

THE ROYAL



OBSERVER CORPS

RECOGNITION

Journal
and R.O.C. GAZETTE



Volume 5 OCTOBER 1963 No. 10

Observer Officer A. W. Hall of No. 5 Group, Watford, describes several practical methods of synthetic training

Exercises on a SHOESTRING

“Practice makes perfect” is an old saying and a true one . . . “But how can we do this in the depth of winter?” the post instructor may ask. “There’s ten feet of snow over the post site and it’s difficult to get the lads along to a post meeting—let alone an exercise!”

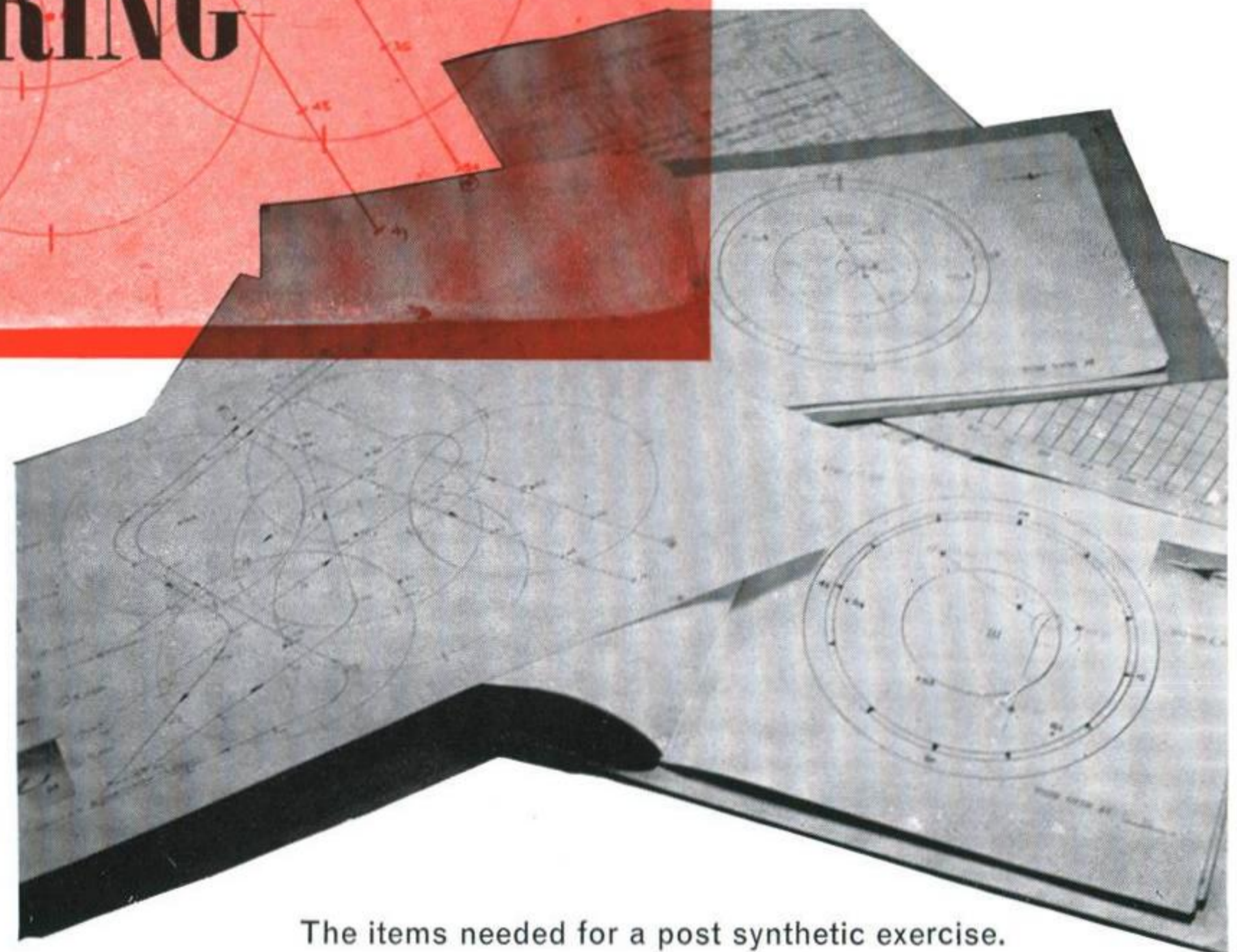
Possibly, but there are methods available to those who intend to keep post efficiency at top level and at the same time provide as much interest as possible at training meetings. The answer is to hold synthetic exercises of your own which, if correctly run, can not only give the practice necessary to keep all members on the top line but give the instructor a pretty fair guide as to the efficiency of the members of his post as well.

Variations on a theme

The methods described here, allow for endless variations. Whether your post consists of two or twenty members, this type of synthetic exercise suits them all. It will not only give hours of very valuable instruction but make the observers take part in the proceedings and so ease the task of the instructor who is trying to keep the whole class with him instead of thinking of the pint they are going to have after he has finished talking!

The method

To give worth-while instruction to any class needs a great deal of preparation. Every instructor worthy of the name will, I know, agree with this hard and bitter truth. The sooner the newly appointed Leading Observer appreciates this fact the sooner will his work bear fruit. Synthetic exercises like those described here are no exception, but once you have completely mastered the method yourself and have completed about a dozen, the job will become much easier as most of the hard work will have been completed in the initial stages.



The items needed for a post synthetic exercise.

As shown in the illustrations, the basis of this theme is to prepare a Master Plan. Depending on the number of people available, so the number of posts is increased on the plan. To increase the scope of the exercise, the duties of numbers one, two, three and four observers can be combined; this, however, should only be attempted at a later stage or with really competent members. Don't make the mistake of making the exercise too complicated, you'll kill off more observers this way than by any other method, so be warned!

Once an exercise has been completed keep the track sheets, shown in the illustration, on a file. After a few attempts you'll find that there are quite a number available and these can be used again at a later date without the participants realising that they've seen all this before. A separate Master Plan will have to be made up for each exercise but this should not take up as much time as doing the whole lot from scratch. By pencilling in the times of the occurrence at the top left-hand corner of the track sheet you can use the same set over and over again by just rubbing out and putting the new time in its place.

It is far better in the early stages of using this method to deal with one specific subject from the training syllabus at a time. Let's take the example of "Aircraft in distress". The instructor should deal with the subject, by explaining the sequences used, what they are used for and when. This should be followed by a brief question period in case any

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* Identification Lessons

member of the class wants clarification of a particular point and then the practical part of the training can begin. By making the class do the job that the instructor has painstakingly explained each member consolidates the knowledge acquired or, in the case of the more experienced observer, refreshes the memory sufficiently to keep in practice. As time goes on, and the crew get used to the method, more difficult situations can be presented. Work dealt with in previous sessions can be introduced and, in time, there should be very little need for the instructor to say much by way of introduction.

Post reporting folders

Prepare small loose-leaf folders from stiff card. Make the leaves suitable for adaptation from time to time, as described earlier, and make sure that everyone understands the symbols used on the tracks by adding permanent pages at the beginning of each folder containing a key.

Each leaf or track sheet should contain a replica of the post chart with the main bearings marked, a photograph of an aircraft or of clouds for "Heard" reports, a height and several times. Where several posts are employed the tracks can be made to relate by reference to the Master Plan. It is also advisable to include a time at which the page is to be turned over so that the people manning the post do not anticipate the track by having a lot of time to work it out first.

After the introductory talk or instruction split the class into posts consisting of any number of people up to four, let them decide for themselves who will take which duty and get them to disperse into the various corners of the lecture room.

Allow them to synchronise their watches only after the exercise has started and similarly include weather reports at the beginning of the post reporting folders. These can be made up from any large enough photograph from a magazine giving an area of sky and clouds. The direction of the wind should be marked but other than this the number two observer must make up his weather report in the accepted manner.

When everyone has settled and not before, indicate that the post lines are now open and let battle commence. Once the exercise has got under way no number two or number three observer, as the case may be, should be allowed to talk to the centre plotter or any other post without using the correct sequence. Insist on this or otherwise gentle phrases such as "Hey Jack, what does this lot mean?" will result in chaos! Post logs should be kept by the appropriate member of each crew and these should be checked after the exercise has been concluded.

Checking the reports by the plotter

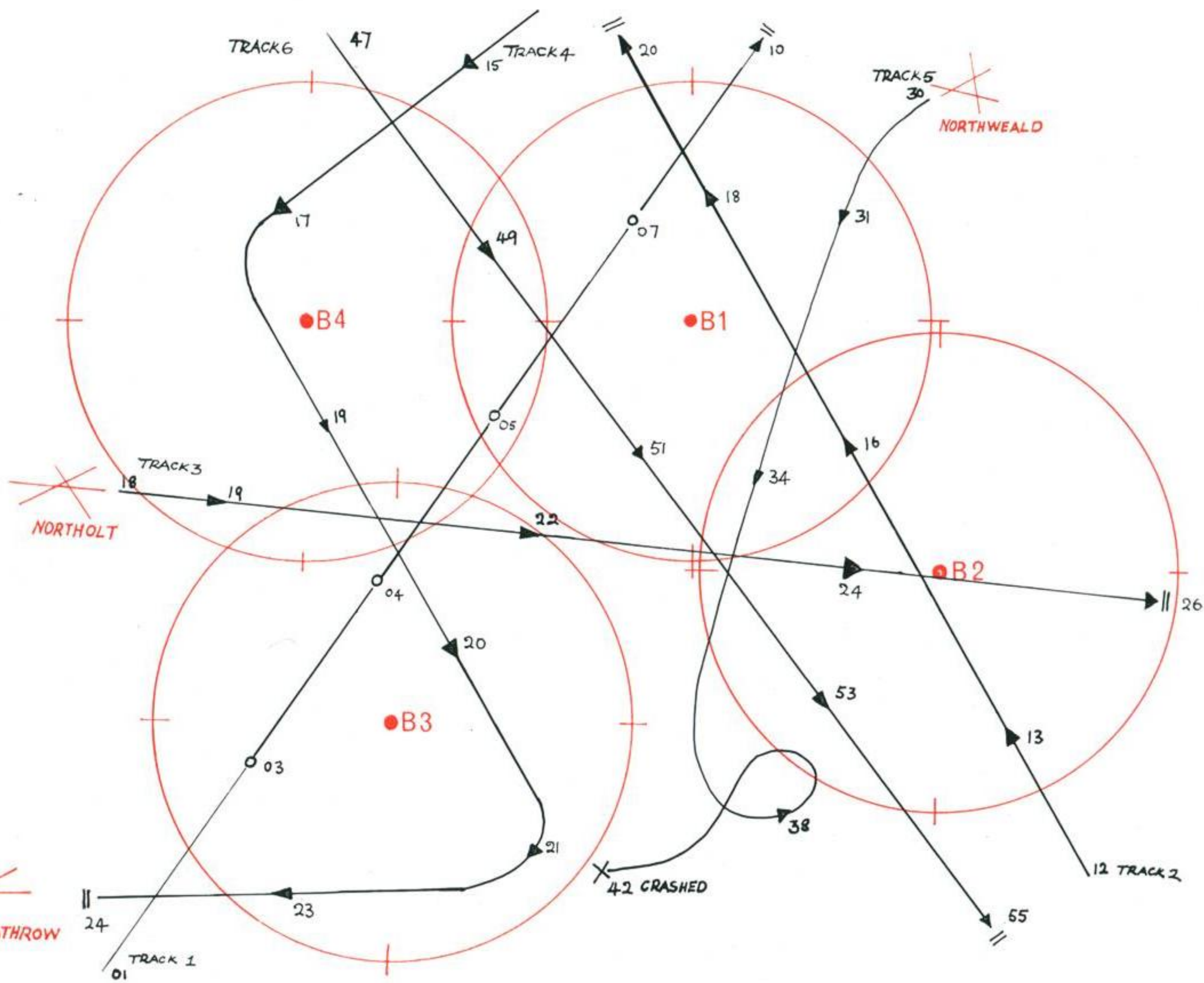
It is the post instructor's job to act as centre plotter although this could very easily be one of the post members. If you are lucky enough to have a large crew and warrant two post instructors get them to take a cluster each so that speed in reporting can be increased accordingly.

Checking fallout reports is fairly easy as the complete sequence is written out beforehand and checked as the reports are made from the posts.

Aircraft on the other hand are checked from the Master Plan which details each track and reporting time in minutes corresponding to the post report folders.

Complicating the issue

Once the members of the post have grasped the idea behind these synthetic exercises more advanced work can begin. A Ground Zero Indicator can be built from a large biscuit or sweet tin, an electrically operated Bomb Power Indicator can be constructed and additional Fixed Survey Meters can be added by copying the principle of the Trainer which is now standard issue on all posts. The more members you have requires the greater the number of these synthetic instruments and this in turn will lead to greater expenditure of time and money. On the other hand the members themselves, once the idea has caught on, can be recruited to manufacture their own torture and relieve the pressure on the NCOs.



1. **Comet 4**, 30,000 ft. (Recognised on out plot only). 2. **Victor**, Contrail. 3. **Hastings**, 20-4,000 ft. (Take-off from Northolt). 4. **Viscount**, 5,000 ft. (Height reduces progressively). 5. **Meteor**, 2,000 ft. (Aircraft crashes). 6. **Boeing 707**, 20,000 ft.

The Master Plan. Aircraft tracks are drawn in different coloured inks over the 5 mile reference circles of the posts taking part. Tracks are all numbered and the time of report is given beside each in minutes past the hour. Heights and aircraft types are on the left of the sheet.

A flash bulb can be used to simulate bomb bursts and to make the job more difficult switch the room lights out just as the number four observers are going to change the GZIs. Situations like this may develop under operational conditions and in any case we can hardly expect our potential enemies to drop their nuclear weapons in daylight just so that observers can see what they are doing when wrestling with that wretched screw thread on the GZI.

There are a great many ideas that can be brought to mind once you capture the spirit of these synthetic exercises. The methods described are but a few of the many and it can be fairly said that this sort of training can introduce every conceivable situation that might develop on the post under operational conditions. The only limitation is the ingenuity of the instructor preparing the exercise and the possibility of restricted space being available for instruction.

To keep members of the post at the peak of proficiency throughout the winter months, to train them for the Master Test and to ensure that everyone is fully conversant with all procedures and radiac instruments there can be no better way than this. Used properly the ideas suggested are equally of use not only to the recruit but to the observer with umpteen "Spitfires" and years of service and have the advantage of being practised in the same class where both old and new members are present without one having things way above his proficiency and the other being bored by having heard it all before.

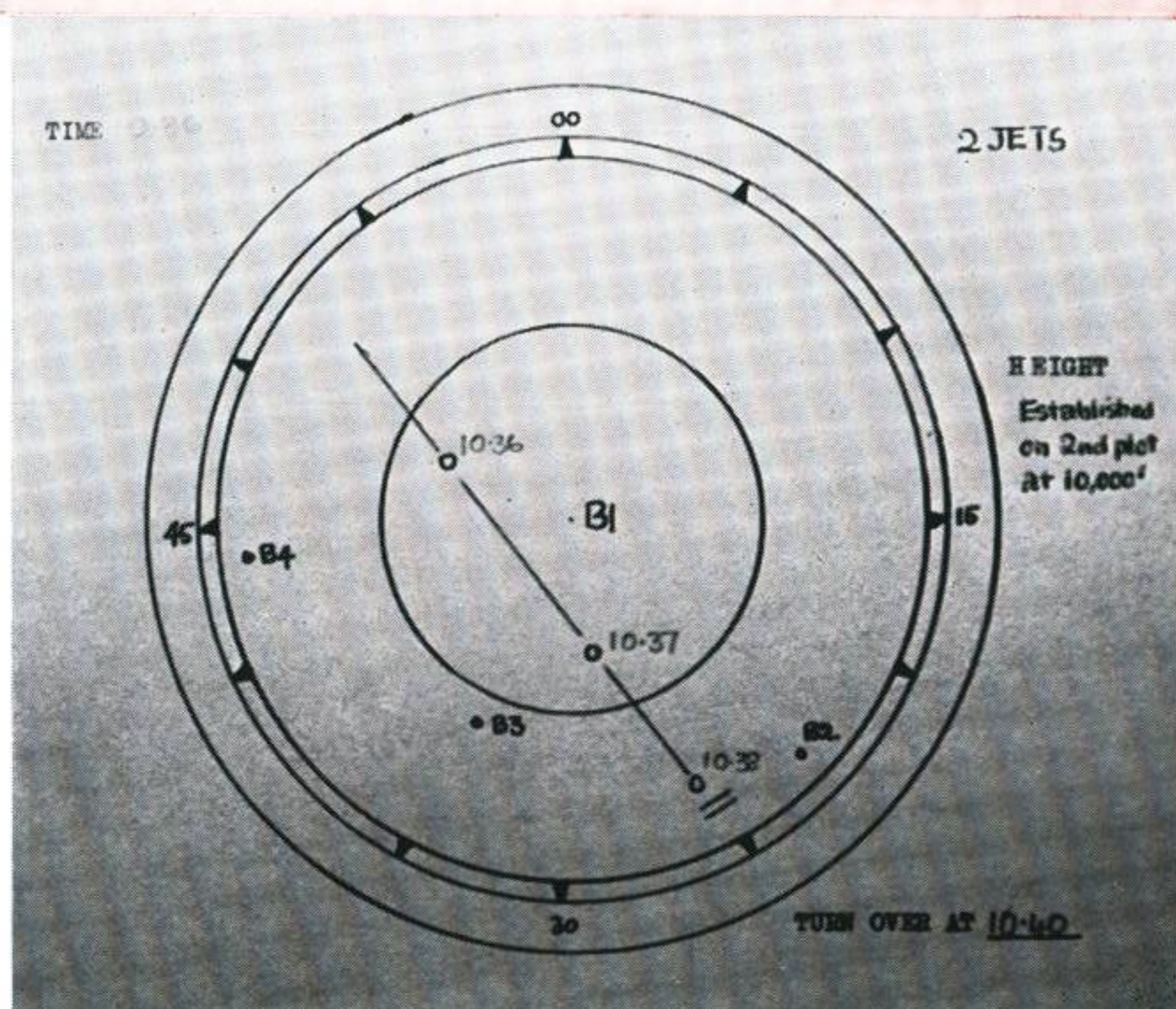
One stage further

Although the aircraft role of the Corps has of necessity taken second place to fallout it is of vital importance that aircraft recognition and its associated reporting procedure be kept up. Many posts up and down the country hardly ever see an aircraft, but this doesn't mean that they wouldn't in time of war. To ensure that the aircraft role is not forgotten and to keep the interest in this subject why not hold your own post exercises in the summer too? Take the members out to the post site and give them synthetic reports in place of live aircraft.

In certain places posts have even gone as far as building their own satellite post structures in the fields surrounding the permanent post site and have connected these by their own land lines to a mock-up operations room housed in the protected accommodation. Telephone head and breast sets have been purchased from government surplus stores and before you know it a complete cluster of posts has been built. This can only be done where there are a good number on the post strength but as ones numbers increase something of this nature must be done to ensure that everyone gets enough time on operational duty. An observer can hardly be described as efficient if he only gets, shall we say, two hours on duty at the post in a year.

Between twelve and fourteen members can be accommodated for training depending on the number of additional sites obtainable. Very realistic exercises can be carried out and

The items needed for a post synthetic exercise



A Track Sheet for a "Heard" plot. Instead of arrow heads indicating direction, small circles are used. "Out plots are indicated in all cases by double lines at the end of the track.

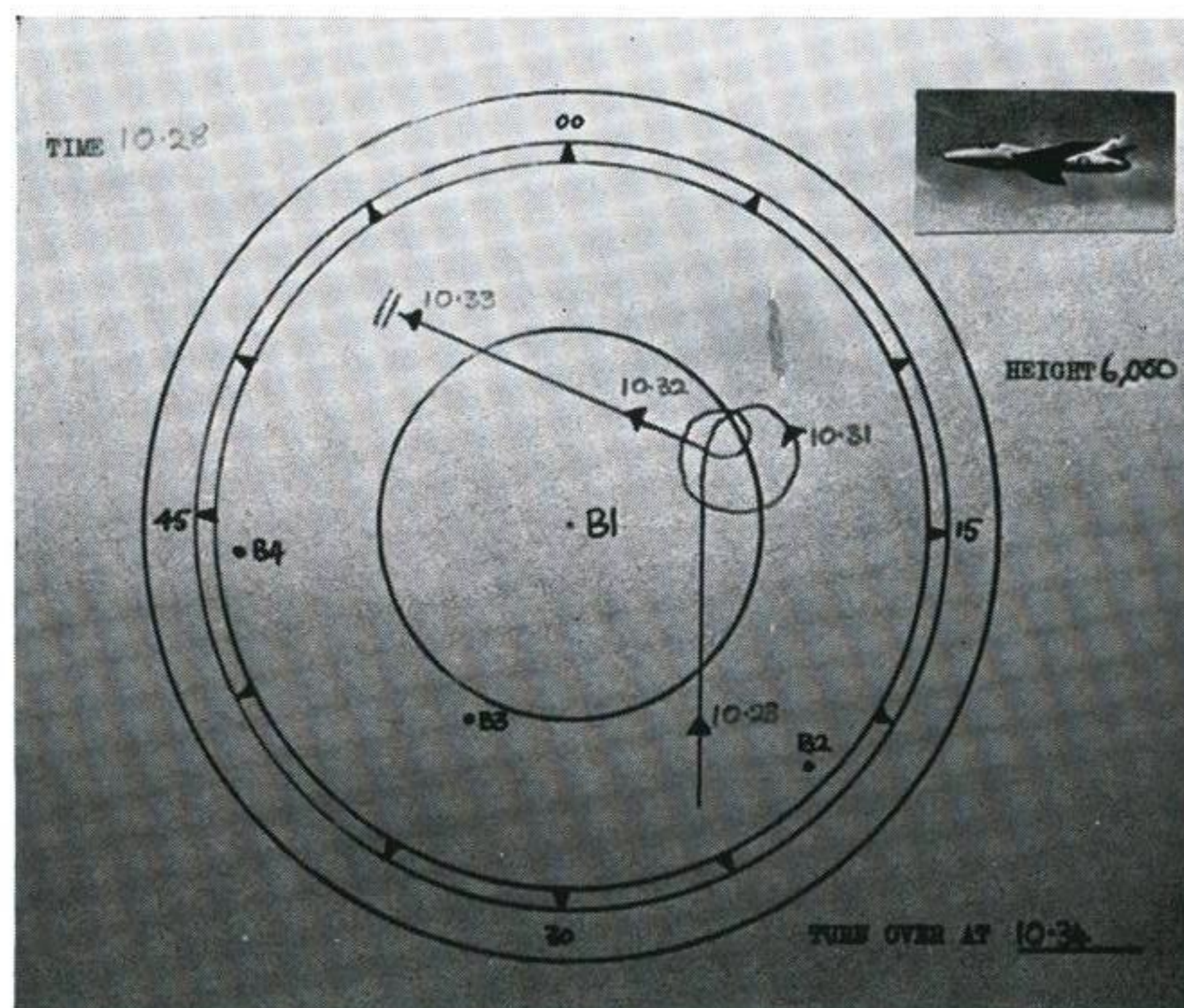
on my own post, for example, we have tried out our emergency manning procedures in which a message is sent by telephone or telegram to all the members of the duty crew telling them to man the post as quickly as possible. Observers are warned that they will be required on a certain Sunday but the time of the exercise is not given. They have to drop whatever they are doing, change into uniform, get up to the post as quickly as possible and then erect the instruments and prepare for any possible emergencies that my post instructors might feel inclined to fling at them.

In this way we feel that the post is prepared for any possible real emergencies and the snags which are bound to occur are ironed out before they arise.

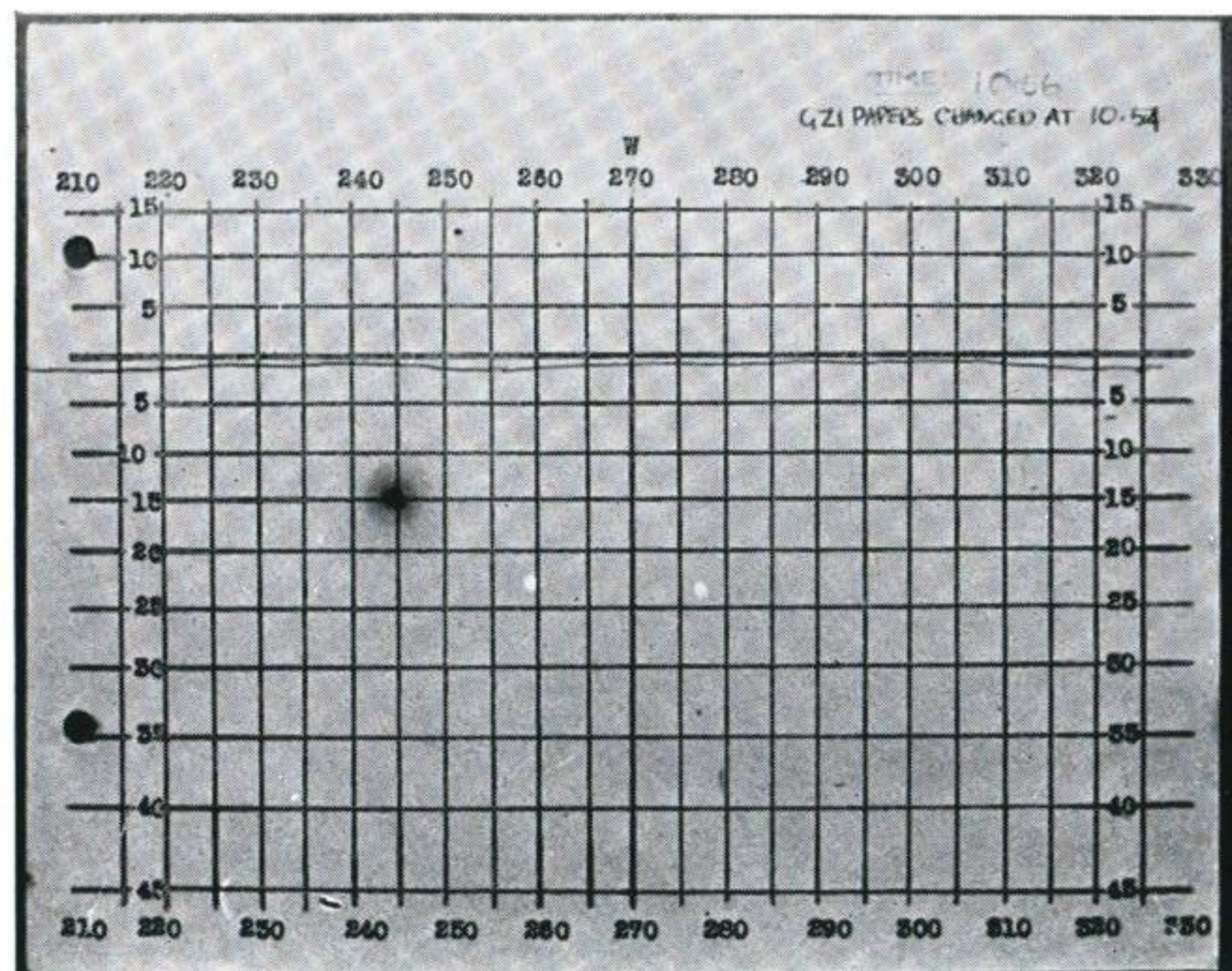
The results

These home-made exercises can be fun, not only for the persons preparing them but most certainly for the members of the crew taking part. It must not be forgotten that the results of any exercise held on the post must be analysed and post members informed of their shortcomings at a post training meeting. This exercise report should be made to the members before another is contemplated and individual members taken aside if necessary and told how they might improve their standards.

The analysis after a post exercise is perhaps the most important part of the whole operation whether it be held in the classroom or outside. On the full scale Group, Area or Home Office exercises it is impossible to give detailed reports of the results because of security reasons but when you run your own—you're the boss! The individual post member will come up with some surprisingly bright ideas for the improvement of conditions and local methods on the post and you can be



The Track Sheet. This is enclosed in the folder given to each post crew and in this case depicts the track of a Hunter T.7 at a height of 6,000 feet. The start of the track reporting time is on the top left hand corner of the sheet and the time at which the observer on the post has to turn the page for the next series of plots is shown bottom right.



A simplified printing out paper showing the graticule and bomb burst. All four sheets from the GZI are included in the post reporting folder and these can be adapted for use in the actual GZI itself when more advanced exercises are planned in the lecture room or when an out-of-doors exercise is to be held.

assured of his fullest co-operation and enthusiasm if the approach to the subject is carefully made beforehand.

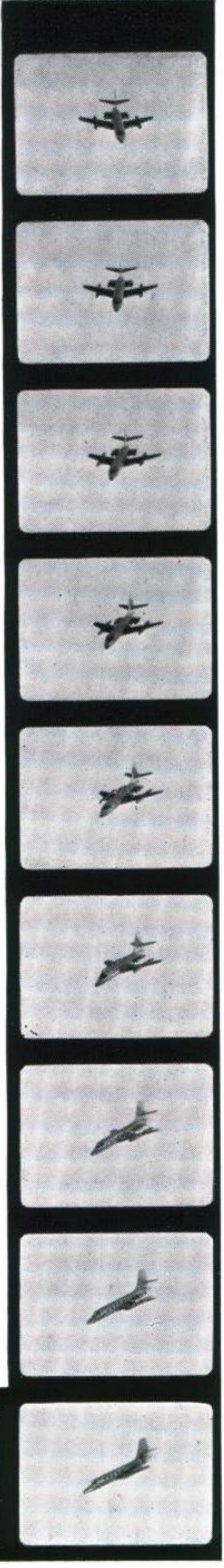
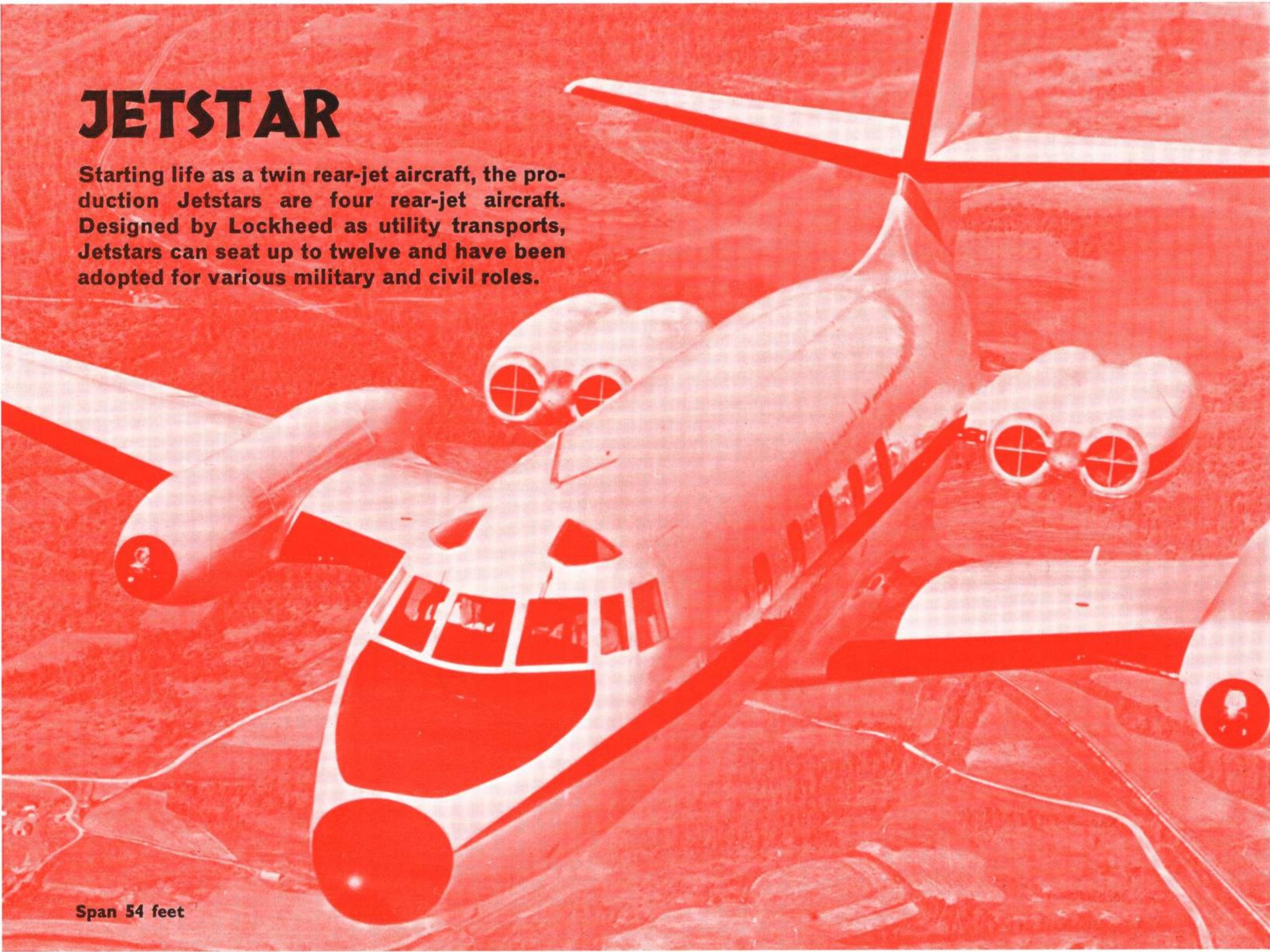
Full scale exercises on a national level cost a tremendous amount of money to organise. Those originated at post level need only cost little more than the time to prepare.

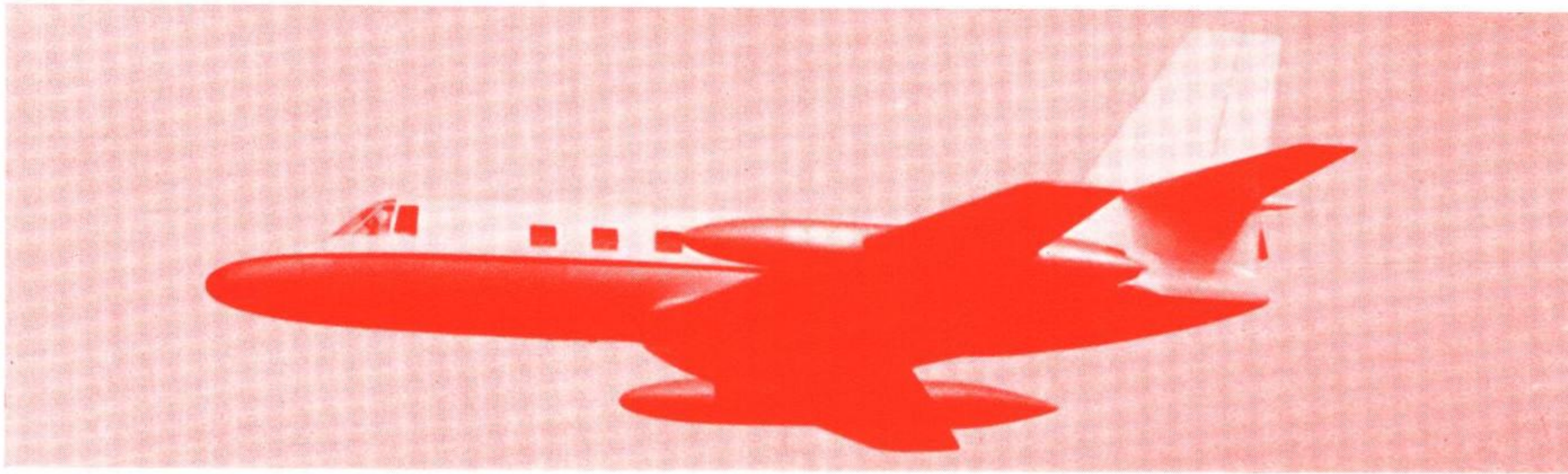
To repeat . . . "Practice makes Perfect" and in my opinion it is the duty of every post instructor to make sure of introducing to his members some method of this nature to ensure that his post is doing its very best to make the Royal Observer Corps as efficient as humanly possible.

JETSTAR

Starting life as a twin rear-jet aircraft, the production Jetstars are four rear-jet aircraft. Designed by Lockheed as utility transports, Jetstars can seat up to twelve and have been adopted for various military and civil roles.

Span 54 feet



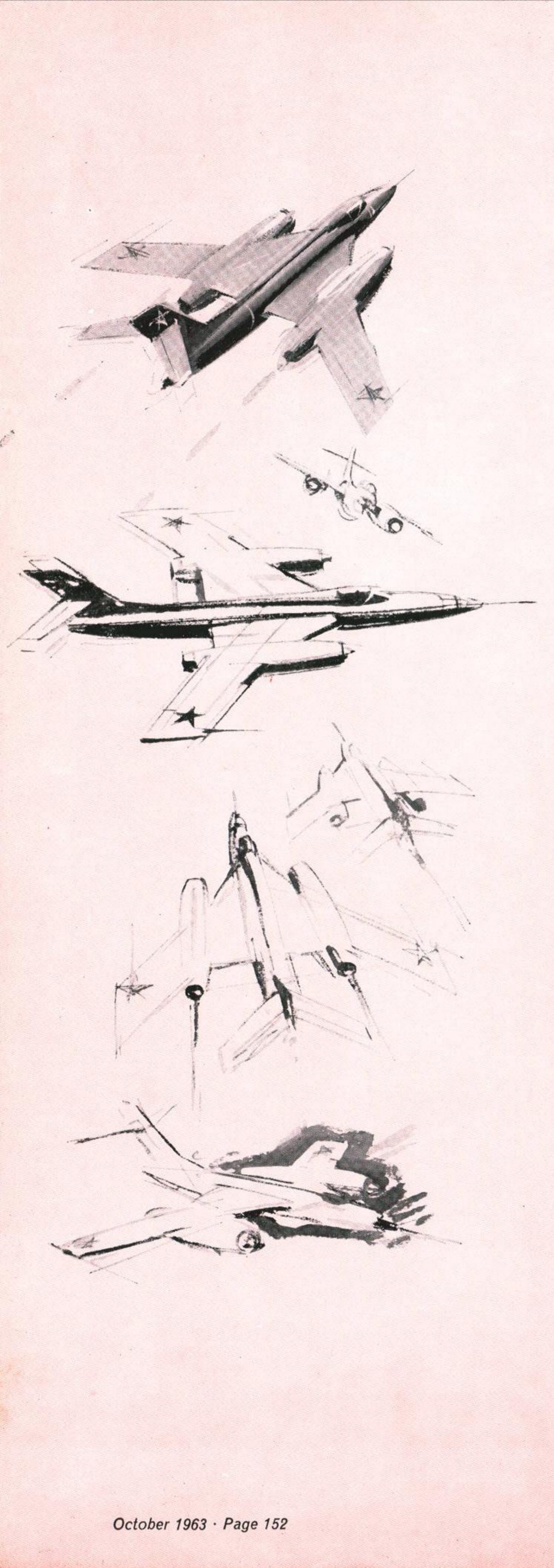


JETSTAR *continued*

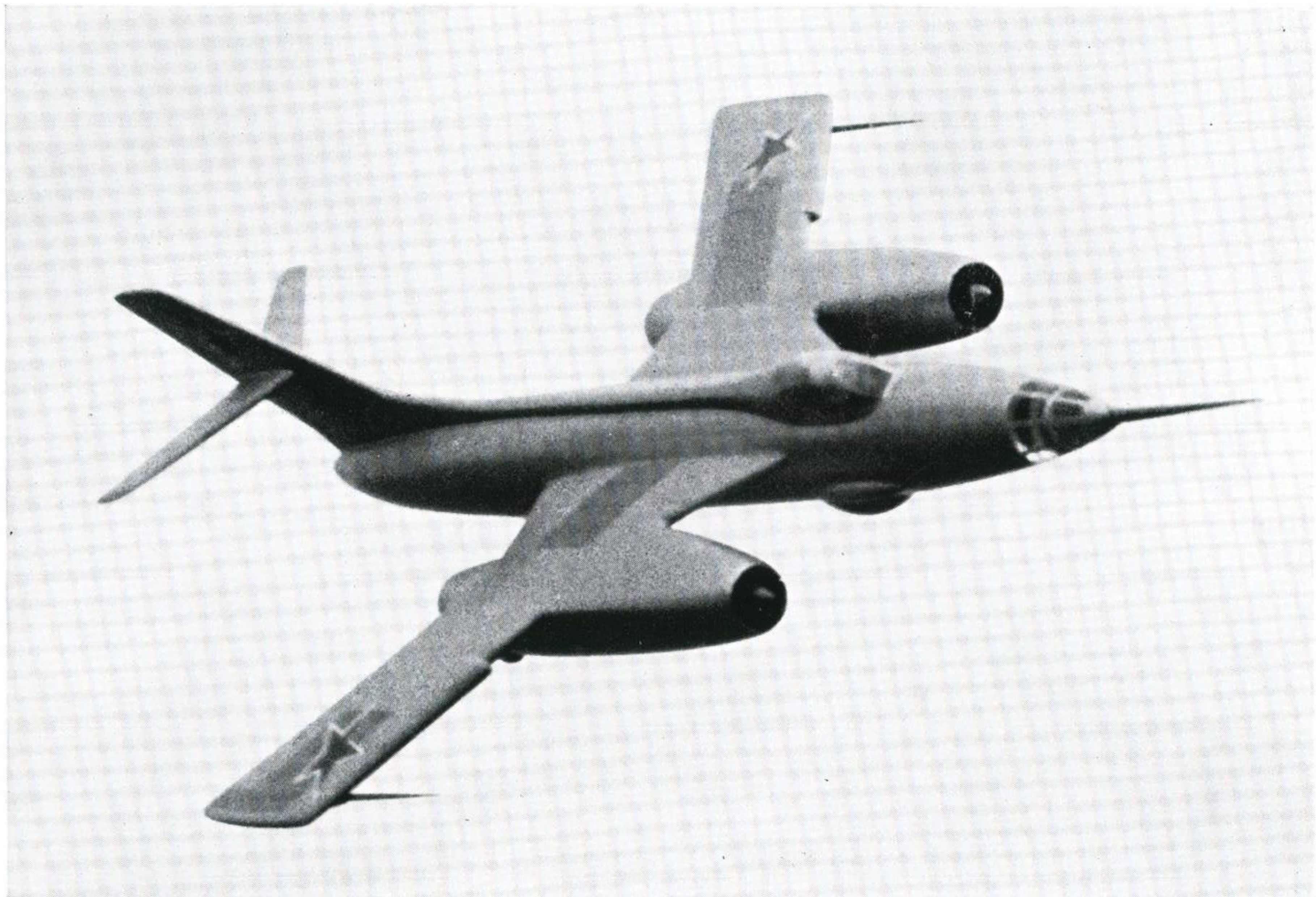
The various versions of the Jetstar have a common configuration but the military models are designated according to their roles as follows: C-140A for five U.S.A.F. models for navigational aid evaluation, C-140B for five U.S.A.F. mission support models, VC-140B for six U.S.A.F. V.I.P. transports and C-140C to the U.S. Navy's requirements.



Lesson instructions appear on page 156 and solutions on the cover.



FIREBAR

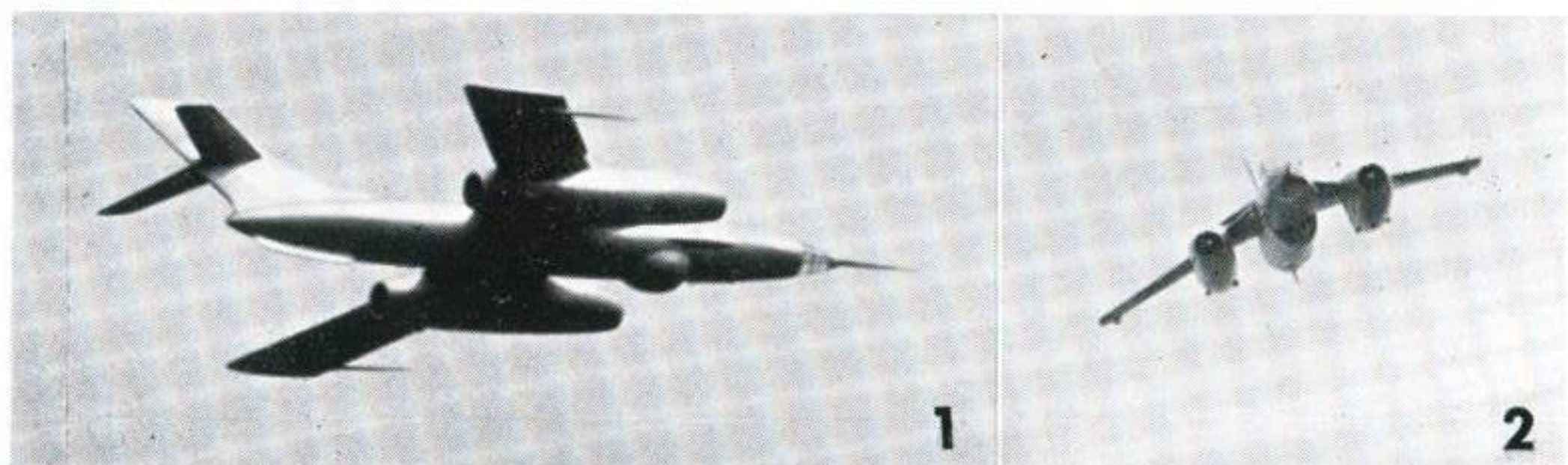


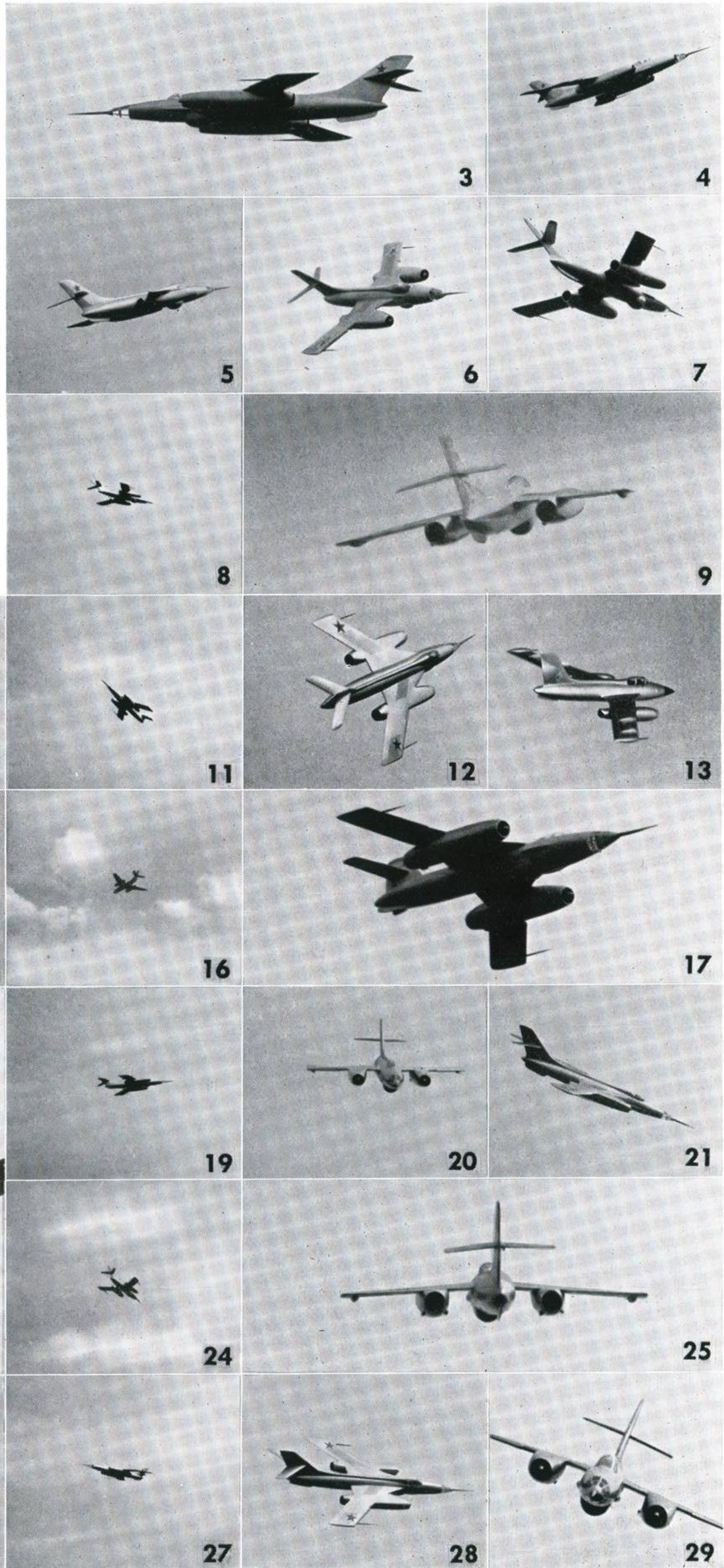
FIREBAR

A development of Flashlight, the Firebar, first became generally known after participating in the 1961 Soviet Aviation Day at Tushino, where it was seen in some numbers. It was described by the Russian commentator on that occasion as a supersonic general-purpose military aircraft.

Firebars have been noted in two versions a presumed all-weather version with a nose radome and capable of carrying air-to-air missiles beneath the wings, and the tactical multi-purpose aircraft shown. In this way the Firebars correspond to versions of the Flashlights.

Using the key views, left and above, the silhouette opposite, and the special drawings by Frank Wootton on the preceding pages, identify the target views presented in accordance with the instructions on page 156. *Solutions on the cover.*





IN PASSING

Let's face it . . .

Lessons on the Hunter have been a feature of the *Journal* for the past eight years, but the Hunter has been continually developed during this period with consequent changes to its form. The F.1 to F.5 have come and gone from R.A.F. service, but a Mk. 12 is still being evaluated. The changing face of the Hunter is illustrated here by the F.6 (top), the F.R.10 (middle) distinguished by the camera hatches in the nose and the two-seat Mk. 12 (bottom).



LESSON INSTRUCTIONS

To obtain the maximum benefit from the training devices published in this *Journal*, the following procedure should be adopted,

- 1 Read the text associated with the lesson.
- 2 Prepare a list of target numbers so as to be able to tackle the targets in any order.
- 3 Identify the target pictures by comparing them with the key views; start with the easy ones so as to gain experience: also use targets already identified to solve the more difficult ones.
- 4 When certain of the identity of a target write down its name *IMMEDIATELY* against the appropriate number on your list. **THIS IS IMPORTANT.**
- 5 Lessons should not be hurried or given a time limit. So far as beginners are concerned, it is more important to identify accurately than quickly.
- 6 Do not attempt conscious memorising of details, shapes, or names.

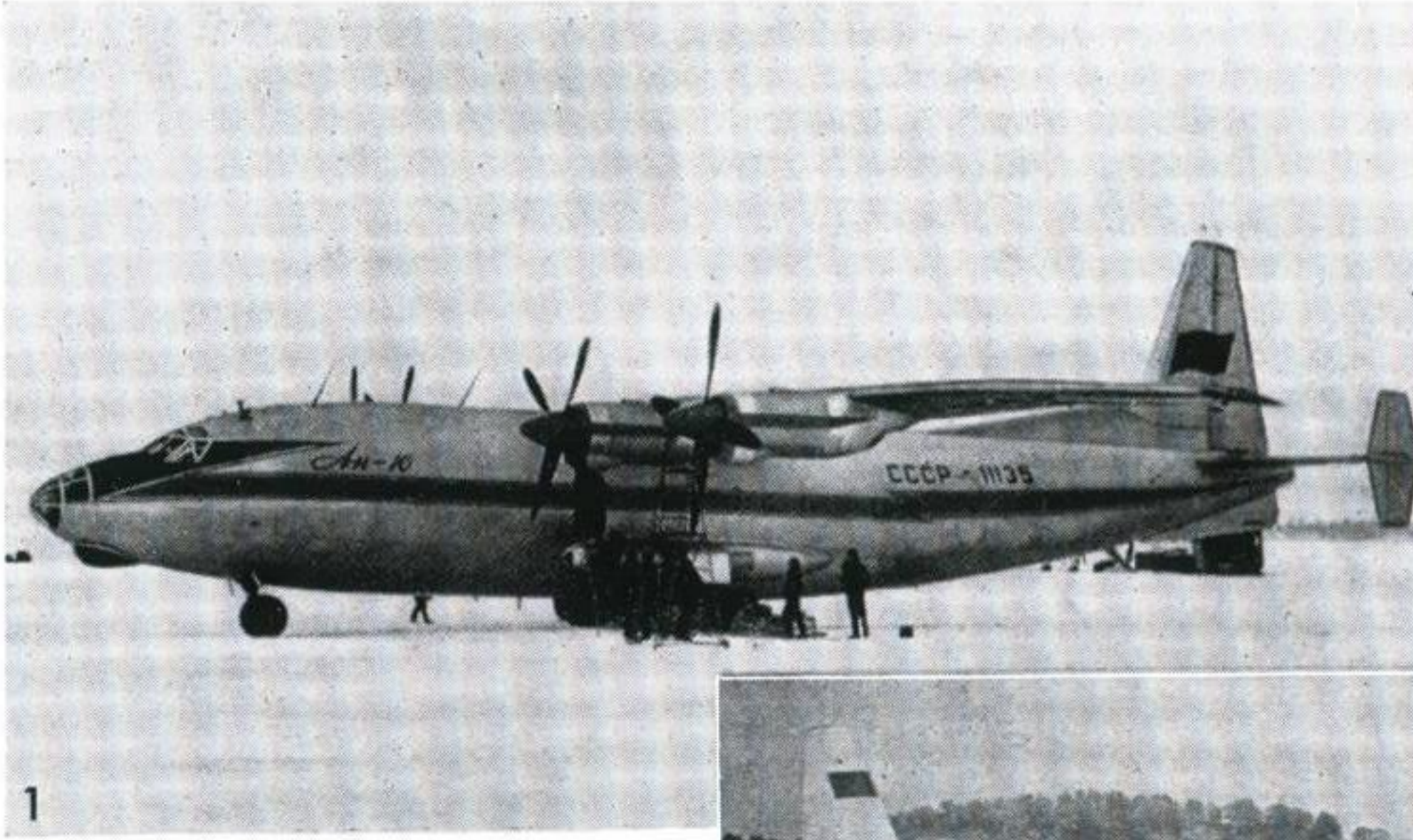


BOOK REVIEW

"The Observer's Book of Aircraft" by William Green.
Published by Frederick Warne & Co. Ltd. Price: 5s.

The 1963 edition of this invaluable reference book is of the same standard as its predecessors. At 5/- a copy, the publishers might have been excused for saving on rising production costs by using old photographic blocks, but the changes have been many. In reviewing the last edition we did suggest that the Mil flying crane should have been given its NATO name **HARKE**. Not only was this done, but they went one better and introduced Hip before we did. The new United States Designations are included throughout.

B. R.



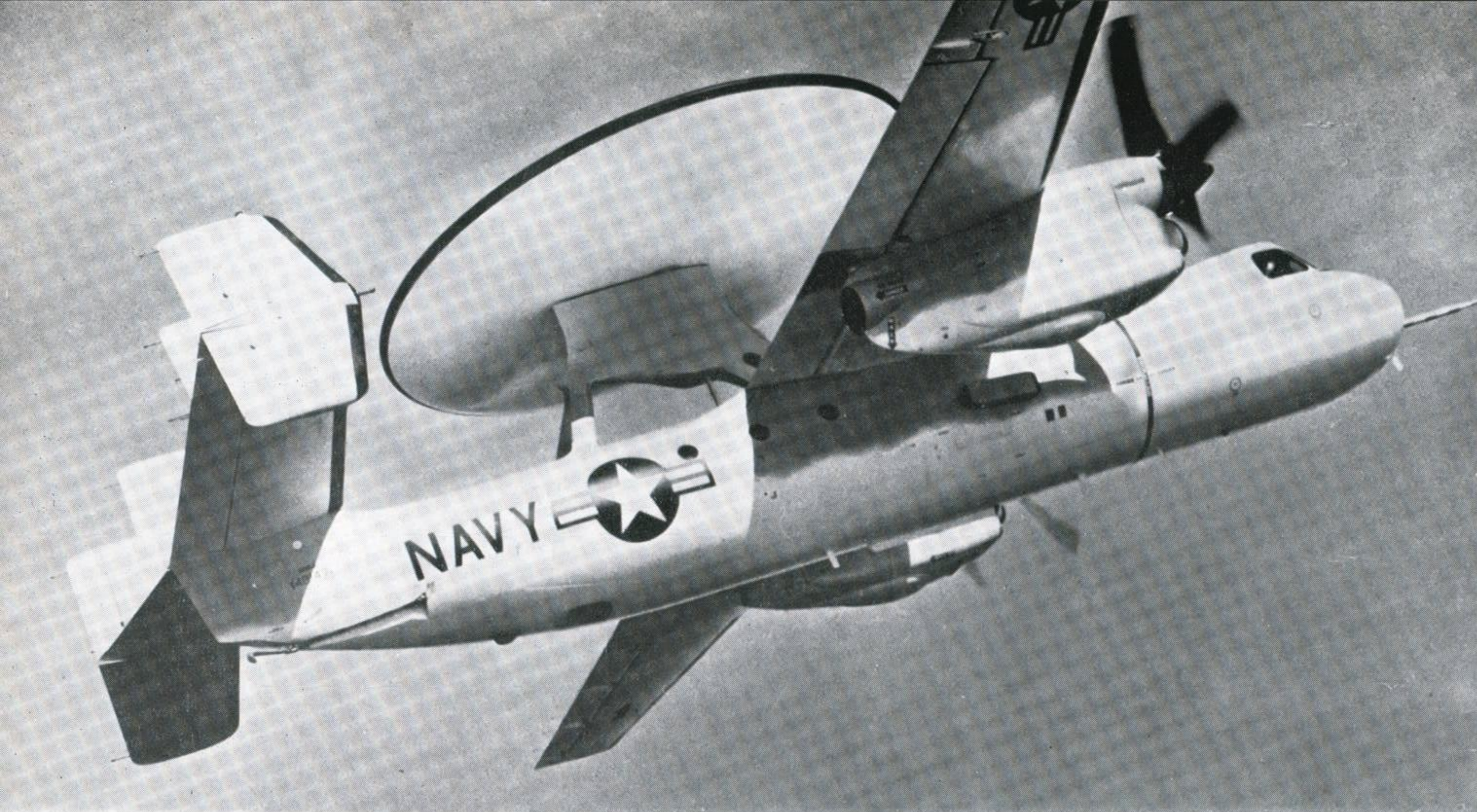
- 1 CAT
- 2 HARE
- 3 CAMEL
- 4 COOT
- 5 CRATE
- 6 COLT
- 7 HOUND

Soviet export briefs

The President of Aviaexport, the Soviet Aircraft Export Organisation, stated that about 2,000 Soviet civil aircraft of various types were serving in some thirty different countries. Main export types are the Tu-104 Camel, Il-18 Coot, Il-14 Crate, An-12 Cat, An-2 Colt and the Mi-1 Hare and Mi-4 Hound helicopters. Next year the Tu-124 Cookpot, An-24 Coke and Mi-6 Hook are expected to be available for export.



BRIEFS · BRIEFS · BRIEFS



Span 81 feet

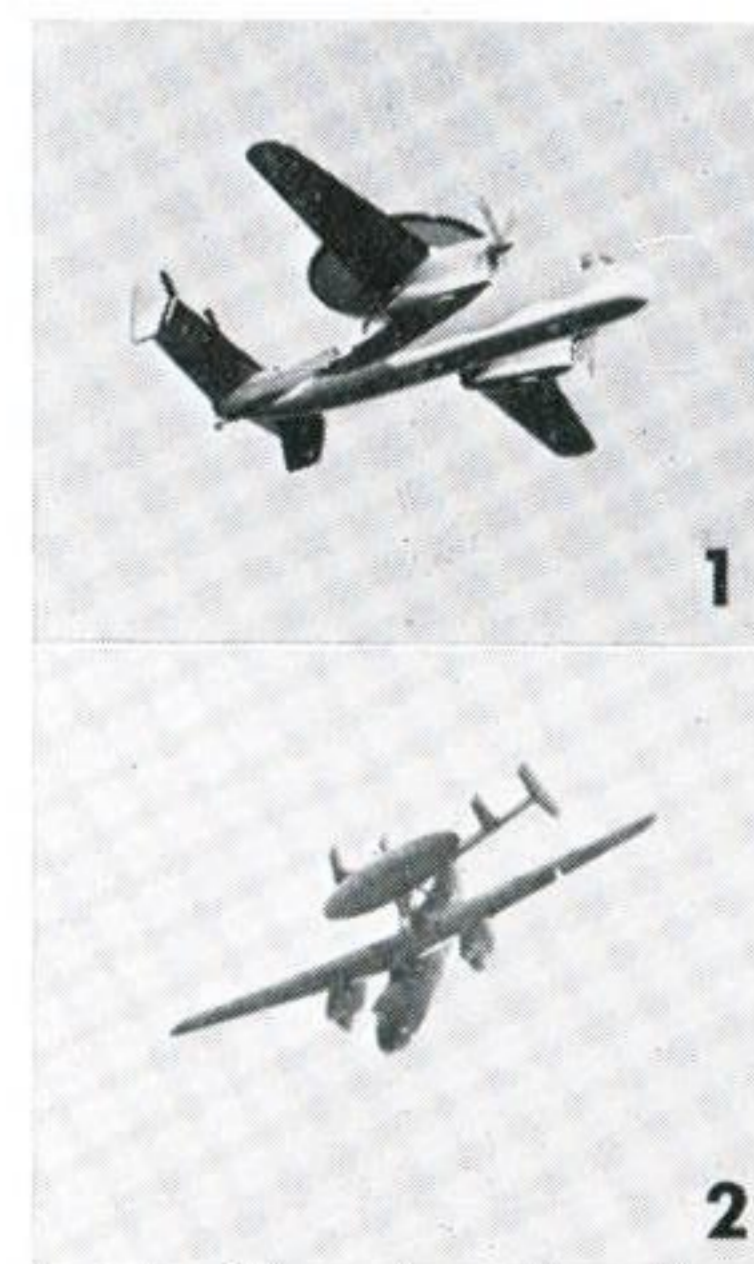


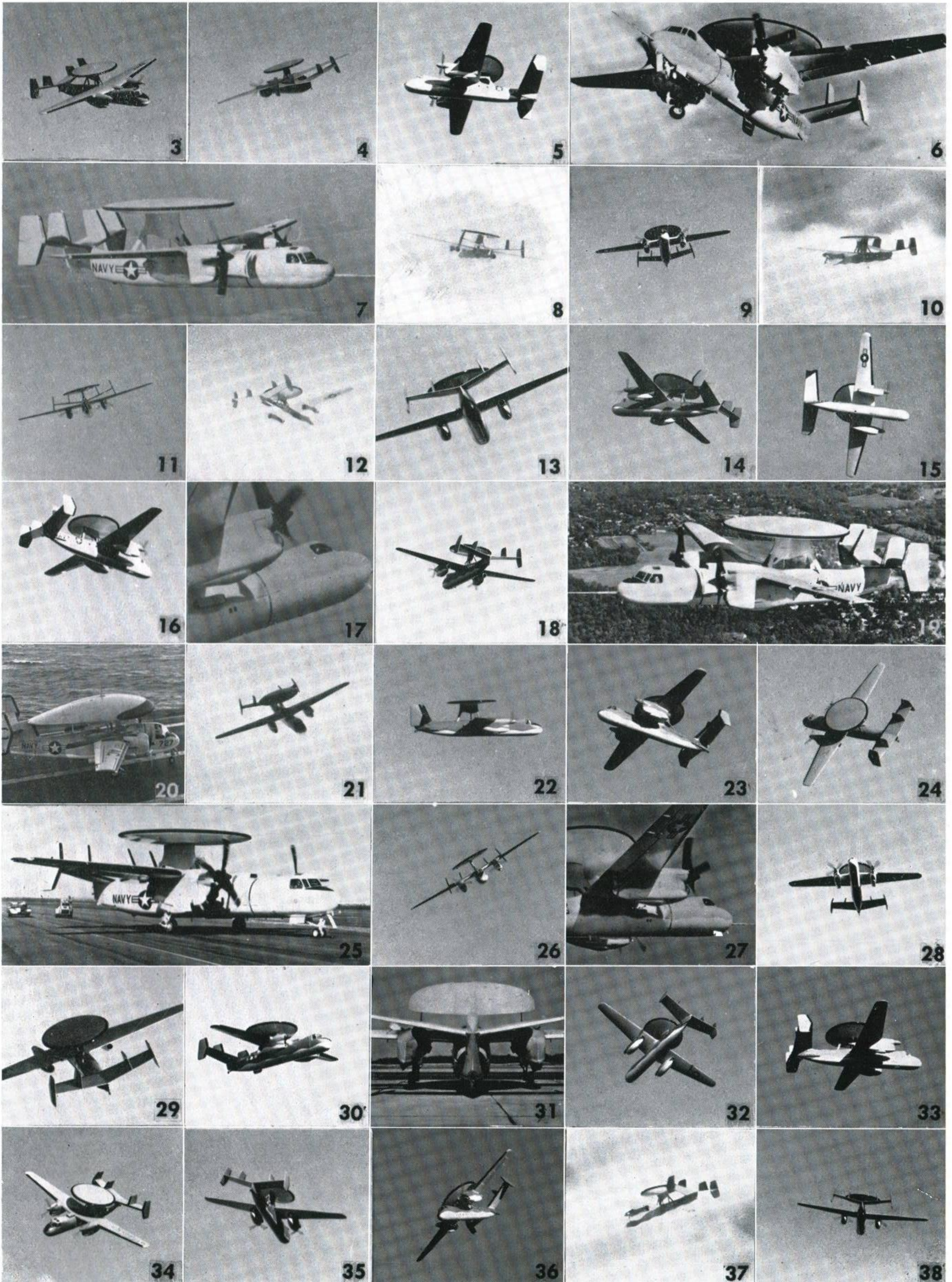
HAWKEYE

Like the E-1 Tracer featured in our June 1963 edition, the E-2 Hawkeye is a Grumman aircraft exclusive to the U.S. Navy.

As a carrier-borne early-warning aircraft that can detect the approach of hostile aircraft and control interception, the Hawkeye is an aircraft that may be seen singly, but covering vast areas of the ocean. Nevertheless, with all its data processing, computers and communications systems it is vulnerable to its friends. During the last war, as we recently emphasised, there was a succession of disastrous mishaps in which aircraft were shot down by the very ships they were protecting.

The Hawkeye, and indeed the Tracer, must be known. Use the instructions on page 156 to achieve this vital ability. *Solutions on the cover.*

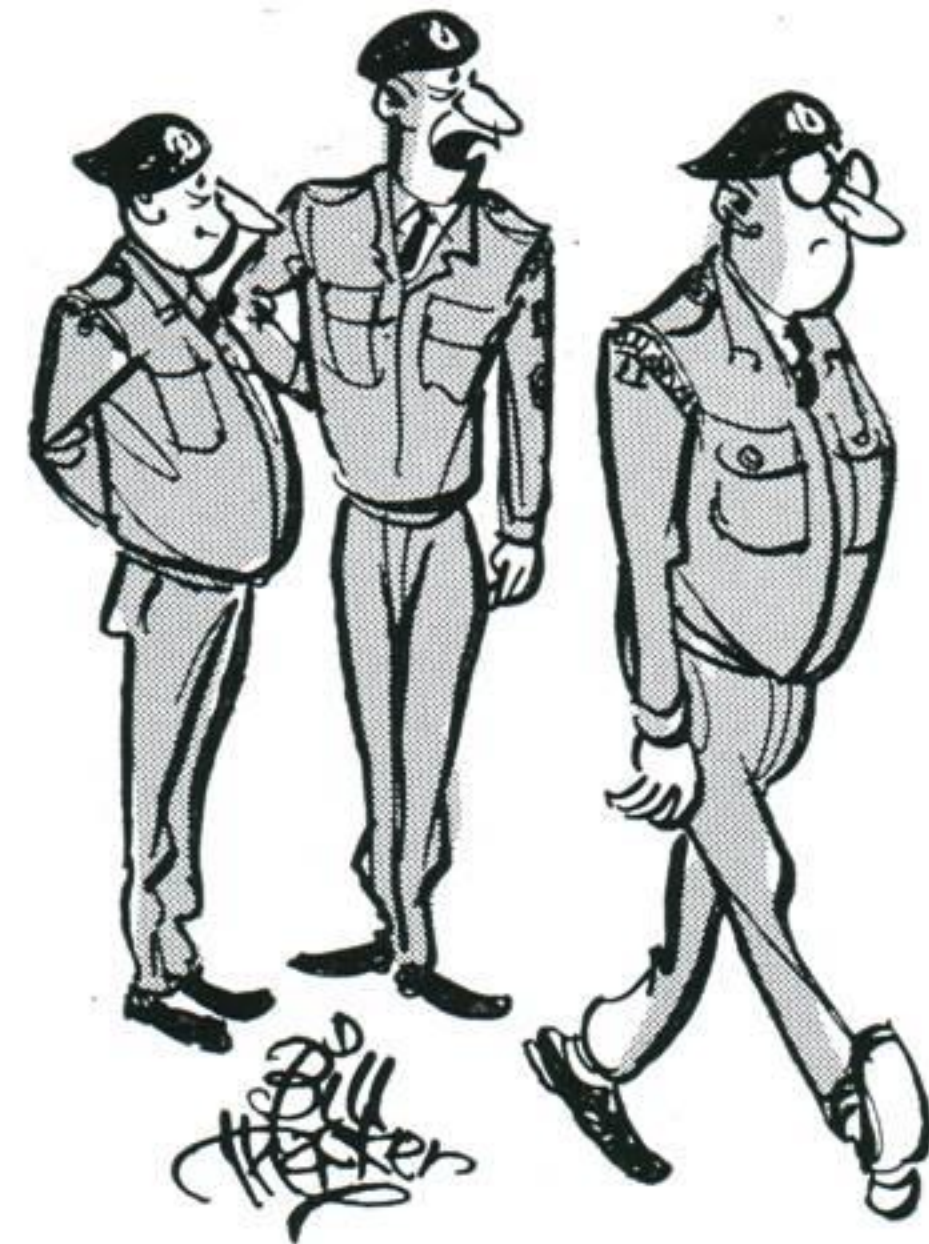




COVER PHOTO



A Hiller 12E of the Royal Naval Helicopter School at Culdrose in company with a Whirlwind. These new Hillers have completely superseded the earlier HTV-2 type operated by the Royal Navy.



I sometimes despair of Pettigrew . . . Today he defined "Red Reading" as Marx "Das Kapital"!

SOLUTIONS TO TESTS AND EXERCISES IN THIS EDITION

Page 150

JETSTAR

All targets are of **Jetstars** except for No. 11 which is a **T-39 Sabreliner**.

Page 158

HAWKEYE

All targets are of **Hawkeys** except Nos. 20 and 31 which are of **Tracers**.

Page 152

FIREBAR

All targets are of **Firebars** except for No. 13 which is a **Flashlight "C"** and No. 16 which is a **Vautour**.

Airborne Headaches No. 88

Target No. 869 given as "Beaver" should in fact have been given as "Otter". While of the same basic configuration, the DHC-3 Otter is a larger aircraft having a 10 feet increase in wing span over the DHC-2 Beaver and rather more in length.



For the Record

—an experimental aircraft, the **Hunting H.126 Jet Flap Research Aircraft**, which has an extensive research programme planned for the months ahead. This aircraft has been built to a Ministry of Aviation specification for flight investigation of the principles of the jet flap in which the efflux from the engine (in this case a **Bristol Siddeley Orpheus turbo-jet**) issuing from the wing trailing edge in the form of a thin sheet across the full span of the wing is used to produce both lift and thrust.

ROYAL OBSERVER CORPS

COMBINED INTERMEDIATE AND MASTER TESTS No. 17 (1964/1965)

POSTS — AIRCRAFT RECOGNITION TEST



1



2



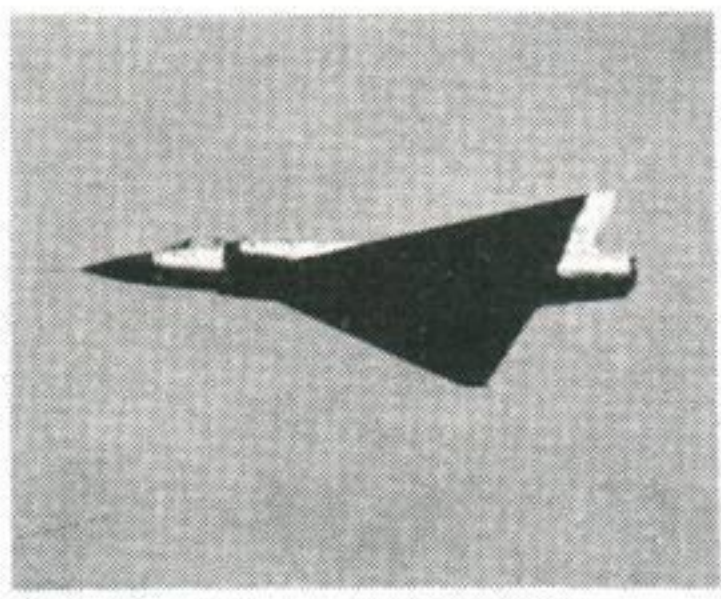
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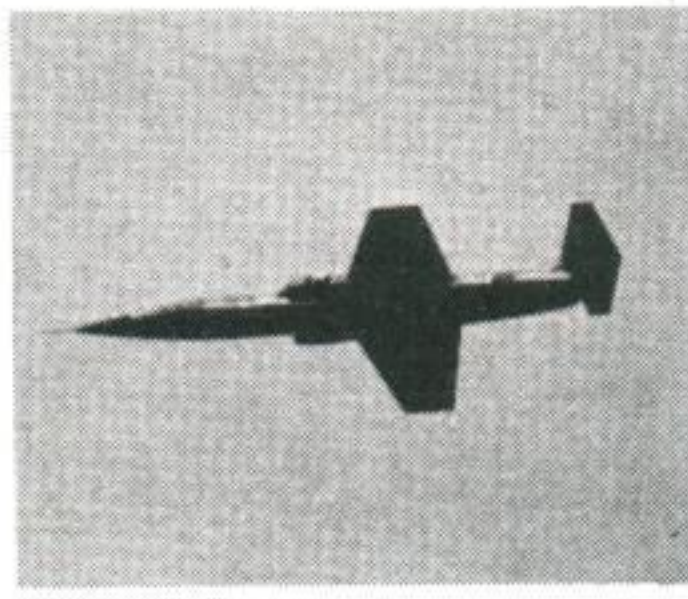
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10



11



12



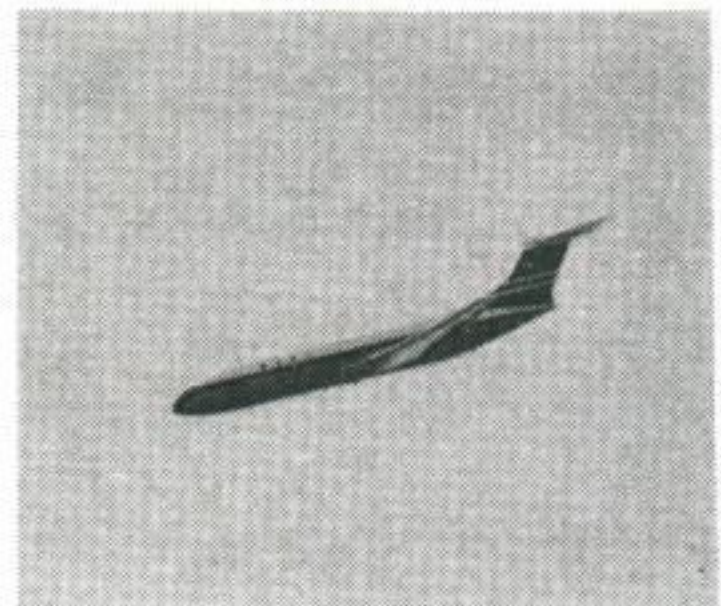
13



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