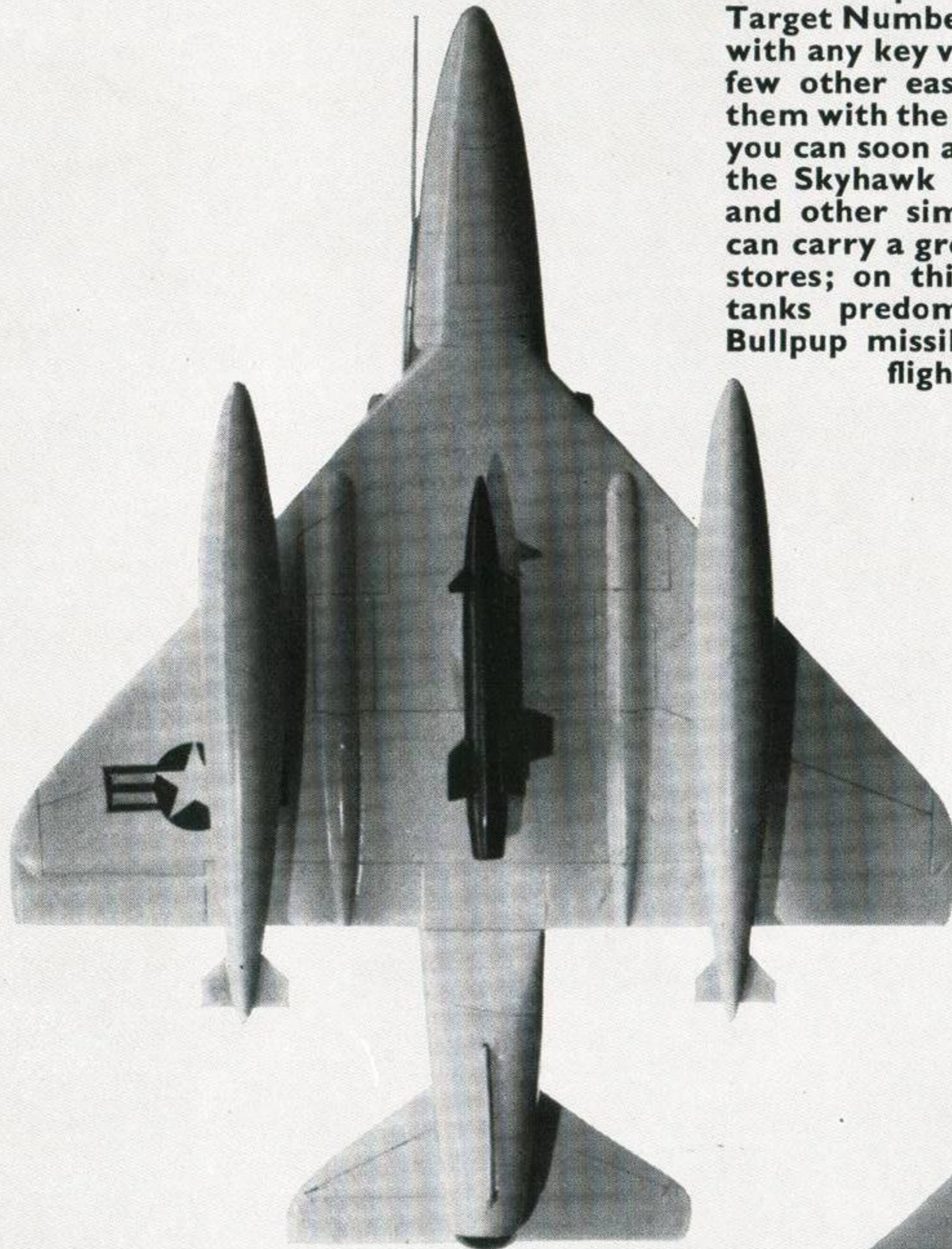
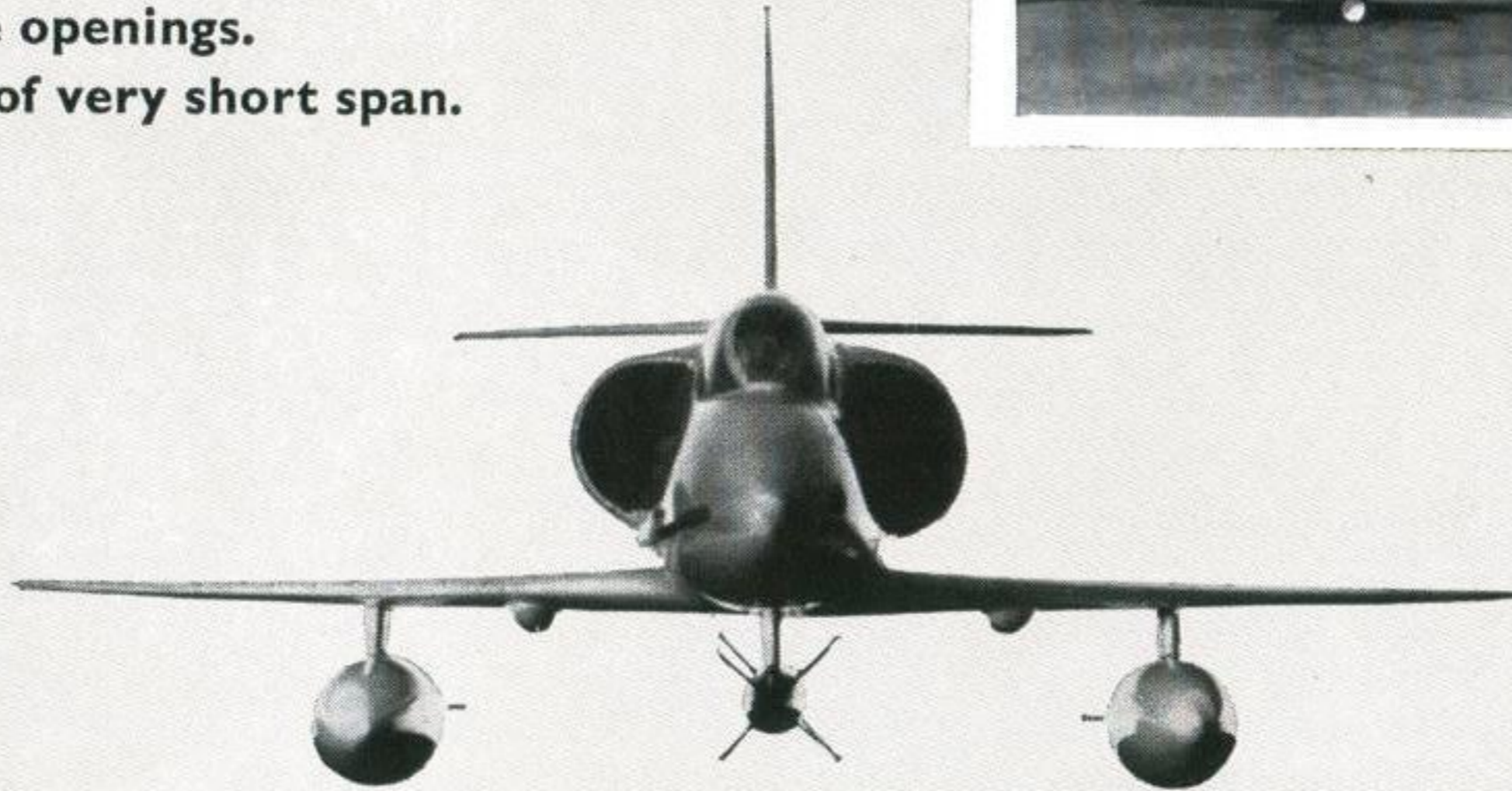
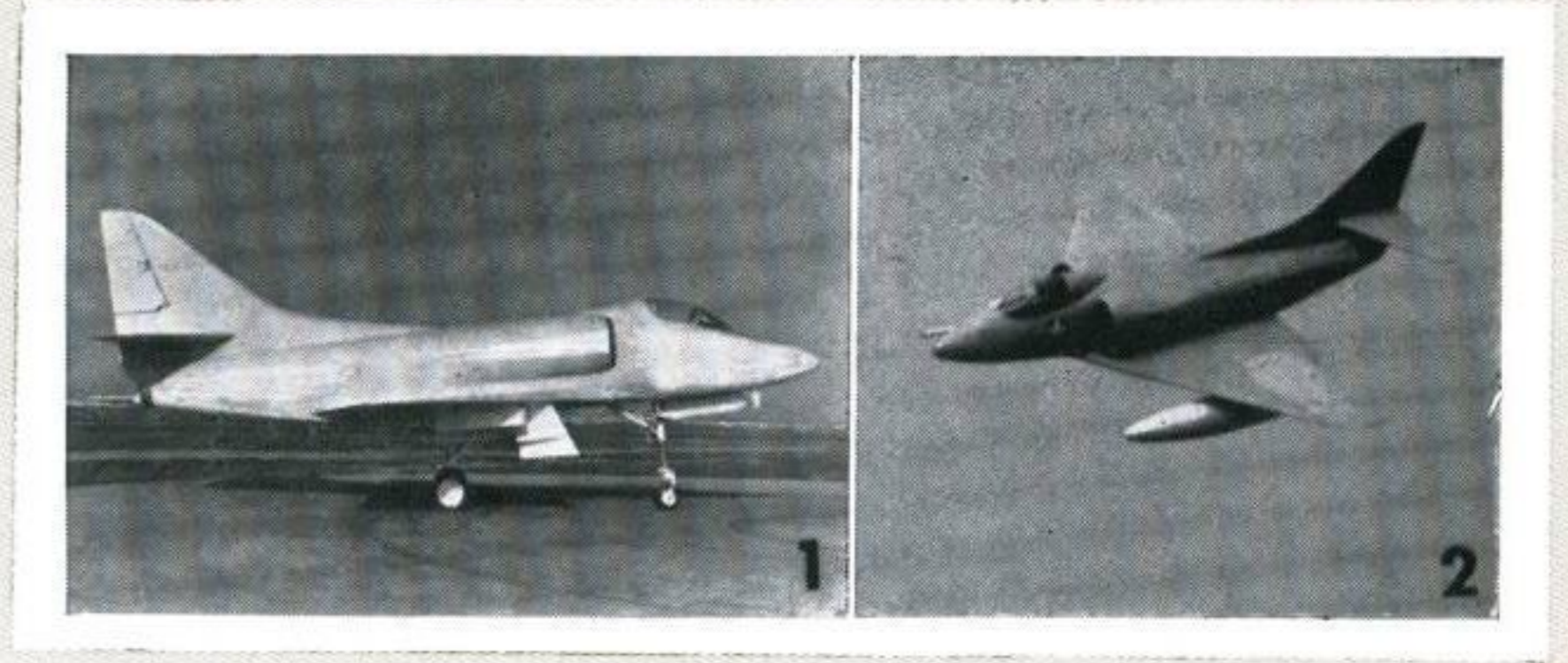
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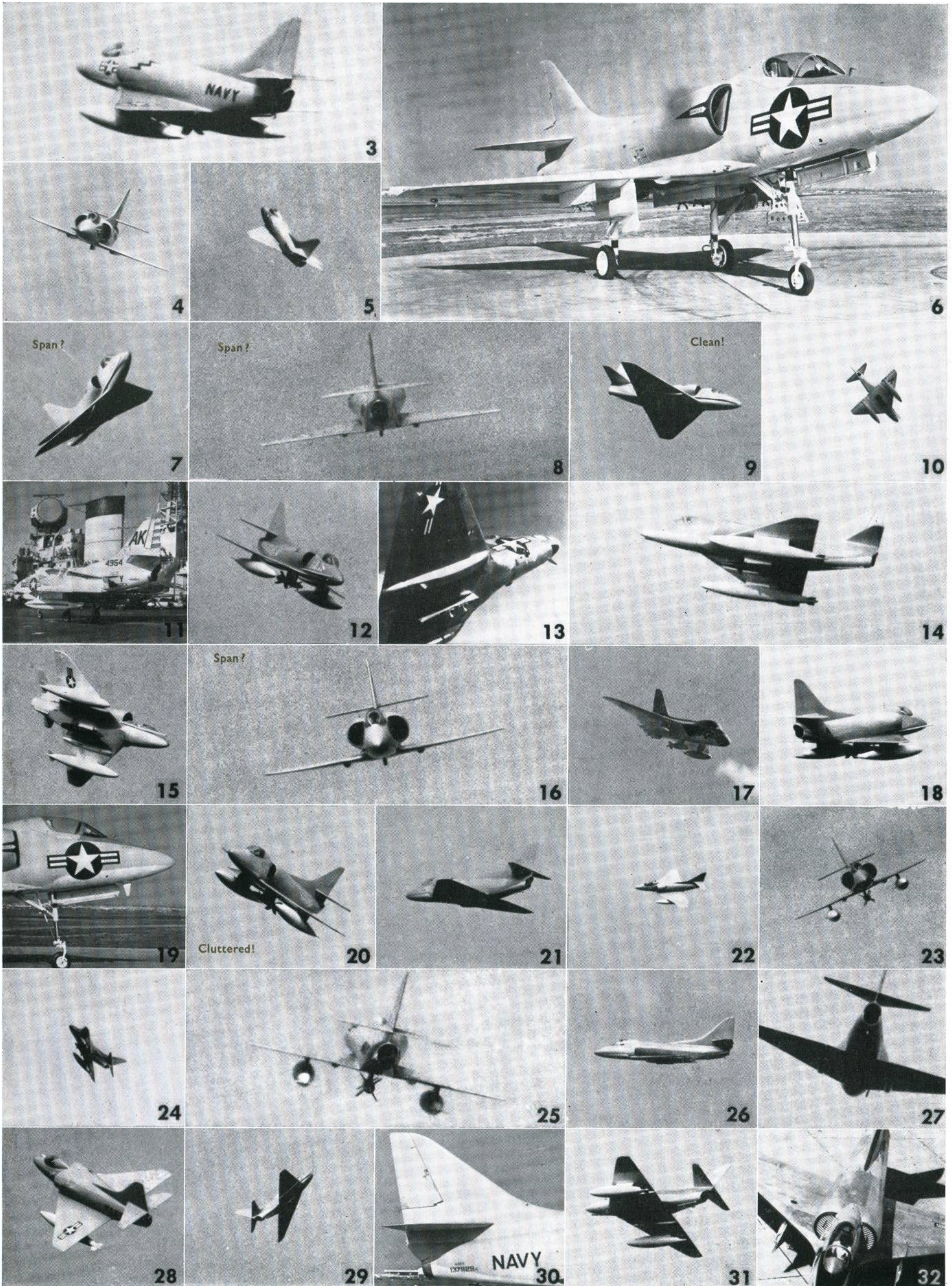
Skyhawk

Special Features:

1. Enormous intake openings.
2. Triangular wing of very short span.



Target Number 10 is clearly identifiable with the plan aspect of the three-view; Target Number 11 is not clearly identifiable with any key view. However, if you take a few other easy targets first and compare them with the key and other known targets you can soon achieve enough experience of the Skyhawk to make hay of Number 11 and other similar targets. The Skyhawk can carry a great assortment of underwing stores; on this occasion two outsize fuel tanks predominate, in the centre is a Bullpup missile. Alongside the nose is a flight refuelling probe.



BOOK REVIEW

"The Aeroplane: An Historical Survey," by Charles H. Gibbs-Smith. 376 pp. (*Illustrated*). Page size 6 in. by 9½ in. Published for the Science Museum by Her Majesty's Stationery Office, 1960, at £1 15s.

Charles Gibbs-Smith has long had strong claims to be considered as one of the World's leading air historians but this massive work, which was published last year, has finally established his reputation in this field quite beyond question.

As the Science Museum's new official handbook on the history of aircraft development, this book does indeed meet a most important need and provides a definitive reference on a subject which is almost inevitably of interest, sooner or later, to everybody concerned with aviation.

In the years between the Wars the Science Museum originally sponsored a series of three official historical handbooks on the various aspects of aeronautics, and these appeared in a number of successive editions. These well-known books were on the history of heavier-than-air and lighter-than-air aircraft and on aircraft propulsion, and were written by the late M. J. B. Davy, who was for many years Keeper of the Department of Air Transport in the Science Museum. Since the War, Mr. Davy's books have gone out-of-print and have, in any case, lost much of their value to serious students of aircraft development. This has been partly because they no longer bring their stories up-to-date and partly because recent historical research and the more distant perspective which can now be taken on some of the more important steps in aeronautical history have uncovered numerous major deficiencies in their analysis of crucial issues.

Mr. Gibbs-Smith employs an entirely different technique to Mr. Davy in tackling the subject of heavier-than-air development—he has, in any case, ignored lighter-than-air craft and concentrated entirely on the evolution of those types of aircraft which have emerged as significant in the post-war era. His method is first to give a straightforward chronological history and then, in the second part of the book which he calls "The Commentary," to consider in detail those aspects of his subject which require detailed analysing. It is this part which is of greatest interest to the serious student of aeronautical history for it contains much new information which has been uncovered and properly interpreted only during the past few years. Thus there are sections on the origins of the kite, the rocket, the parachute, the aero engine, the airscrew and of flying control systems which put developments in each of these fields into proper perspective and establish priorities in a far more complete form than has been previously attempted. Another section gives careful attention to the work of that great Englishman, Sir George Cayley, whose important place as the originator of the aeroplane has now, at last, been properly defined.

The section dealing with rival claims to the first powered flights is particularly important. In addition to throwing new light on the relative merits of different claimants, taking full account of what we can now see were the critical issues, it is in its own right a fascinating illustration of the difficulties which face the technological historian in weighing evidence

which is distorted—often in good faith—by interested parties. Such people have, so often, put unbalanced interpretations on past events in the belief that they are loyally supporting pioneers in whom they have some particular interest.

The Wright Brothers—whose priority with the first practical aeroplanes is now no longer seriously contested—receive their due attention and there is much new material derived from the "Wright Papers" which were first published in 1953. In addition, Mr. Gibbs-Smith has uncovered some other new facts and, in particular, the quite delightful first-hand account of one of their early flights which was first published in 1905 in, of all unlikely places, the "Gleanings of Bee Culture," an apiarists' magazine of Medina, Ohio.

Altogether, this is a notable book. It should find an honoured place on the bookshelves of everybody who is curious about how Man learned to navigate the Third Element and who wants to know by what paths he has been led to logical further steps which now are taking him out into space.
—Peter W. Brooks.

"War Planes of the Second World War—Fighters," Vol. 3, by William Green. Published by Macdonald, at 9s. 6d.

Following quickly on Vol. 1, reviewed in the December 1960 issue, comes the third of this series, dealing with Japanese, Dutch, Polish, Rumanian and Russian fighter aircraft of the last war in complete and precise detail, supported by well over 200 photographs and many general arrangement drawings of Dennis I. Punnett.—D. B. R.

* * *

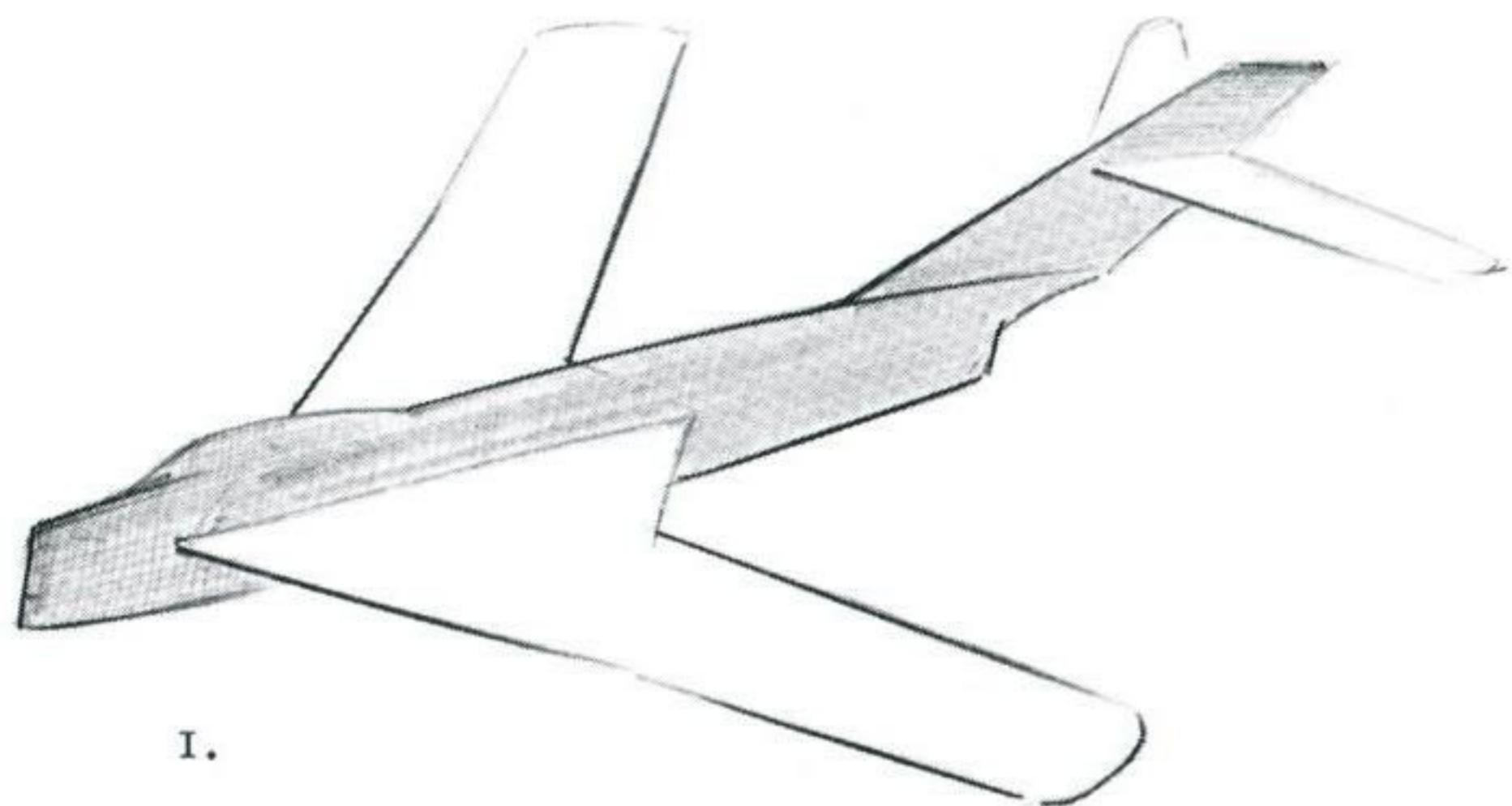
Instructions for Carrying Out Identification Lessons in the *Journal*.

To obtain the maximum benefit from the identification lessons in the *Journal*, the procedure set out below should be followed carefully.

1. Read all the text associated with the lesson. This may contain special lesson instructions and background information on the aircraft, ship or tank concerned.
2. List the target numbers on a piece of paper. This is important as targets need not be tackled in numerical order.
3. Use the main key pictures to identify the target pictures, starting with the easy ones first so as to gain experience. Use identified targets to help with the more difficult ones.
4. When certain of the identity of a target, write down its name immediately against the target number on your list. This is an important part of the procedure which ensures training in identification.
5. Lessons should not be hurried or given a time limit. So far as beginners are concerned, it is more important for trainees to identify accurately rather than quickly. Speedy identification will come with experience.
6. Don't struggle to memorise anything.

Sketching Aeroplanes— *Fresco*

by
Carlos

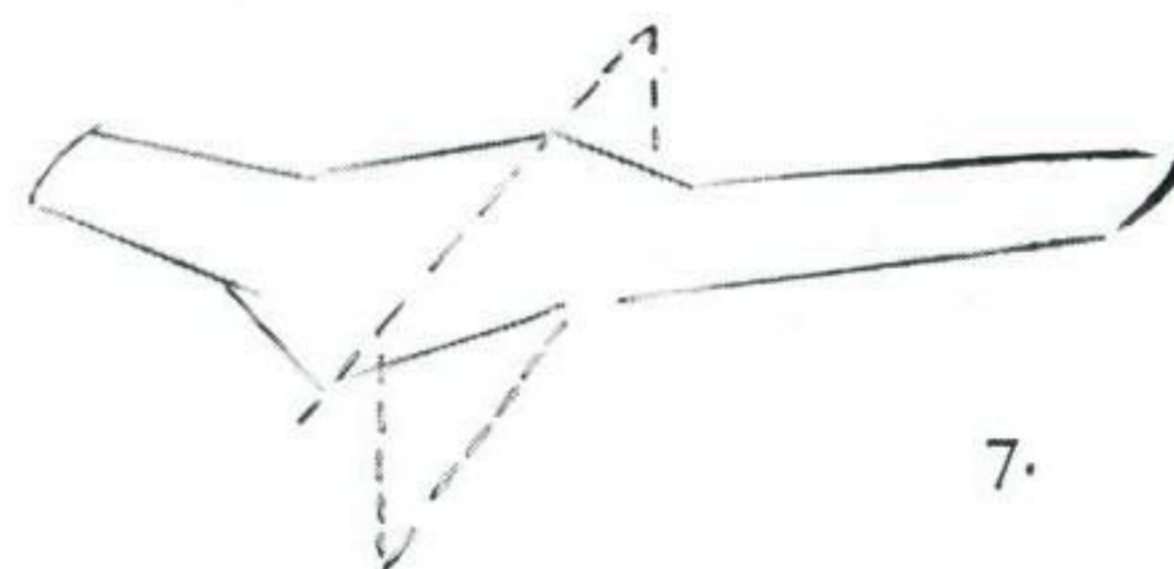
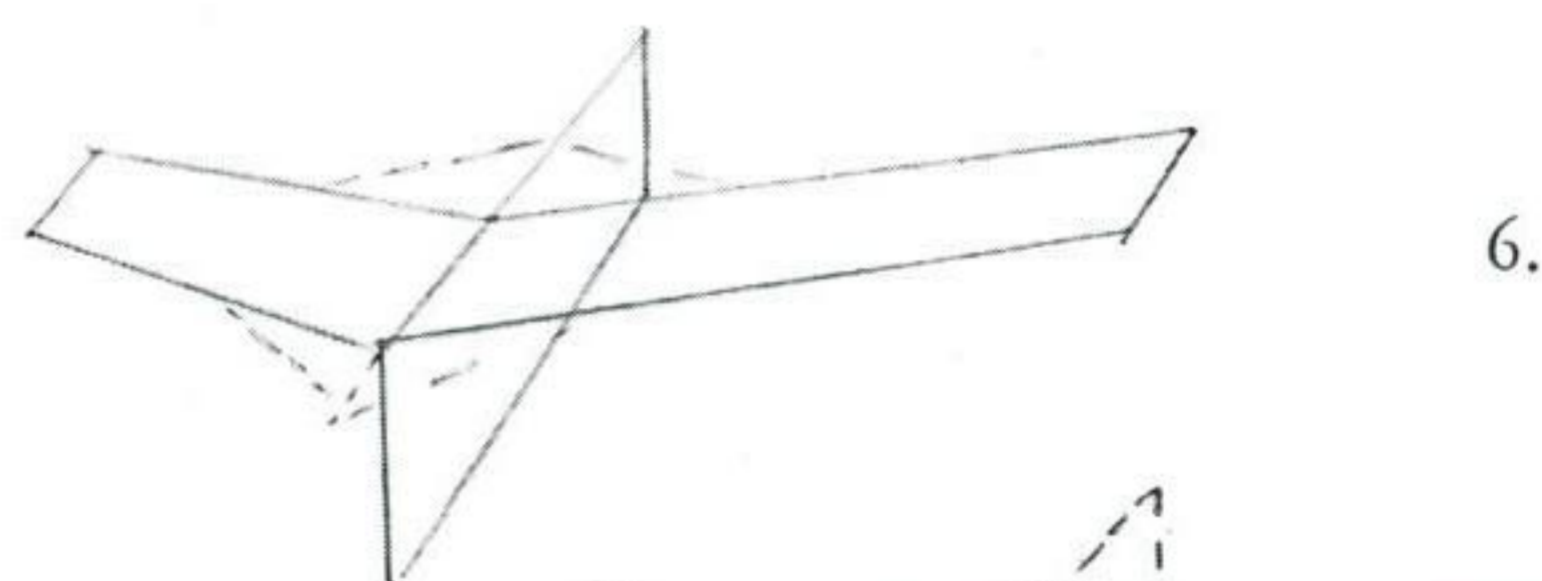
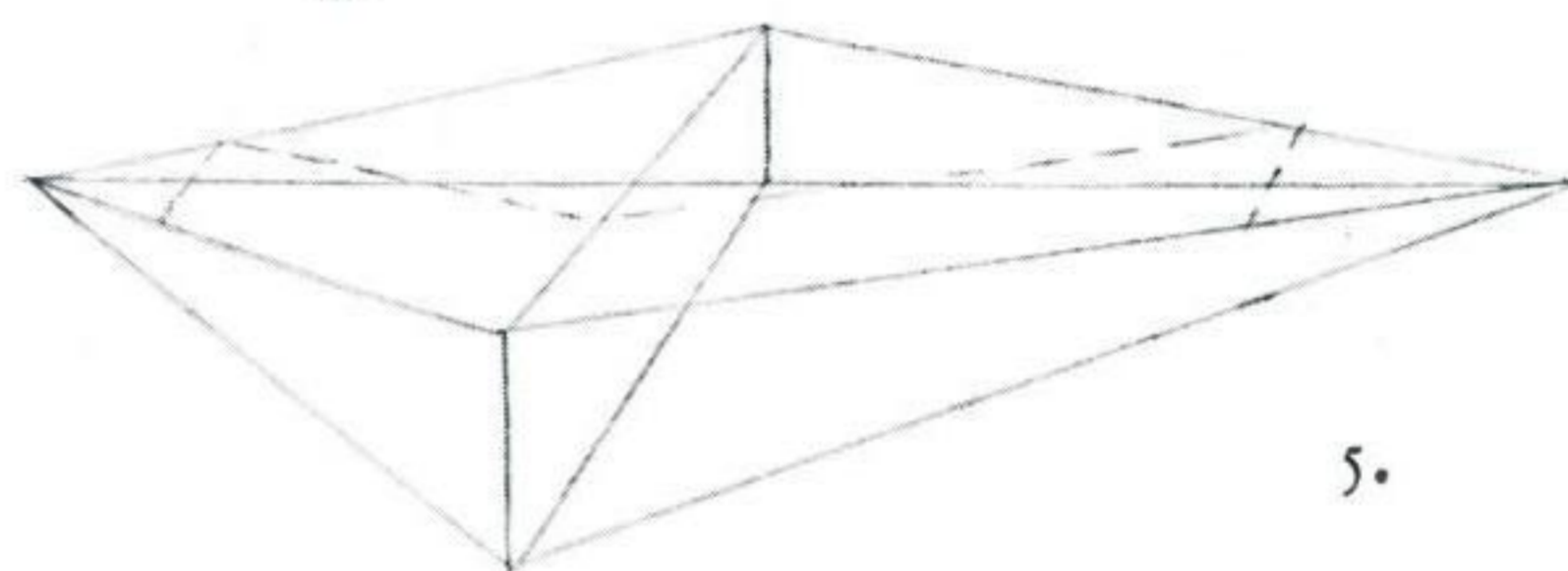
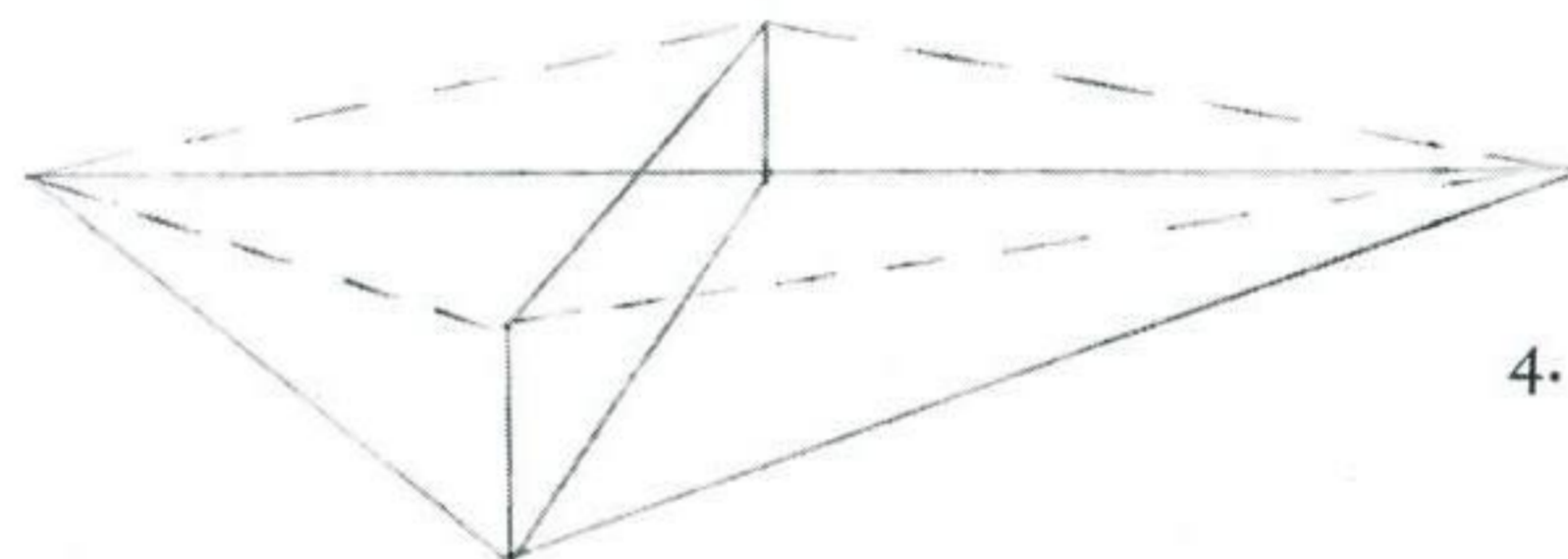
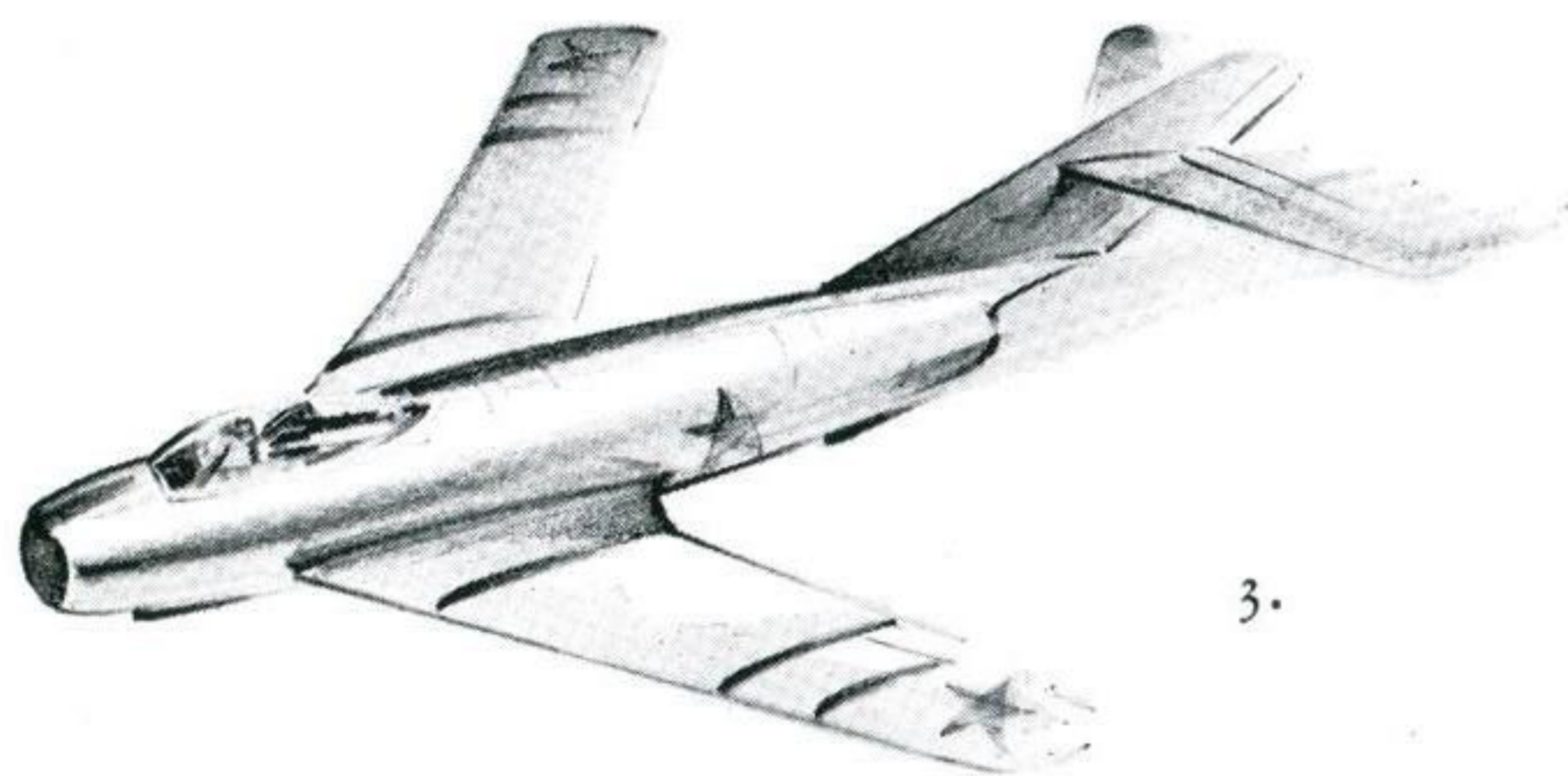
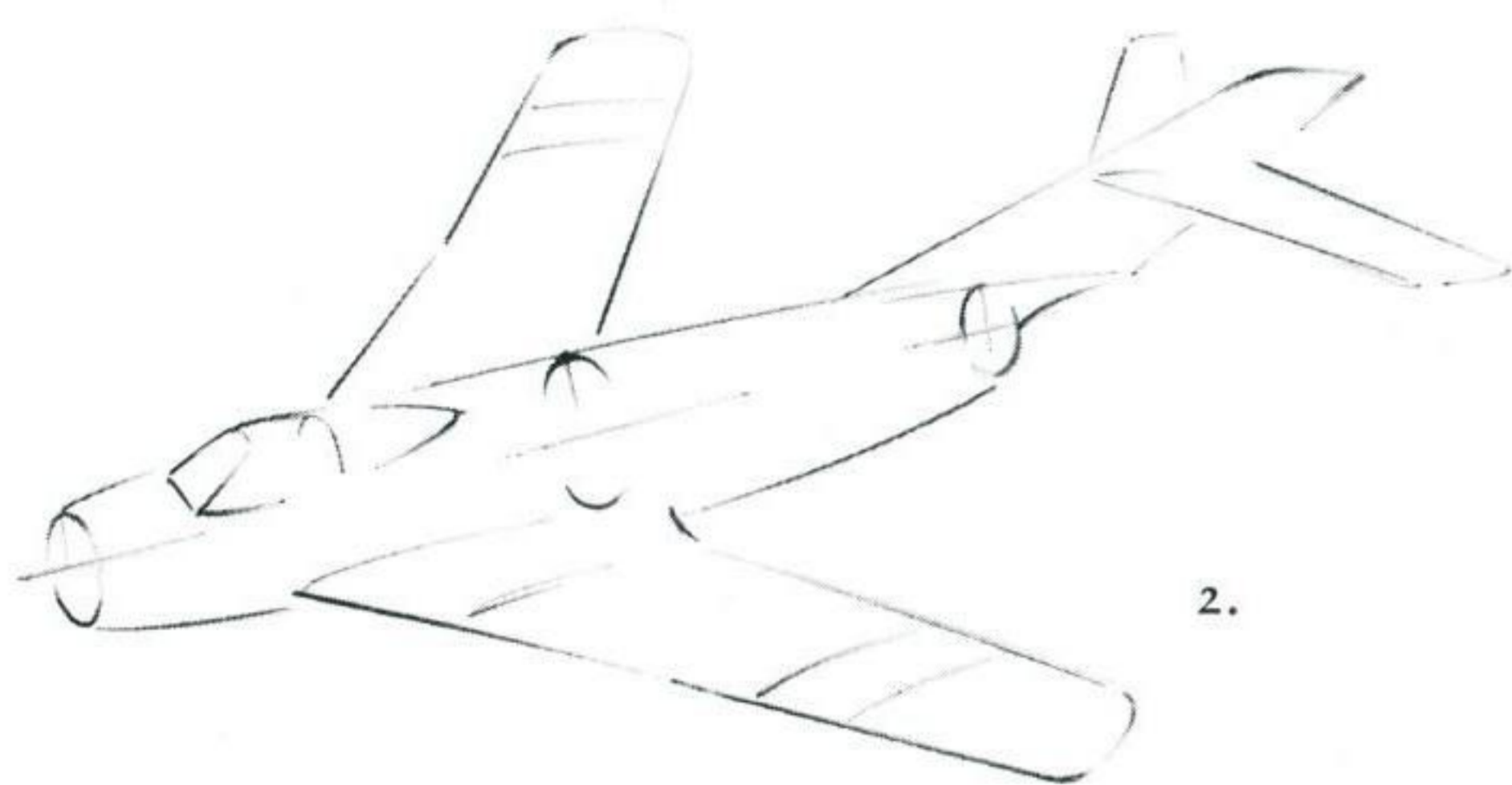


Construct a model by pasting a three-view drawing on to thin card cutting out wings and tail-plane in plan view and fuselage and tail in side view, and slotting them together. This will make a valuable reference model for any angle of view.

Pose the model of the *Fresco* at the desired angle of view and sketch in the main outlines in flat shapes as shown in Sketch 1.

Sketch 2 shows the drawing completed with cross-sections of fuselage and cockpit. (The head-on view helps here.)

Finally add tones with the flat of the pencil to give life and movement (Sketch 3).



Sketching a swept wing is a bit of a trick. Sketches 4, 5, 6 and 7 show the principles of construction. Though it does not appear so in No. 7 it is clear from the construction that the wing has been given both sweepback and anhedral angle. Practise a few of these at different aspects before you start drawing *Fresco* and always think of wings in this way when drawing.





Cover photo: A somewhat "dog-eared" North American Vigilante being taken down on the deck-edge lift after doing flight trials in one of the Forrestal Class Aircraft Carriers—probably the U.S.S. *Saratoga*. This enormously powerful Mach 2 attack aircraft flew across the Atlantic ocean to make its first appearance in Europe at the Paris Air Show. The AJ3 Vigilante is about to go into service with the United States Navy.



**SOLUTIONS TO TESTS AND EXERCISES
IN THIS EDITION**

HOUND

Page 88

All targets are **Hounds** except No. 20 which is a **Whirlwind Mk. 10**, and No. 30 which is a **Whirlwind Mk. 5**.



SKYHAWK

Page 90

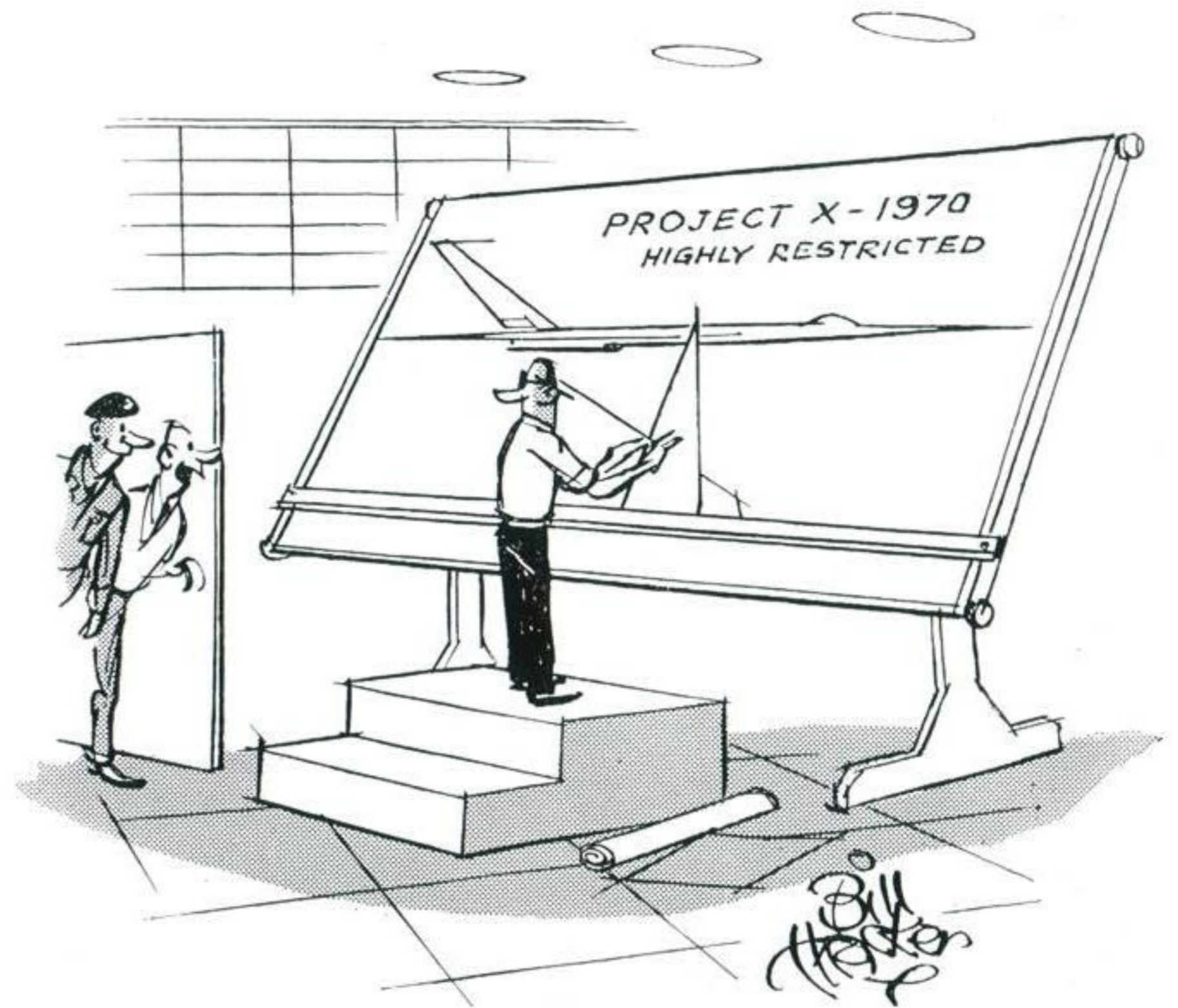
All targets are **Skyhawks** except No. 17 which is a **Skyray F4D**.



BELL HU-1 IROQUOIS

Page 94

All targets are **Bell HU-1 Iroquois** except numbers 8 and 22, which are respectively a **Bell 47J Ranger** and an **Agusta-Bell 102** (note that targets numbers 13 and 21 are the civil version, the **Bell 204**, although "**Iroquois**" is an acceptable answer).



"Member of the R.O.C. Sir, . . . would like some early information on Recognition Features."



MASTER TEST JITTERS

This the day—the fateful date
 When Observers gather to meet their fate;
 On with the uniform, don't be late!
 No breakfast in bed for me to-day,
 I'm up at Oh-Ate and on my way—
 "Oh-Ate-hundred" I hear you say!
 That must be a sign of my mind's unrest.
 Look at the churchgoers, doubly blest,
 They've never heard of the Master Test!
 And can't tell a Bear from a Beverley
 (Neither can I, as we'll very soon see)
 Oh, why did I join the R.O.C.?
 With a jumble of facts my mind's agog;
 Now *what* do we enter in the Log?
 Contrails, time checks, signs of fog?
 States of preparedness? Who can tell?
 "Pyrotechnic" is hard to spell,
 And what on earth is silica gel?
 I seem to remember it's azure blue,
 Which turns, when wet, to a salmon hue.
 (Quite fascinating I think, don't you?)
 The man in front of me looks so wise—
 What wouldn't I give for X-ray eyes.
 For Officers hover as thick as flies!
 At last its done, throw down your pen
 Only a few months' wait and then
 There'll be some sadder, wiser men!

Though some Observers will slave and
 dream a
 Dream of a Spitfire and feeling swanky,
 I call *all* Master Tests "Bravo Lima
 Oscar Oscar Delta Yankee."

*C/W/Obs. Betty Hindson,
 10/Y/4*