D7

JOINT SERVICES

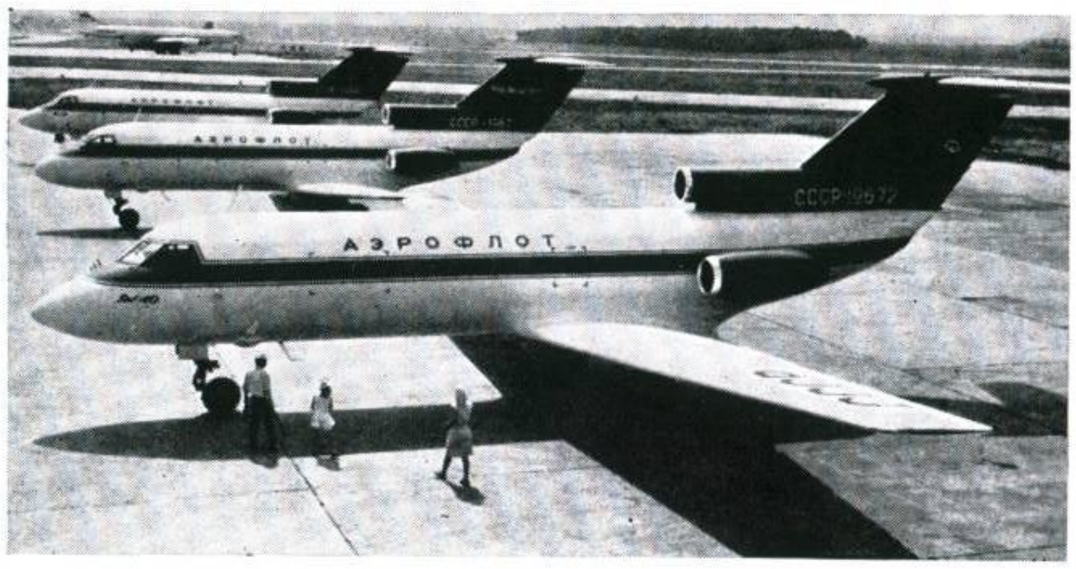
RECOGNITION *Journal*

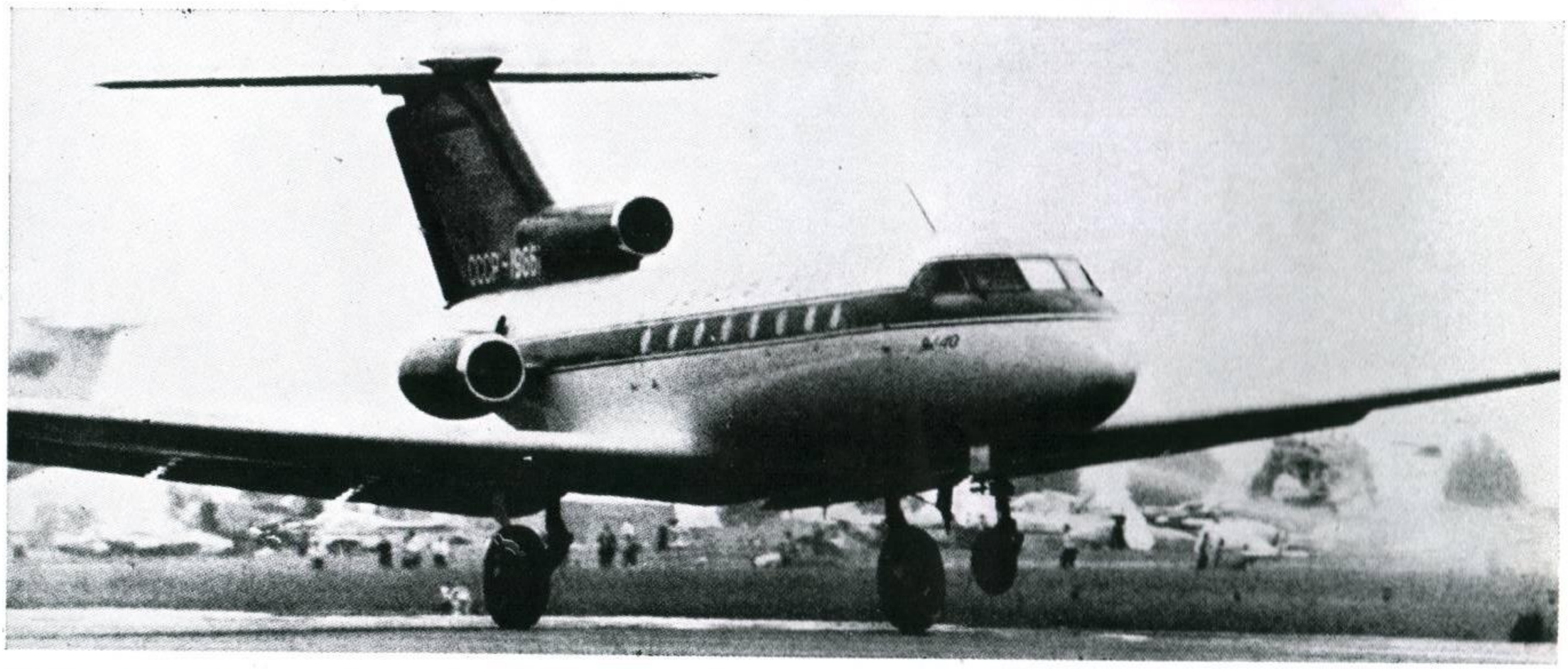
Vol. 23 MARCH 1968 No. 3

CODLING YAK-40

This Russian short-haul civil transport has been designed as a successor to the LI-2 (licence-built DC-3) in Aeroflot service. Powered by three 3,307-lb. s.t. Ivchenko AI-25 turbofans, it is flown by a crew of two and seats 24–31 passengers. Its maximum speed is 435 m.p.h., and its range (with maximum fuel and 2,425-lb. payload) is 994 miles. The prototype flew in October 1966 and production machines are likely to enter service this year.

Span 82 feet





MARCH 1968 Vol. 23 No. 3

JOINT SERVICES

RECOGNITION JOURNAL

The *Joint Services Recognition Journal* is a monthly publication produced by the Directorate of Flying Training (R.A.F.), Ministry of Defence, and prepared in collaboration with the Admiralty Board, the Army Department and the Ministry of Technology. Applications for copies can only be accepted from the Services or other official bodies, and must be submitted through the normal official publications supply channels—**not** to the Editorial Office or direct to the Ministry of Defence.

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CONTENTS

TWENTY-FIVE YEARS

Twenty-five years ago, in the middle of the Second World War of 1939–45, this magazine commenced publication as *Aircraft Recognition—The Inter-Services Journal*, then produced by the Ministry of Aircraft Production and the Minister wrote the preface to the first edition in which he stated: "All Services are contributing to this Journal. All will gain from its information both in operations and training. The importance of the ability to distinguish friend from foe in war needs no stressing. The main object of this Journal is to enable that to be done in regard to aircraft by giving experience in recognizing them." His views were endorsed by messages from the First Sea Lord, the Chief of the Imperial General Staff and the Chief of the Air Staff.

The need for better training had been growing; there had been a distressing number of recognition failures. An advisory panel on Aircraft Recognition material recommended a monthly journal. As a preliminary step a list of aircraft types likely to be seen, sub-divided into areas for various theatres of the war, was prepared.

In May 1945 as the War in Europe came to a close, the emphasis shifted to Japanese aircraft. Since it was then no longer necessary to provide the Civil Defence at home with the *Journal*, it became exclusive to the Armed Services and for the first time was classified as "Restricted". However, in August the Japanese surrendered and the wartime *Journal* ceased publication with the issue of the September 1945 edition.

The experience of war emphasised the need for complete training in peace and the *Journal* was re-instituted in July 1946 as *The Inter-Services Aircraft Recognition Journal.* The Ministry of Aircraft Production had then ceased to exist and production this time came under the Air Ministry, which, later, was absorbed into the Ministry of Defence. In his foreword to the first of this series, the Director General of Training, R.A.F., stated that he hoped it would be a reminder to all that Aircraft Recognition was still a most important feature of training. The *Journal* was then intended for the Armed Services, the Royal Observer Corps and the Air Training Corps.

The original *Journal* had started at 20 pages per edition and ended with 24 pages; the new series commenced with 12 and went up to 20. The rise in pages bore witness to the increasing importance attached to recognition training.

Such was the importance of recognition training throughout the Services that the scope of the *Journal* was widened in 1951 to include ships and tanks, and the title was changed to its present form and the number of pages was increased to 24, and later to the present 28.

From 1952 onwards, following the development of a new training technique, the character of the *Journal* began to change. This change, not perhaps discernible to the untrained eye, was nevertheless profound, for whereas recognition training had previously been regarded as a matter of providing information which to a large extent had to be consciously memorised, the new method placed the emphasis on gaining experience, because the ability to identify is a skill which need not involve knowledge.

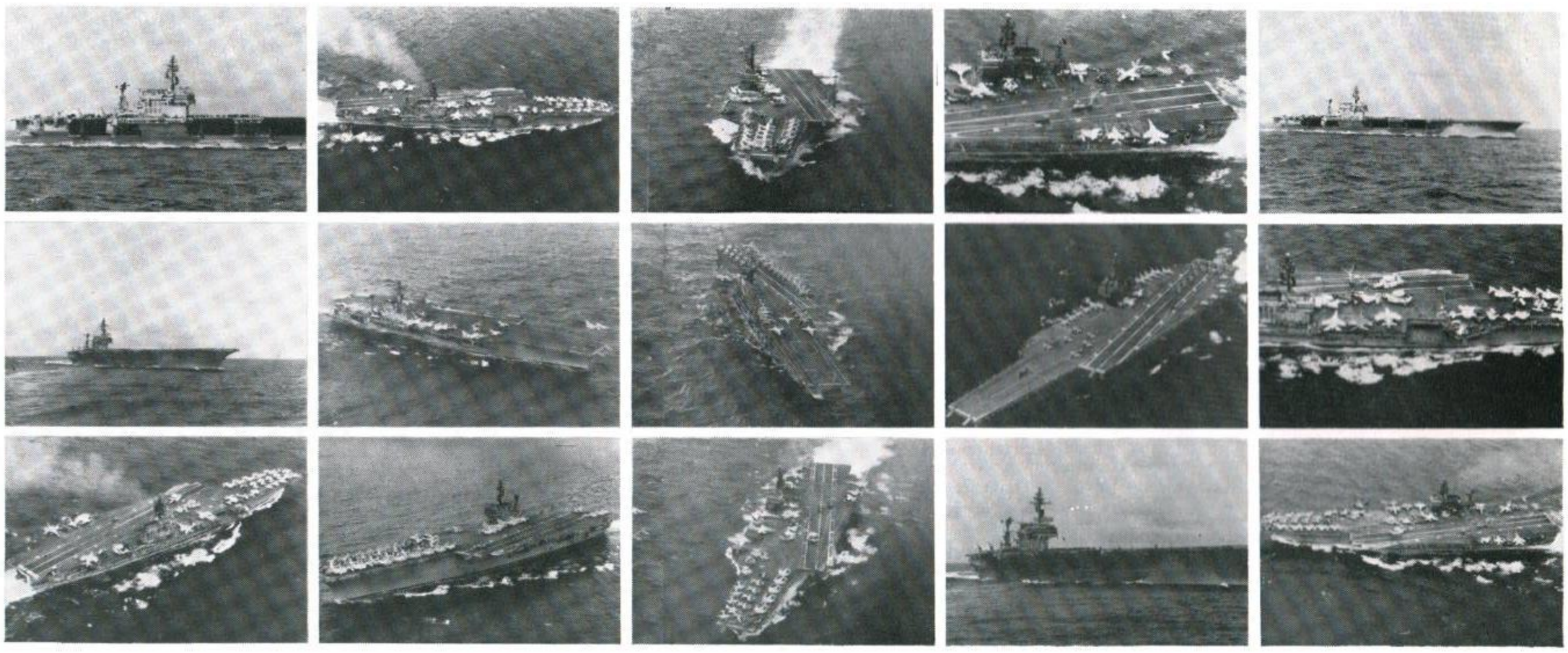
In its new role as a training device the *Journal* has proved singularly successful not only on the aircraft side but in the provision of experience on armoured fighting vehicles, warships and merchant ships, as well.

Perhaps one of the most important changes which results is that the pre-digested lessons in the *Journal* can be used by an instructor who is not himself a spotter, and need know nothing about aircraft or ships or tanks, since his task is no longer a training one. His job is to ensure that pupils carry out the appropriate procedure when doing the lessons.

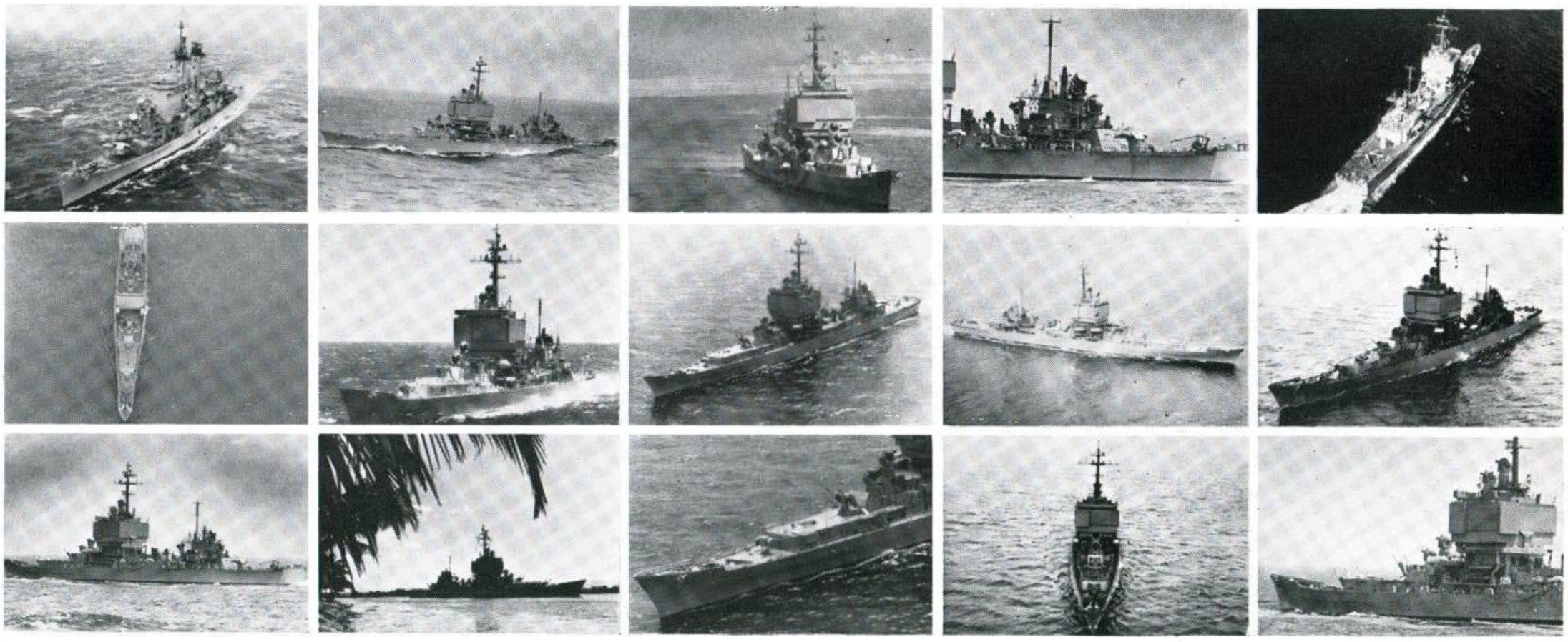
TEST PAPERS

Solutions on the back cover

U.S.S. KITTY HAWK?

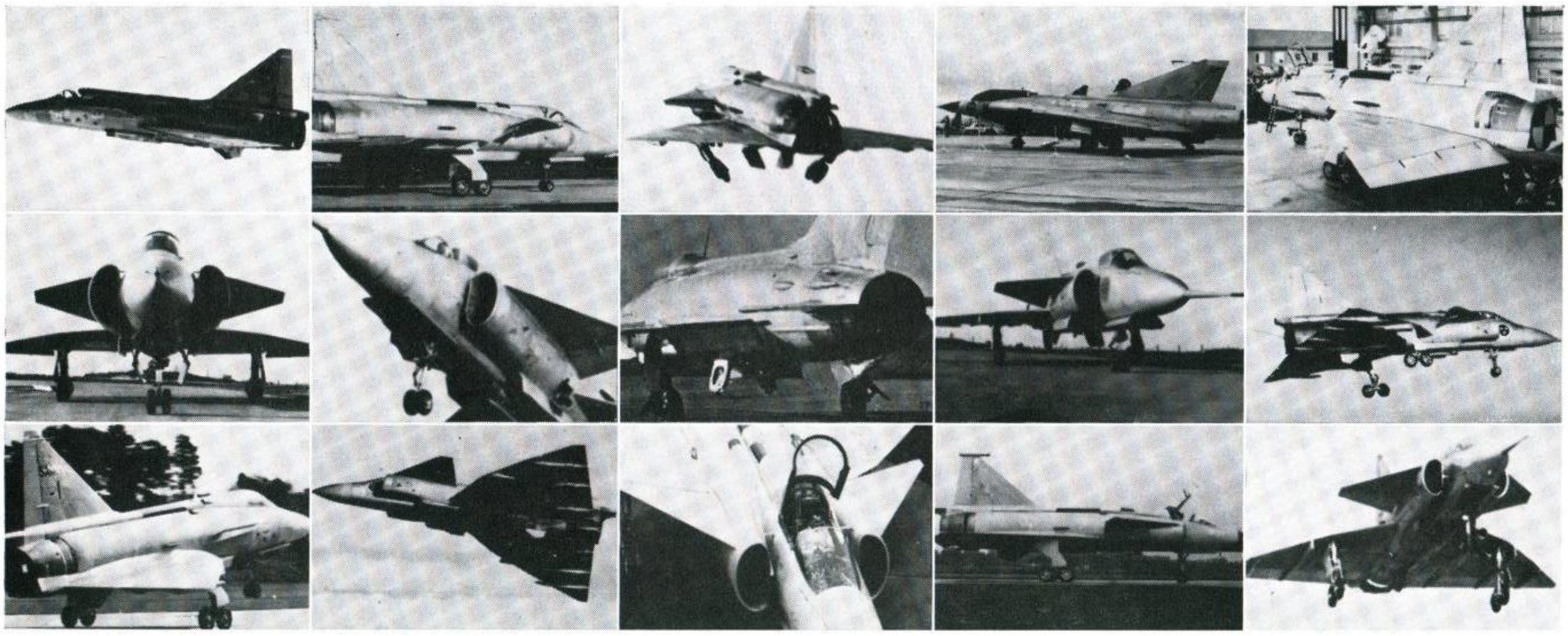


LONG BEACH?



ABDIEL CLASS MINELAYERS?

VIGGEN?



BTR-50?

Lesson Instructions **Identity Training is a matter of "doing", not of gathering information. Submit to the instructions given below in every lesson and the ability to identify will become automatic.**

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. The procedure will take care of that. Do not attempt to do it without the key too soon, wait until it is self-evident.**

1. **Lire le texte correspondant à la leçon.**
2. **Préparer une liste de numéros de cible, de façon à pouvoir prendre les cibles dans n'importe quel ordre.**
3. **Identifier les photos de la cible en les comparant avec les vues-clé: commencer par les plus faciles de manière à gagner de l'expérience: se servir aussi de cibles déjà identifiées pour trouver les plus difficiles.**
4. **Quand vous serez certain de l'identité d'une cible, notez son nom immédiatement en face du numéro correspondant sur votre liste. CECI EST IMPORTANT.**
5. **Les leçons ne devront pas être précipitées ou d'une durée limitée à l'avance. En ce qui concerne les débutants, il est plus important d'identifier avec précision que rapidement.**
6. **Ne pas s'efforcer d'apprendre par cœur les détails, les formes ou les noms.**

H.M. "LEOPARD" CLASS ANTI-SUBMARINE FRIGATES

The four ships of this class were completed between 1957 and 1959. They are diesel-driven ships with a service speed of about 26 knots. Attention was paid in their design so as to produce a type which could be rapidly built in time of emergency.

Their standard displacement is 2,300 tons and their overall length, 339 feet. Armament consists of four 4·5-inch guns in twin turrets, one forward and the other aft, and a three-barrelled depth-charge mortar. *Jaguar* herself is to be fitted with a "Seacat" anti-aircraft guided missile launcher.

The four ships, *Jaguar*, *Leopard*, *Lynx* and *Puma* vary slightly in details and they might at times be confused with the four ships of the "Salisbury" Class but the latter have *no* turret aft and have a tall "Mack" mainmast, as well as a scanner on a short lattice mast before the foremast.

Another ship, originally to be named *Panther*, was transferred to the Indian Navy and renamed *Brahmaputra* and was later joined by two sisters, *Betwa* and *Beas* but all these Indian ships have two lattice masts.

Lesson instructions on page 61

Solutions on the back cover

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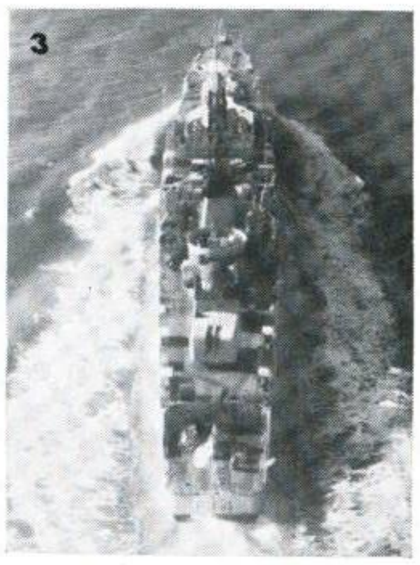

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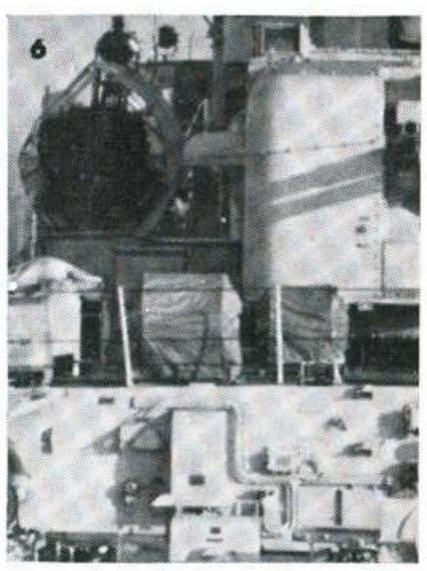

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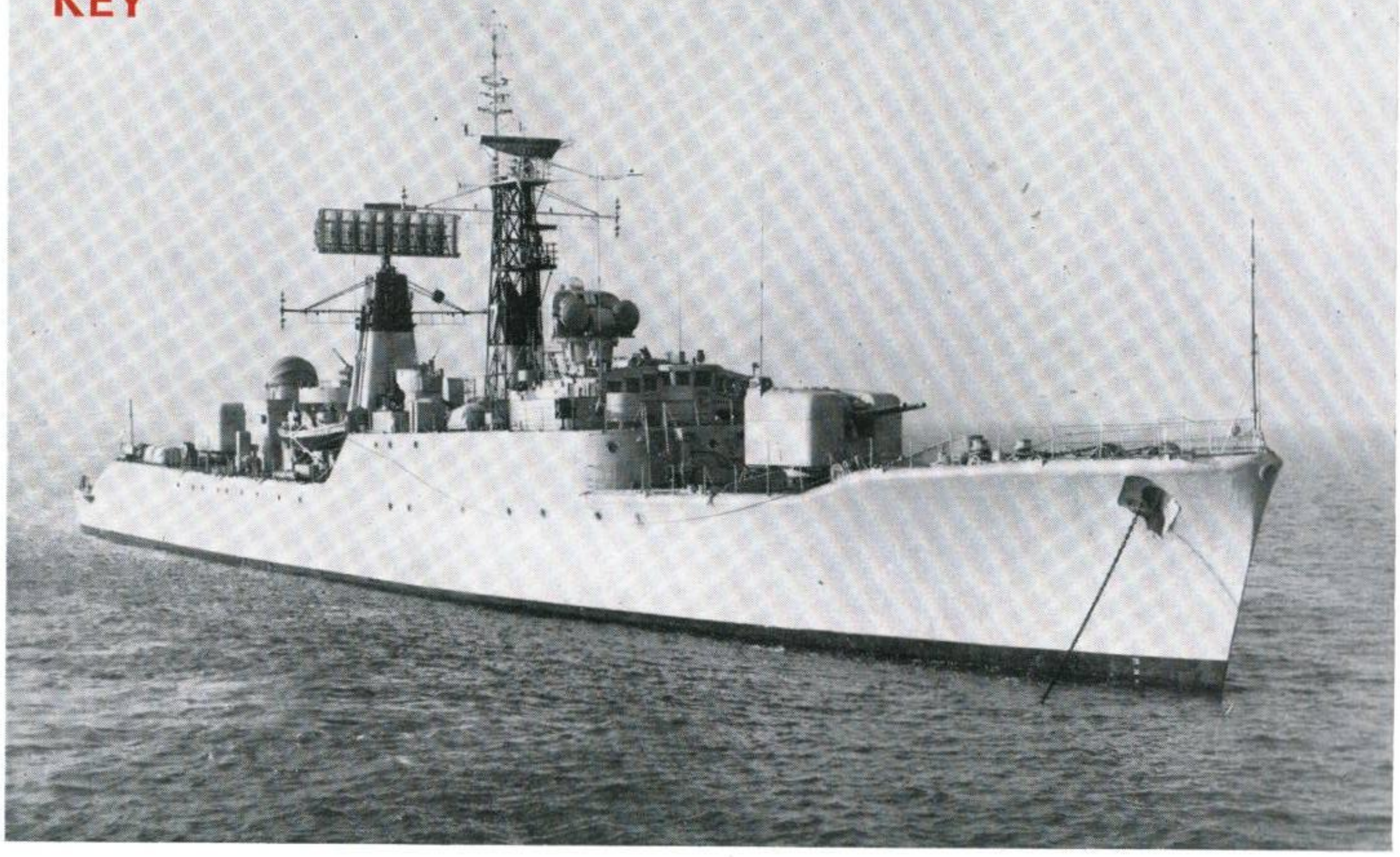

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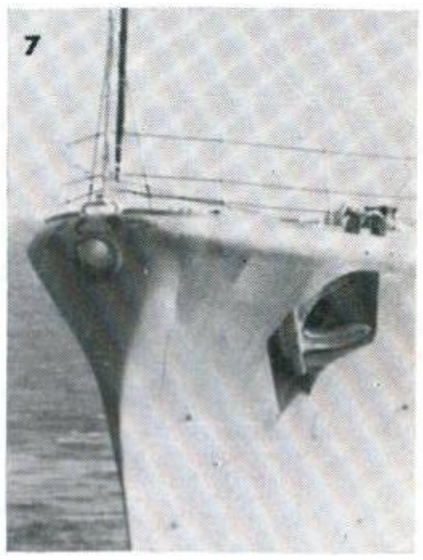

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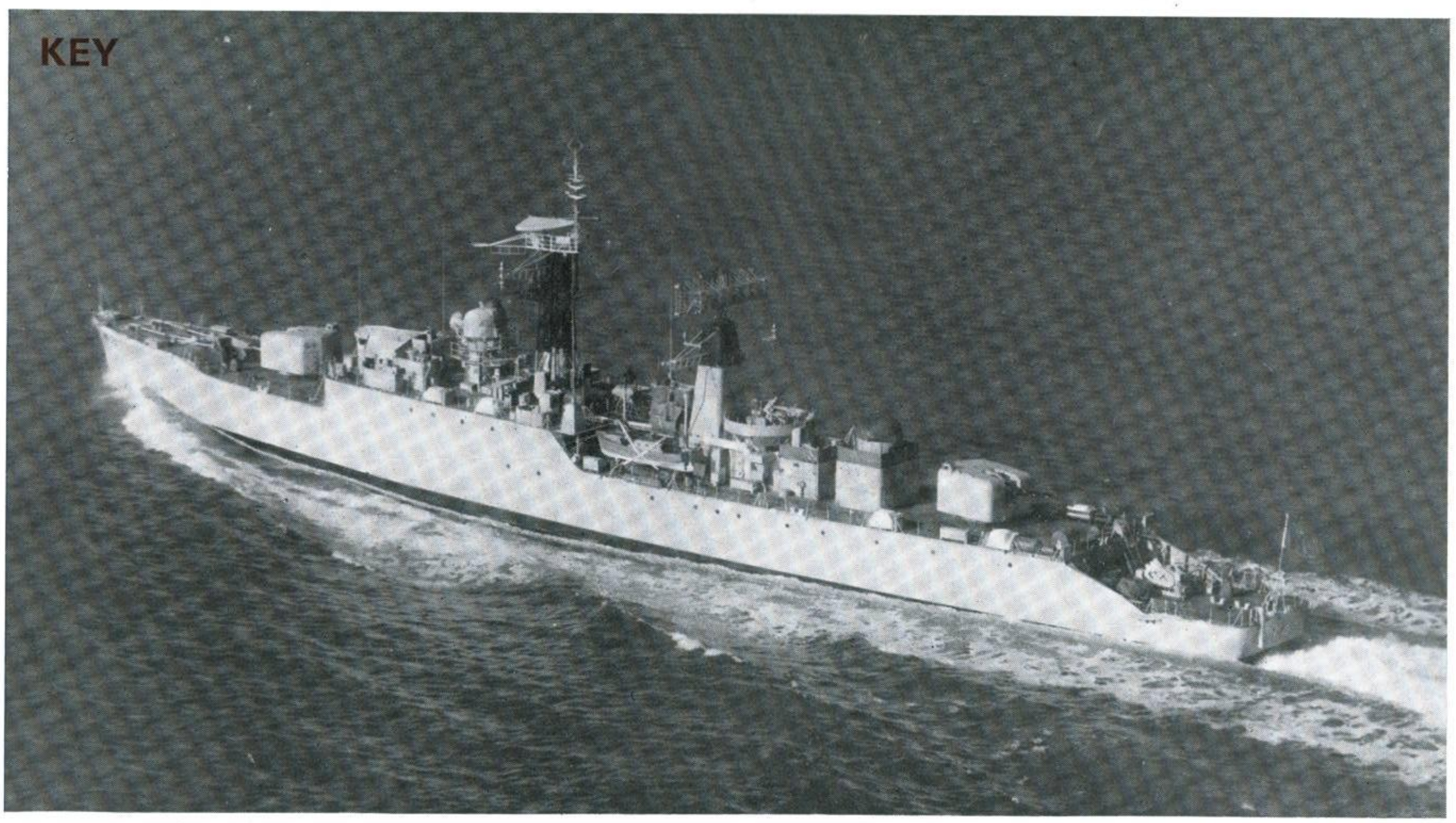

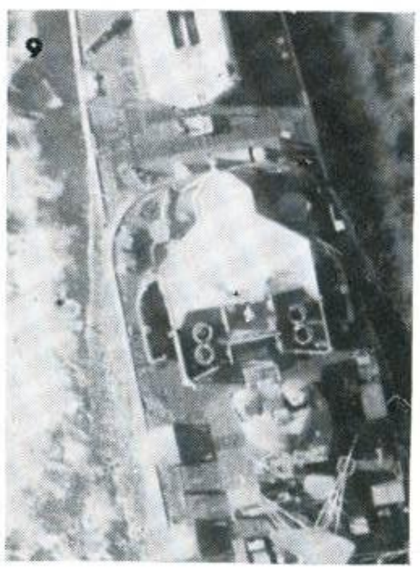
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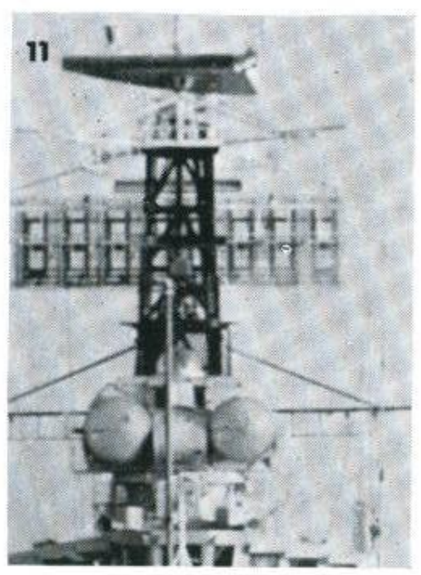
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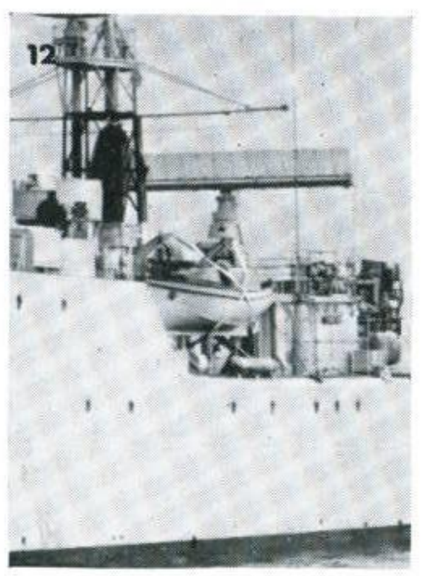
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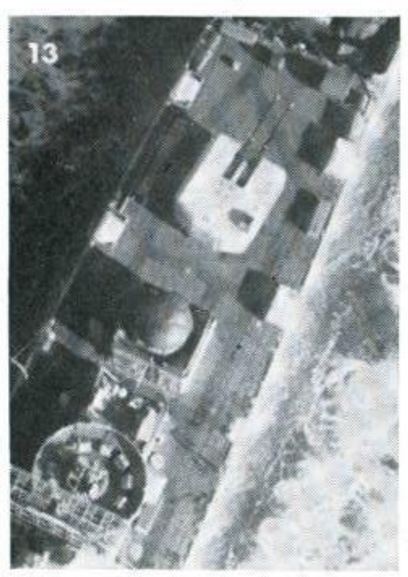
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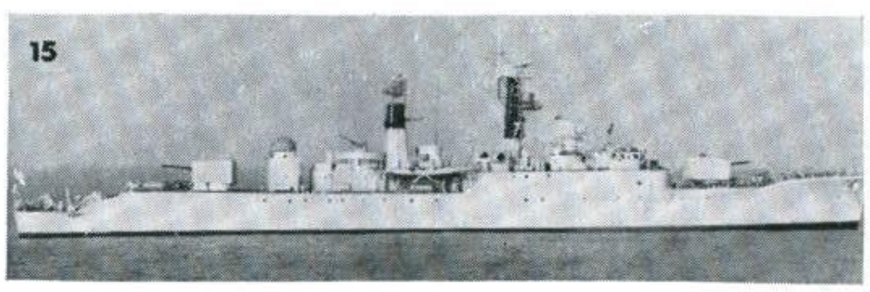
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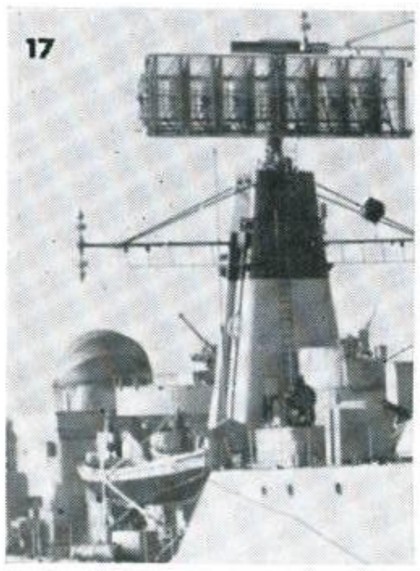
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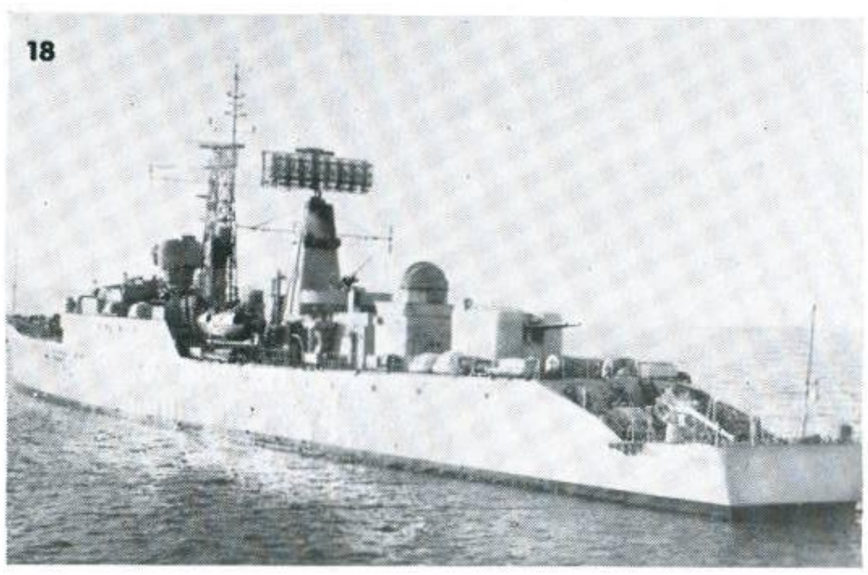
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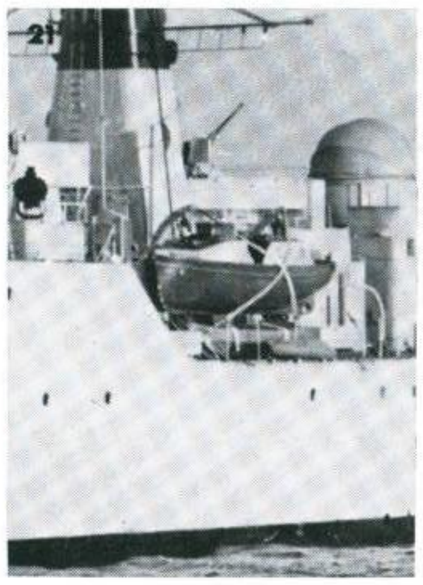
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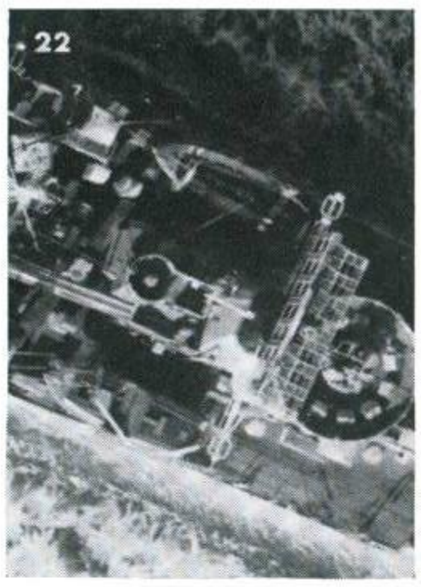
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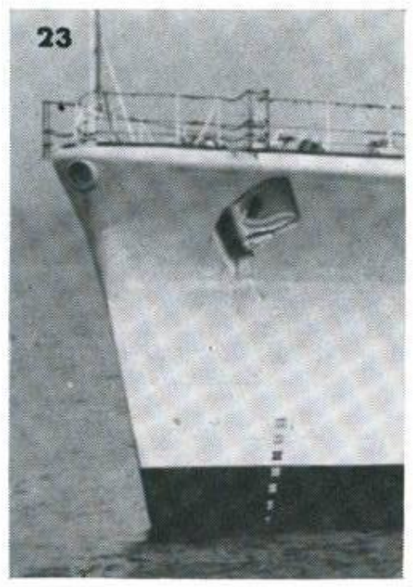
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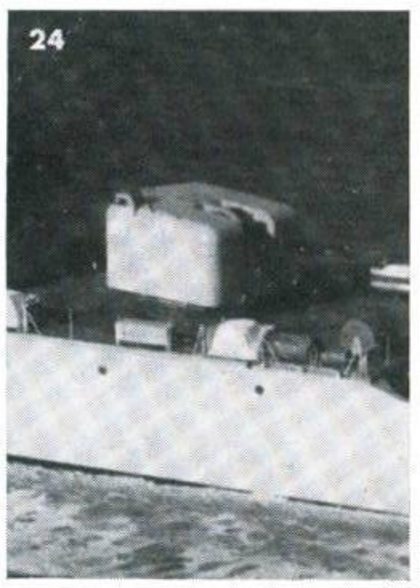
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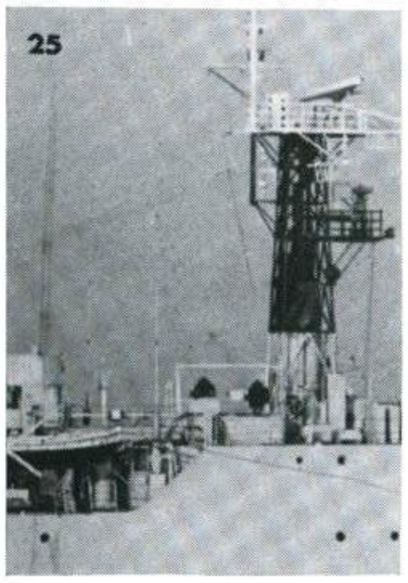
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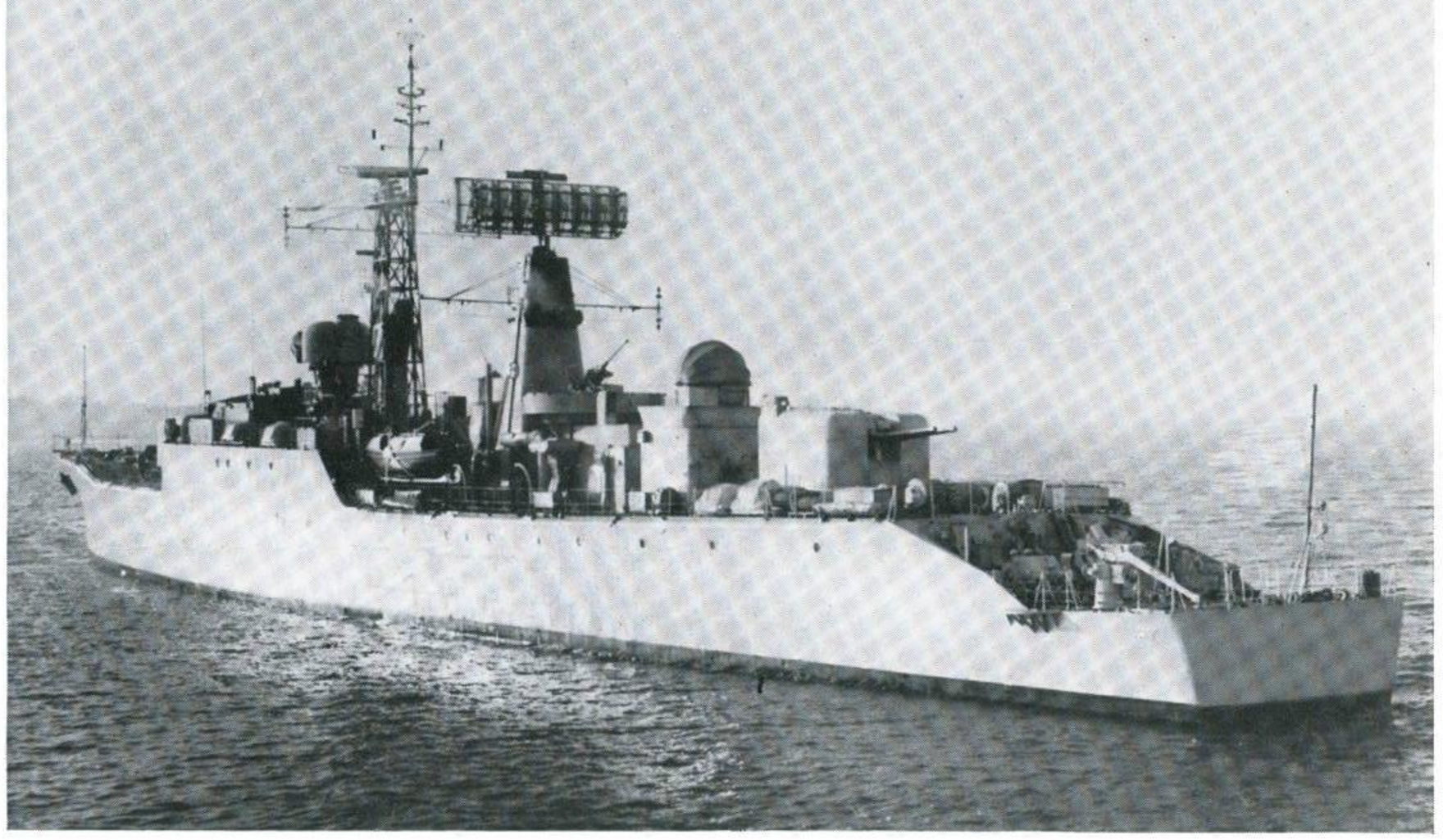

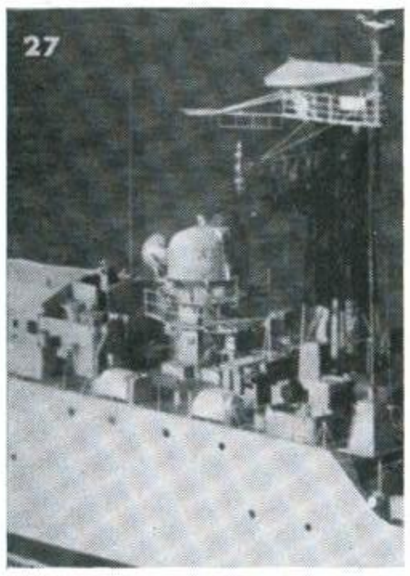
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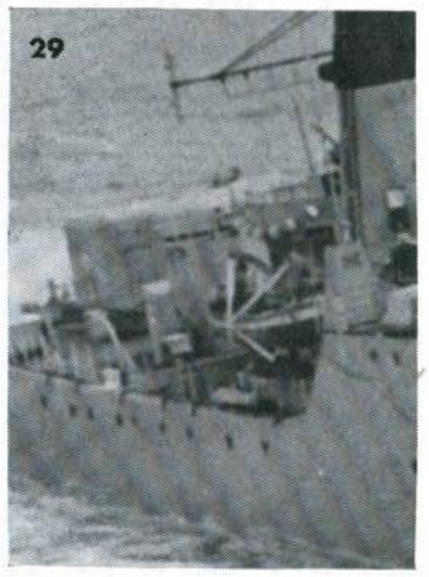
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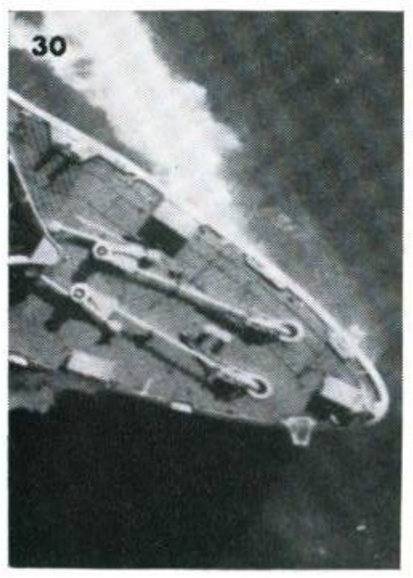
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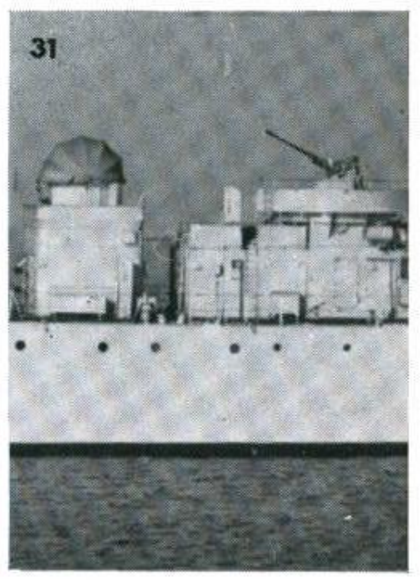
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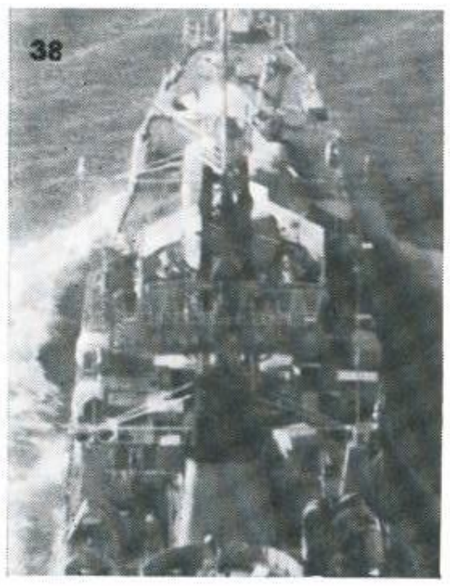

Lesson instructions on page 61

Solutions on the back cover

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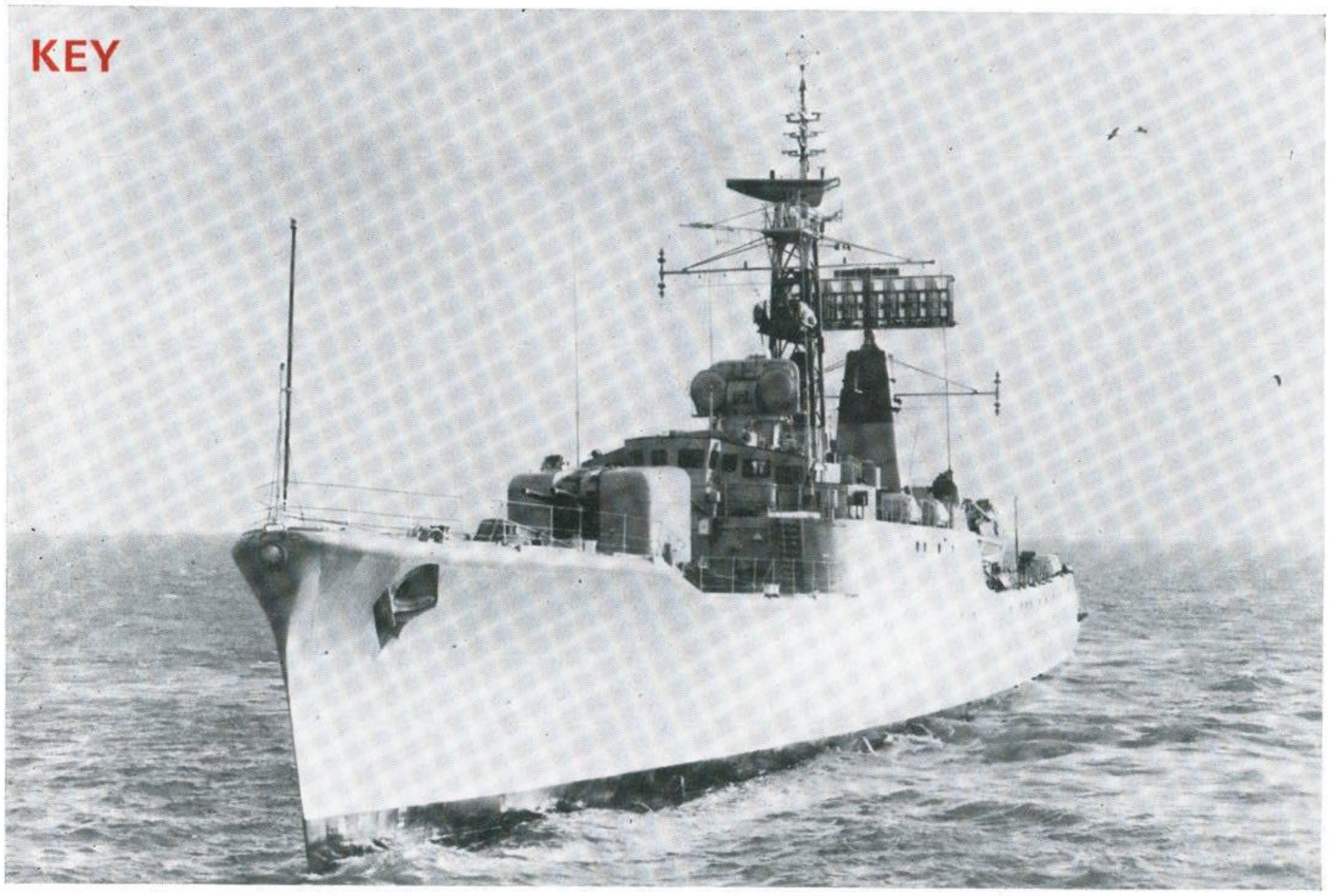
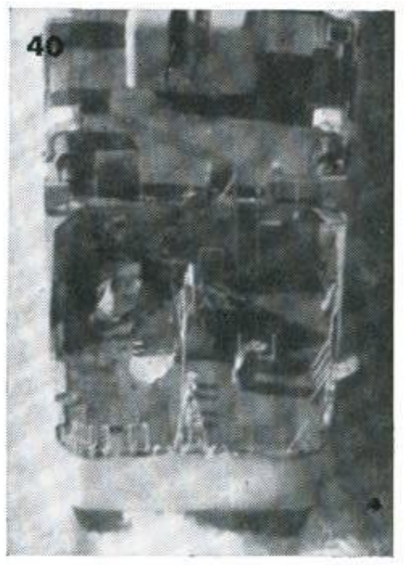
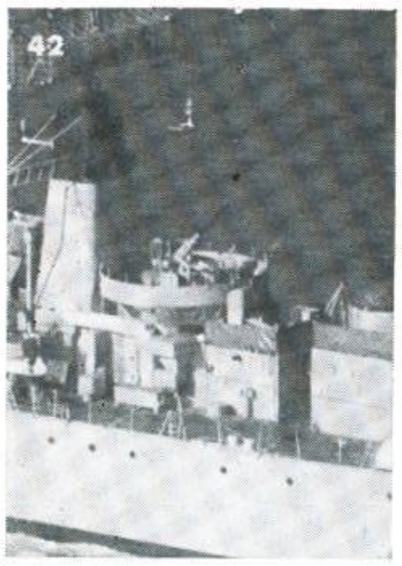
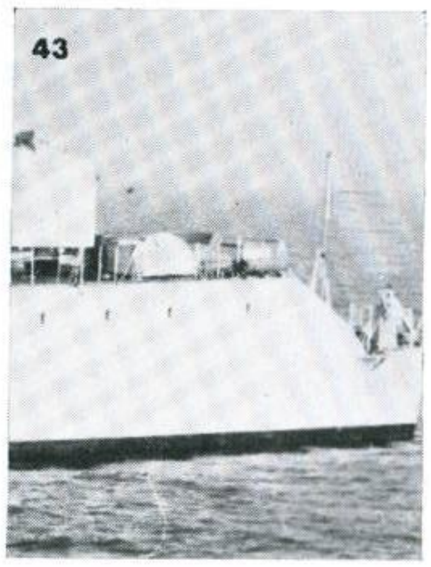
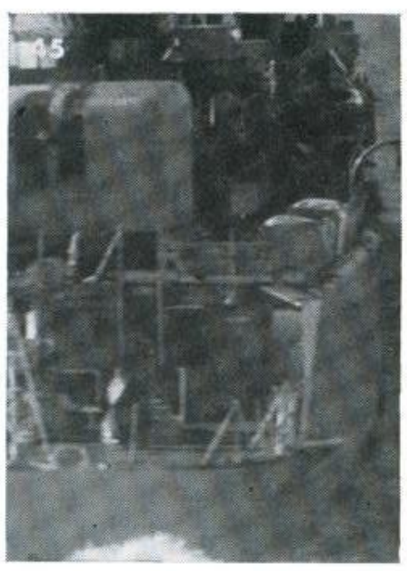
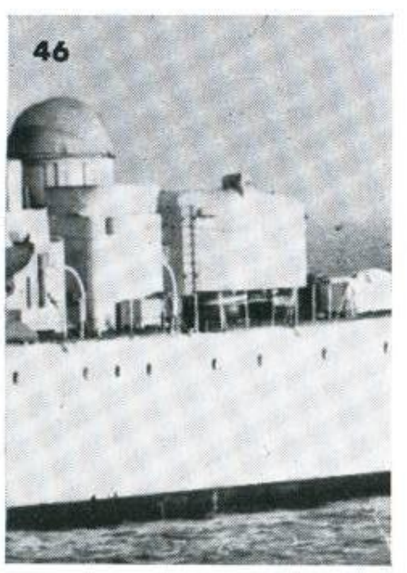


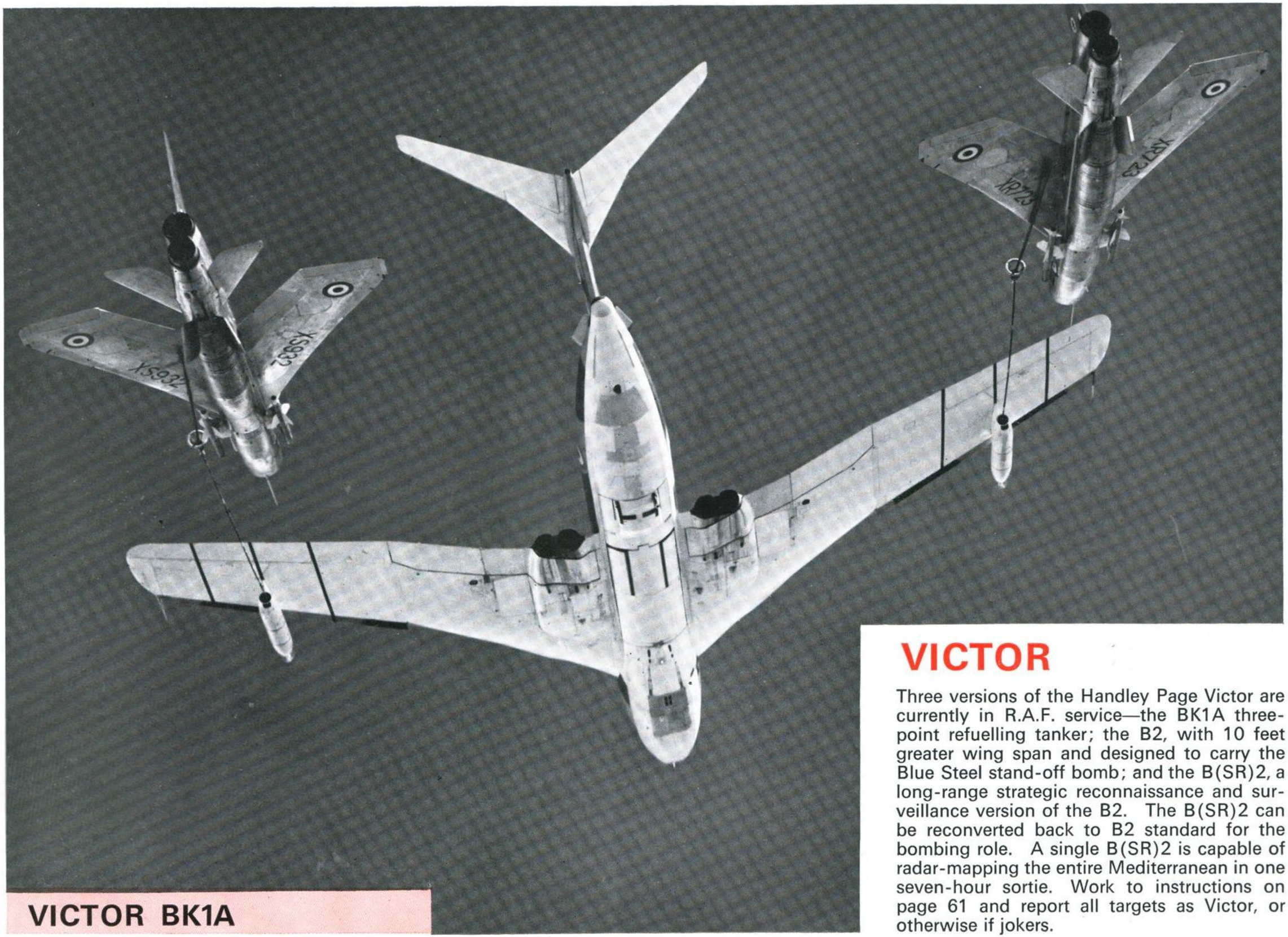








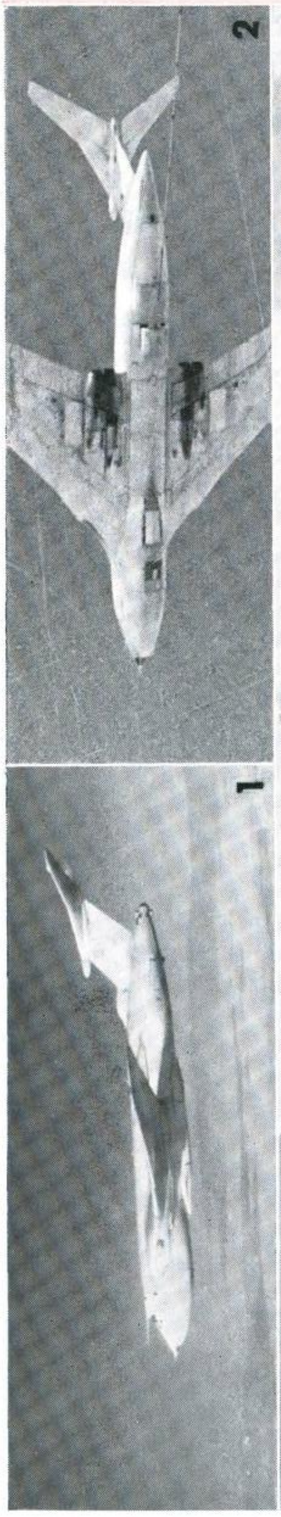


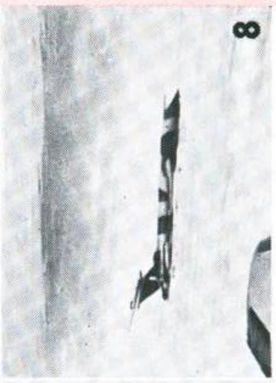


VICTOR BK1A

VICTOR

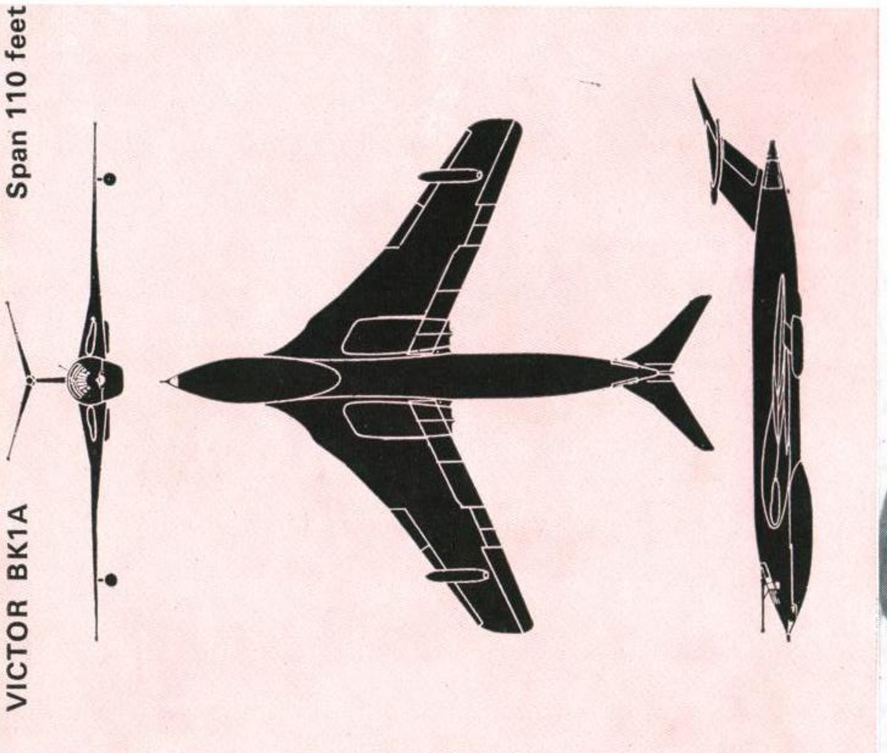
Three versions of the Handley Page Victor are currently in R.A.F. service—the BK1A three-point refuelling tanker; the B2, with 10 feet greater wing span and designed to carry the Blue Steel stand-off bomb; and the B(SR)2, a long-range strategic reconnaissance and surveillance version of the B2. The B(SR)2 can be reconverted back to B2 standard for the bombing role. A single B(SR)2 is capable of radar-mapping the entire Mediterranean in one seven-hour sortie. Work to instructions on page 61 and report all targets as Victor, or otherwise if jokers.





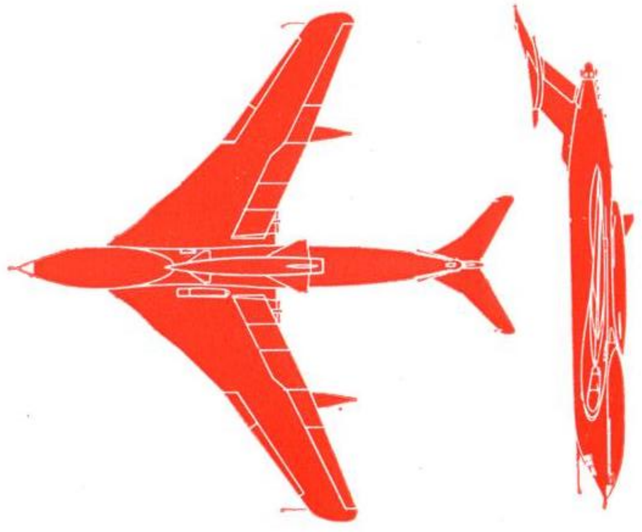
VICTOR BK1A

Span 110 feet



VICTOR B2

Span 120 feet



VICTOR B2

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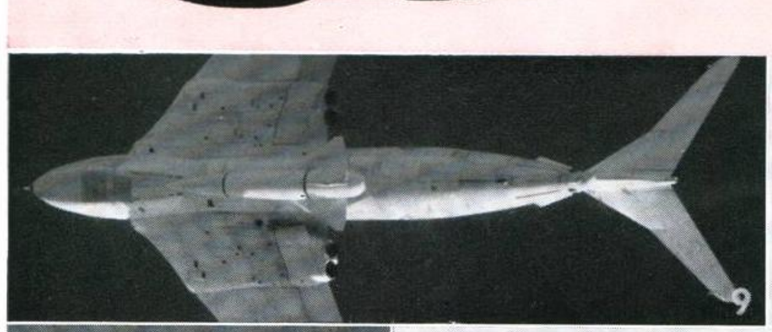
VICTOR BK1A **Span 110 feet**

VICTOR BK1A

VICTOR *continued*

Lesson instructions on page 61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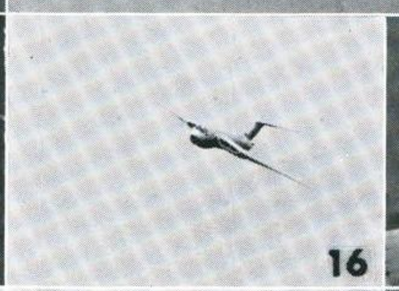
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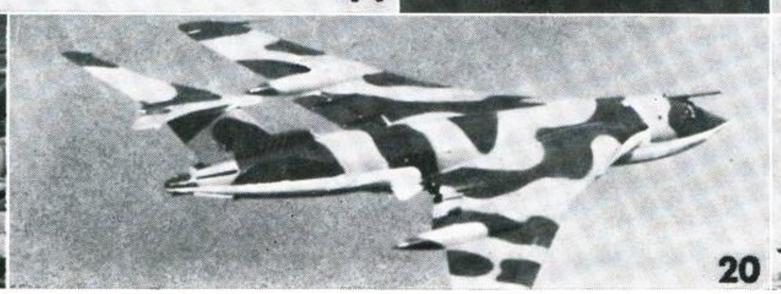
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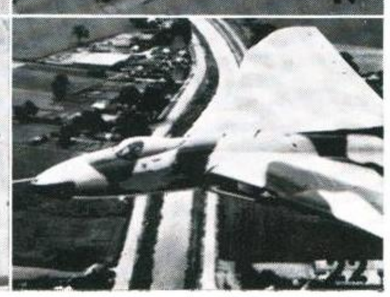
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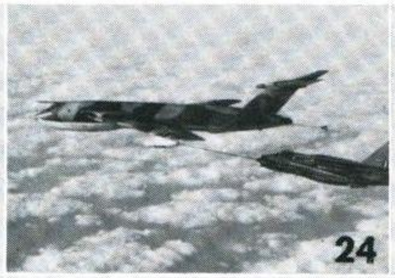
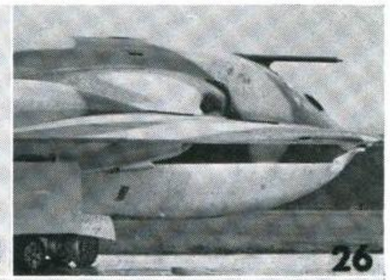
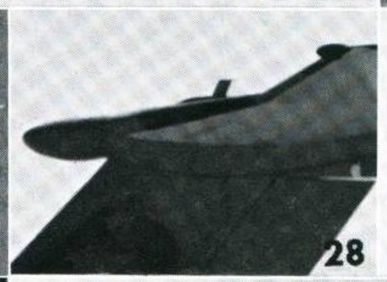
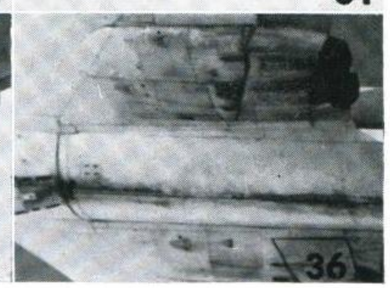
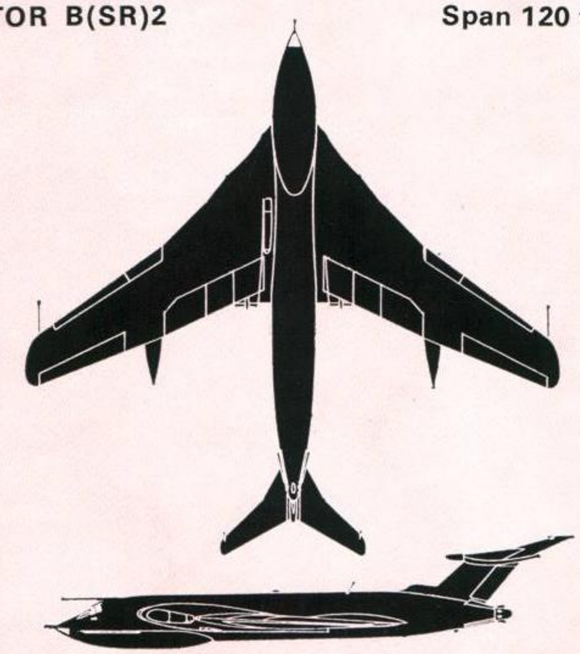








VICTOR B(SR)2 Span 120 feet



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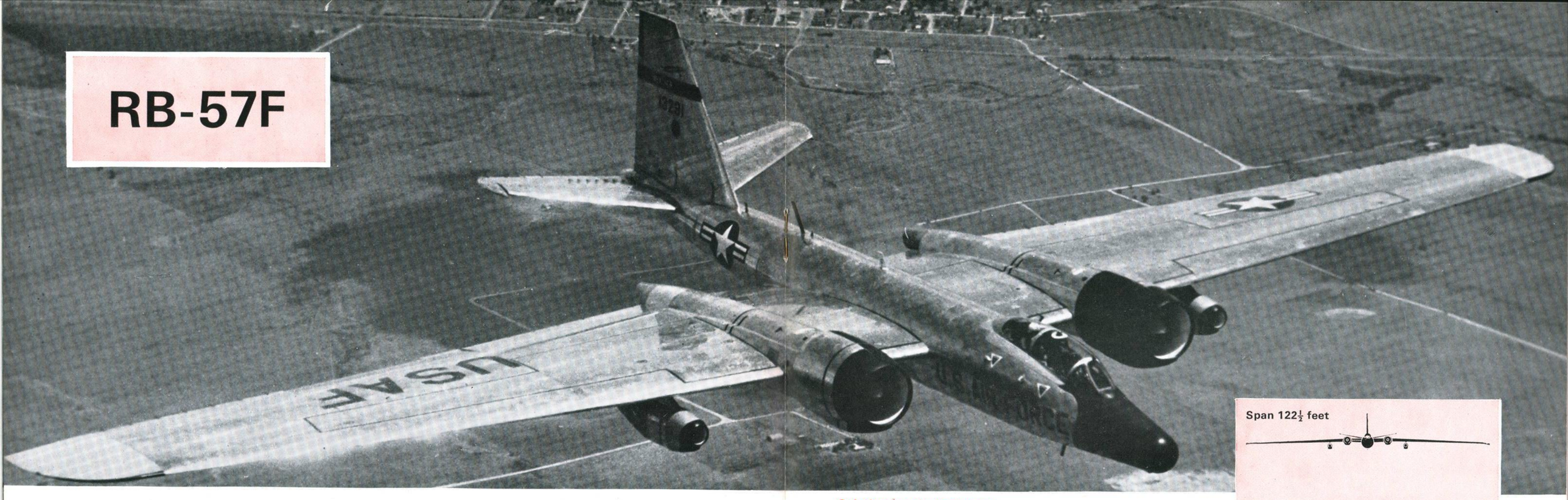
VICTOR B(SR)2

RB-57F

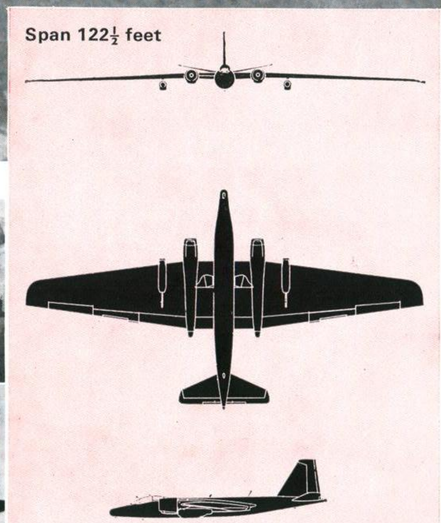


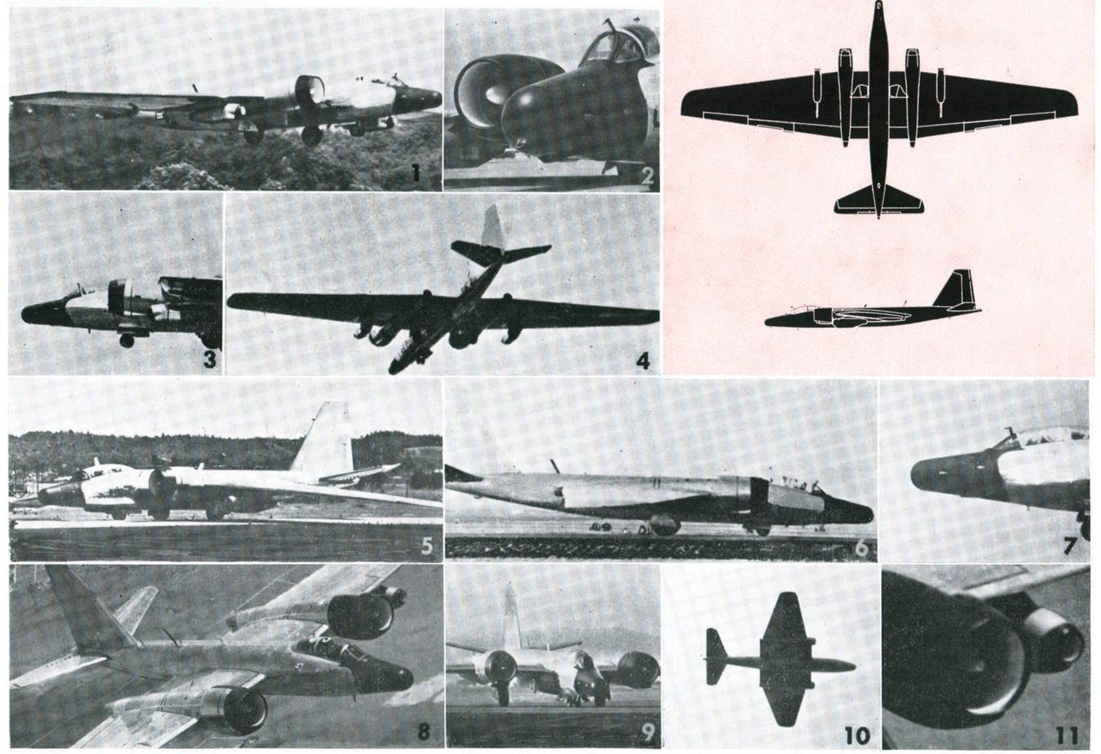
This adaptation of the Martin B-57B (a U.S.-built version of the Canberra) was introduced into U.S.A.F. service in mid-1964 and is intended for high-altitude strategic and weather reconnaissance, and for sampling the upper atmosphere for radioactivity. It has an entirely new wing of 122½ feet span, an extended nose and an enlarged fin and rudder. Its two 18,000-lb. s.t. turbofan engines are supplemented by a pair of 3,300-lb. s.t. turbojets in pods under the outer wings, although it may be seen without these. Cruise altitude is approximately 75,000 feet and the range is over 4,000 miles. Twelve RB-5Fs have been supplied to the U.S.A.F. and these are operated by the 58th Weather Reconnaissance Squadron.

Two earlier stretched-wing reconnaissance variants of the Canberra were the British-built Canberra PR9 with a span enlarged from 64 feet to 67 feet 10 inches, and the U.S. (Martin)-built RB-57D with a span of 106 feet. In addition to seeing limited service in the U.S.A.F., the RB-57D has also been used by the Chinese Nationalist Air Force (two aircraft only).

Although the shape of the RB-57F is quite distinctive from most angles, it can sometimes be confused with such other types as the Lockheed U-2 and Russia's Yak-25 (Mandrake), not to mention the earlier B-57 and Canberra reconnaissance variants. So to learn it properly carry out instructions on page 61 and report these targets as RB-57F, or otherwise if jokers.

Solutions on the back cover





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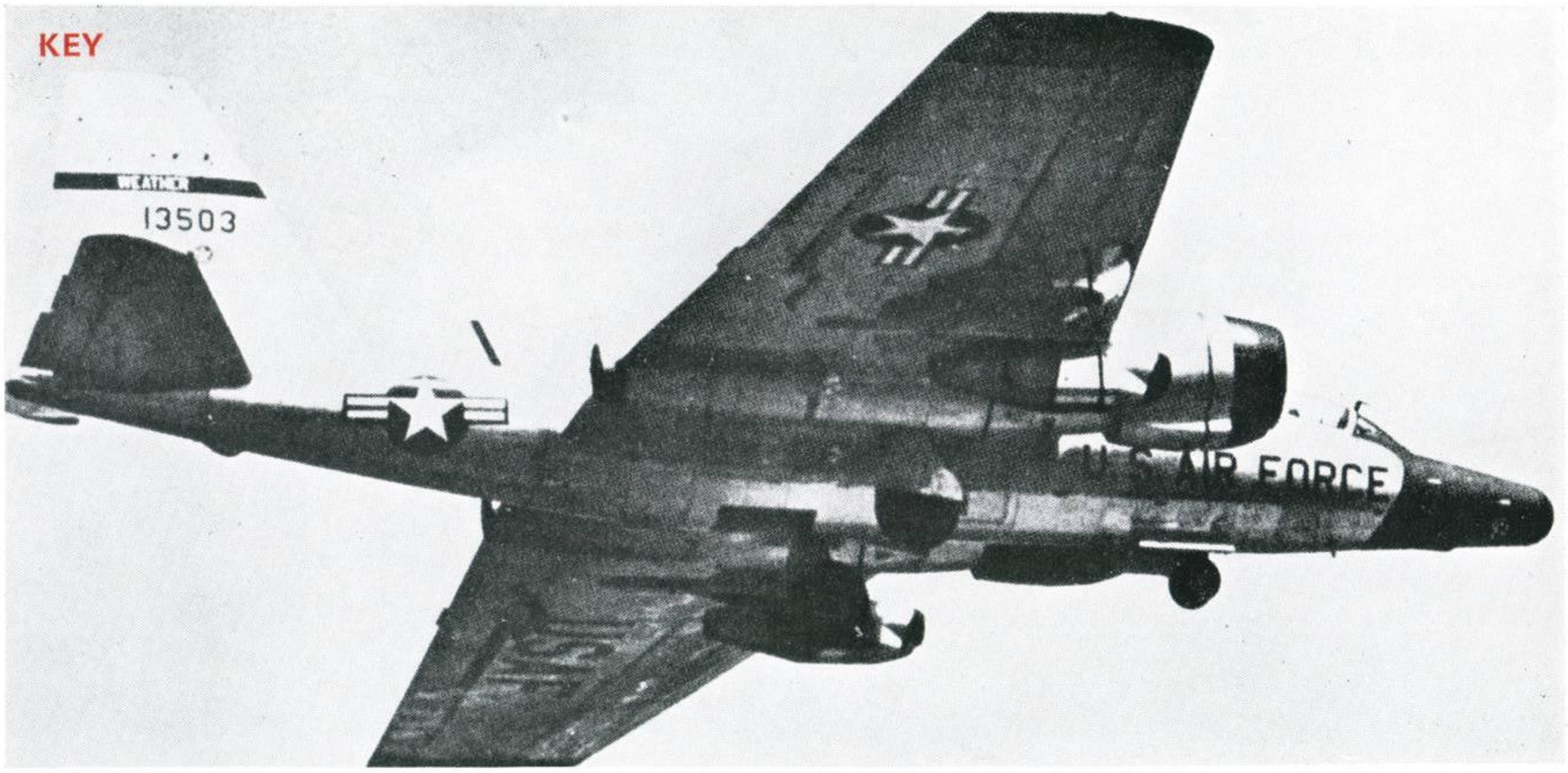

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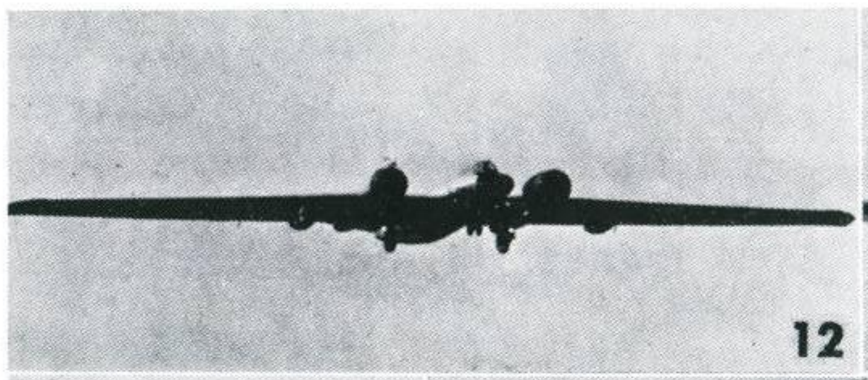
RB-57F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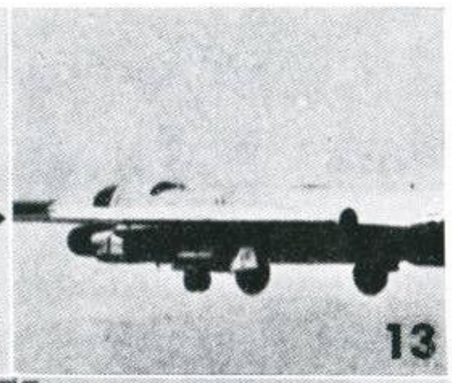
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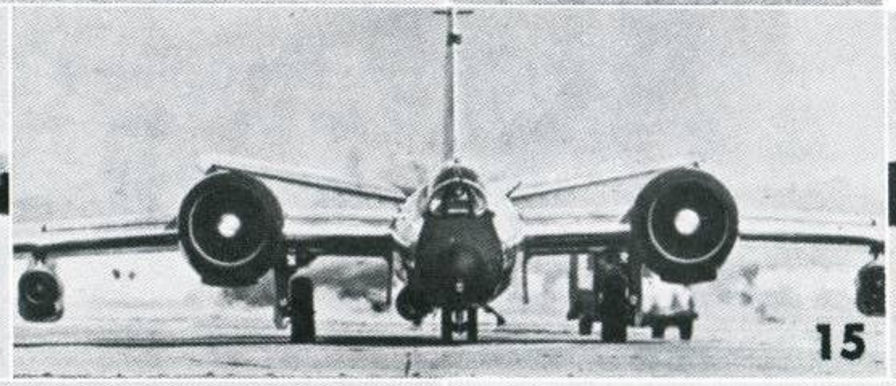
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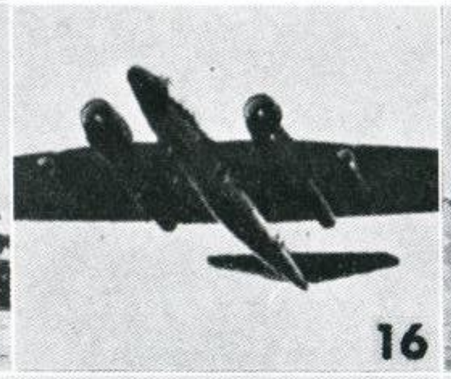
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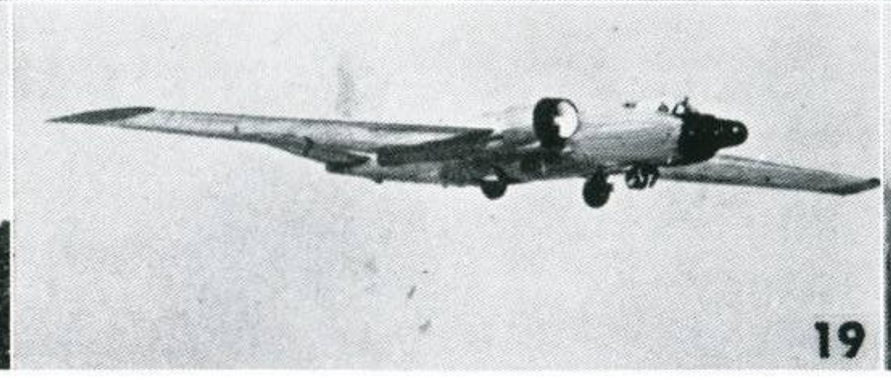
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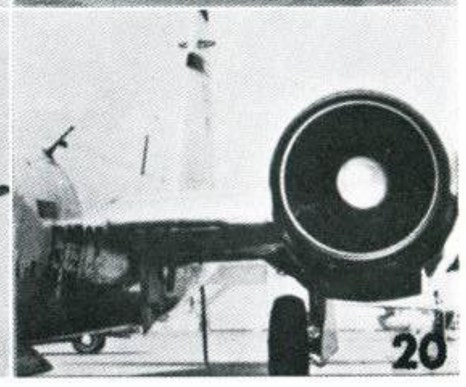
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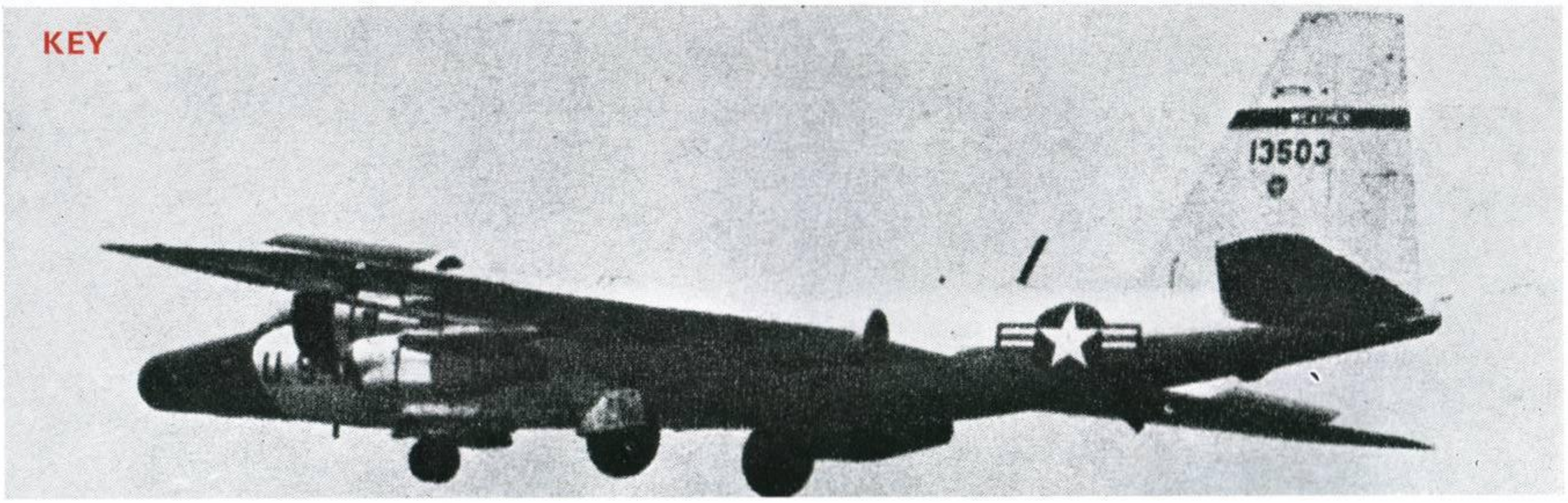

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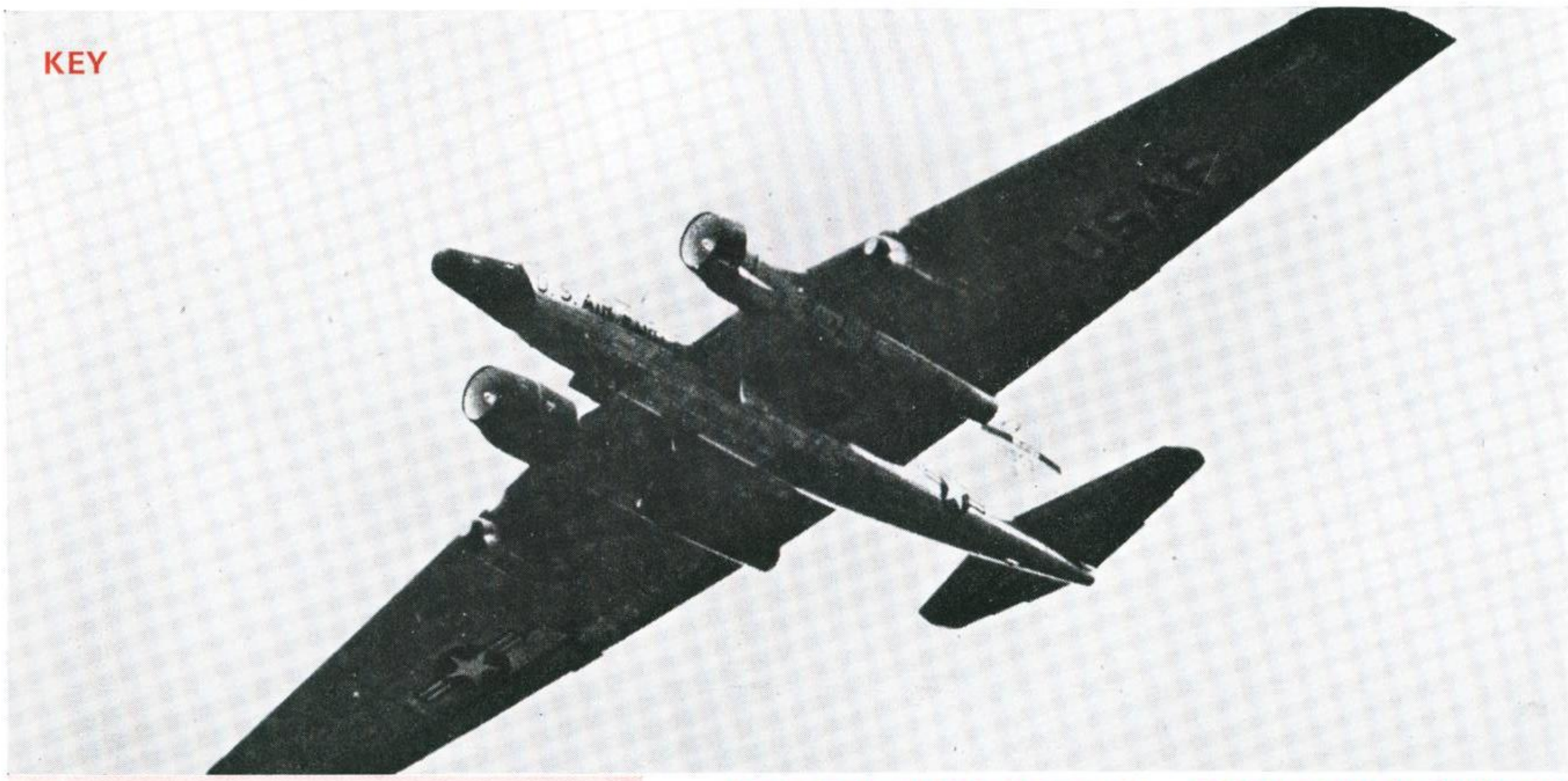

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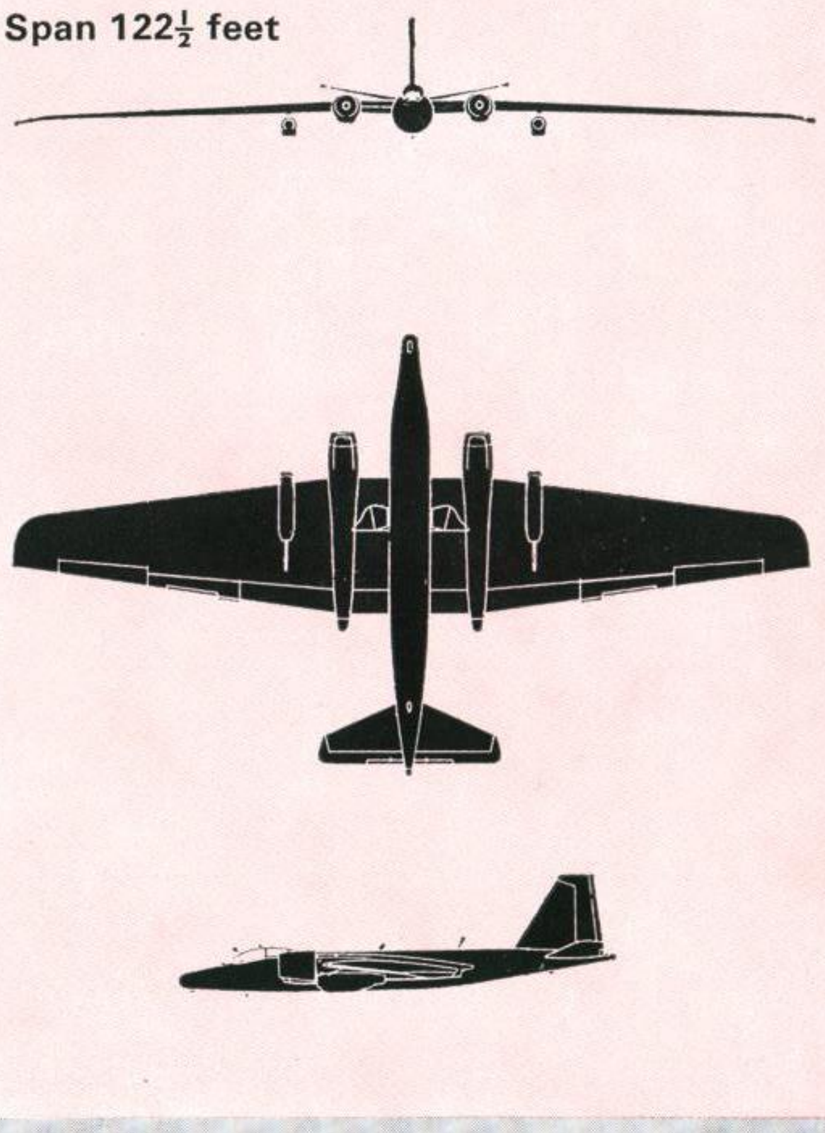

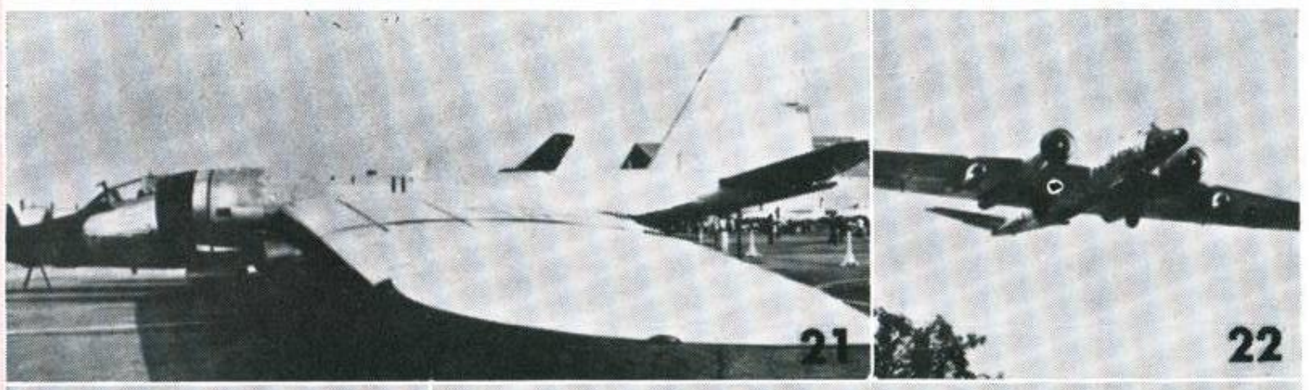

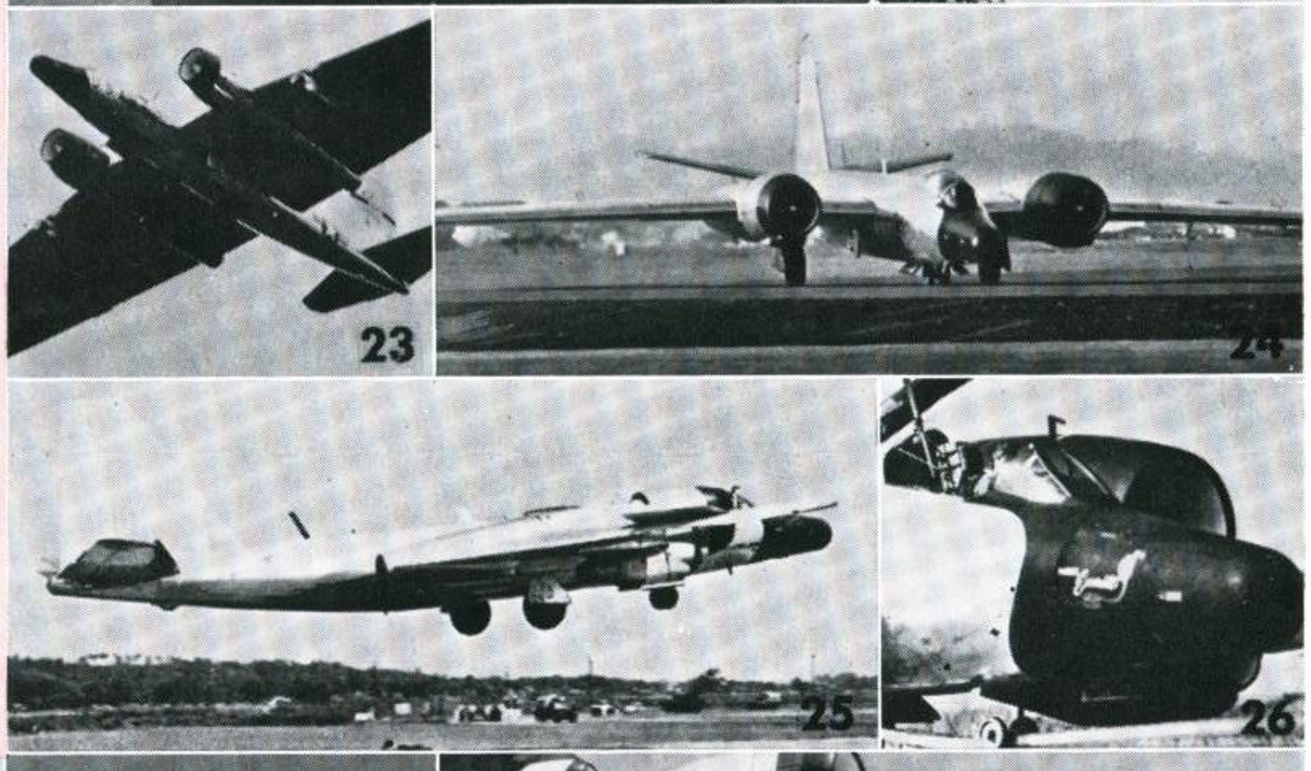

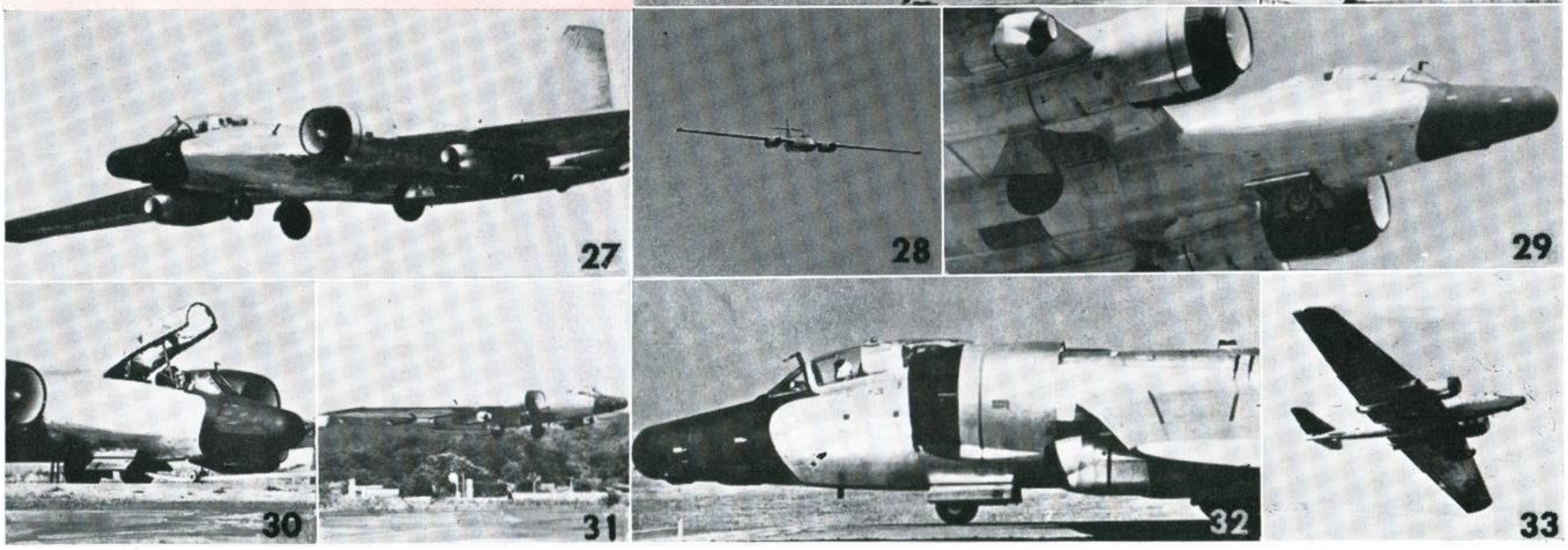

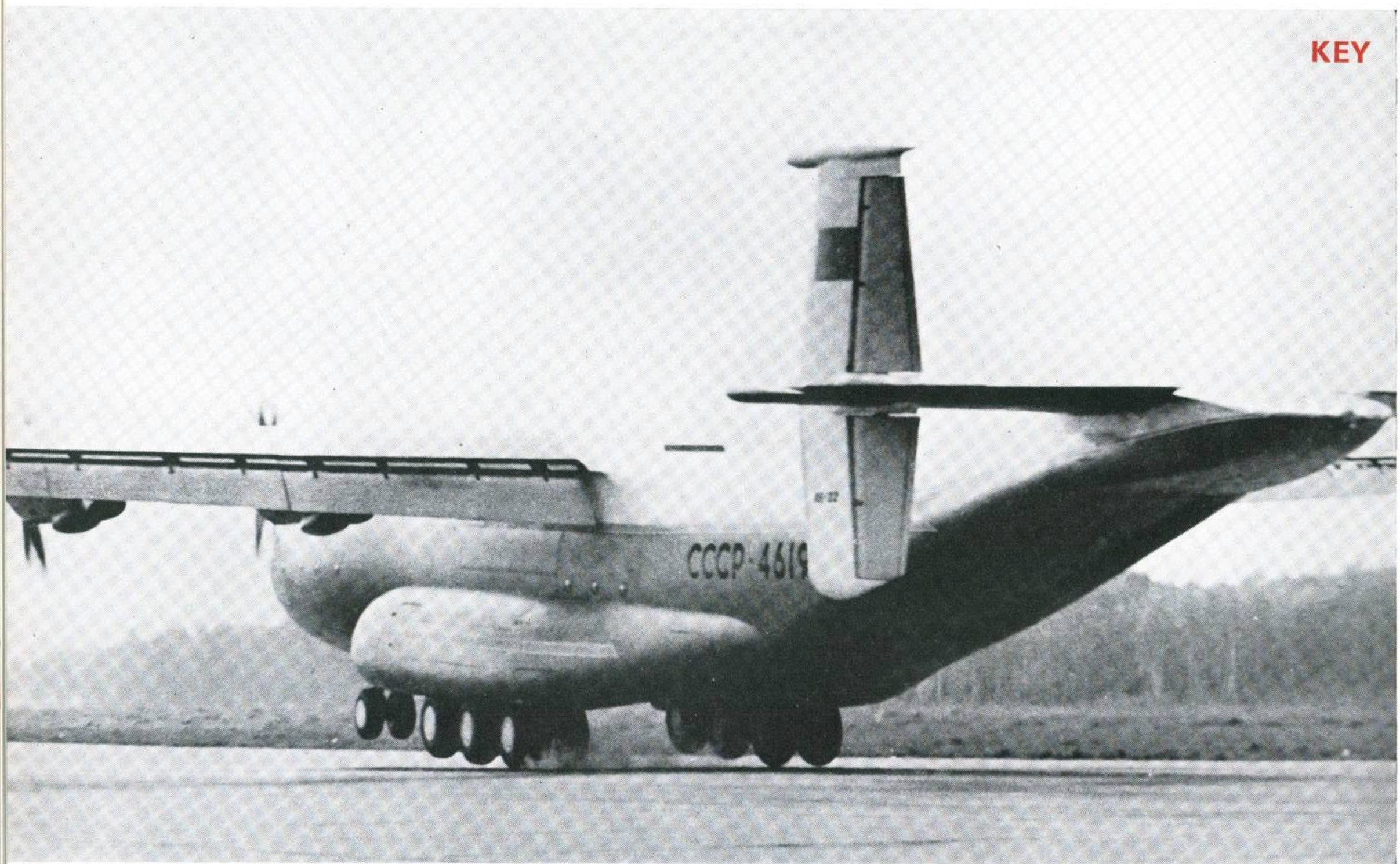

COCK—AN-22

The An-22 Antei, code-named Cock by the West, is a long-range military and civil freighter of gargantuan proportions (span 211 feet, overall length 189½ feet). It made its first appearance in the West in June 1965 when the prototype arrived, as a last-minute surprise, at the Paris Air Show. The first of five prototypes flew in February that year and since then two prototypes are known to have been delivered to the Soviet Air Force and three to Aeroflot. The first production aircraft (for the Soviet Air Force) flew in the spring of last year. Aeroflot have been using their two An-22 prototypes for experimental freight services.

Production of thirty An-22s a year for commercial use is planned by Antonov, who have reportedly been working on a design study of a 724-passenger two-deck version with an even longer fuselage. The firm are also said to be developing an airbus version capable of carrying 300–350 passengers and 66,150 lb. of freight a distance of 1,865 miles.

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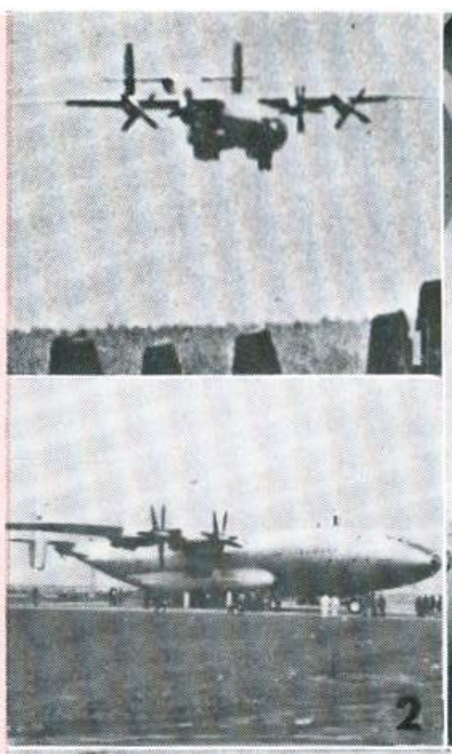
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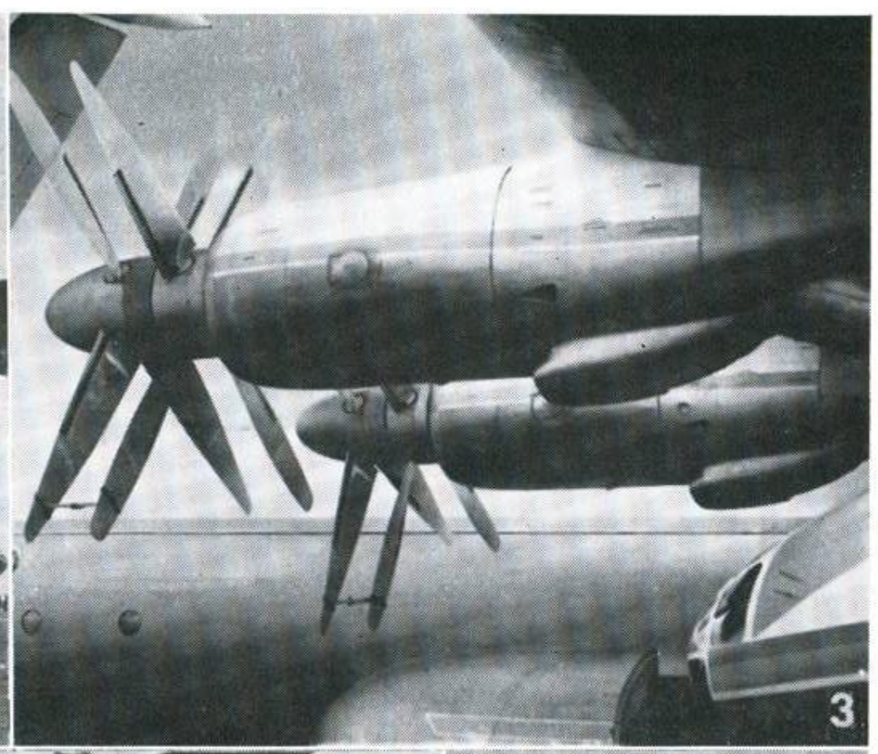
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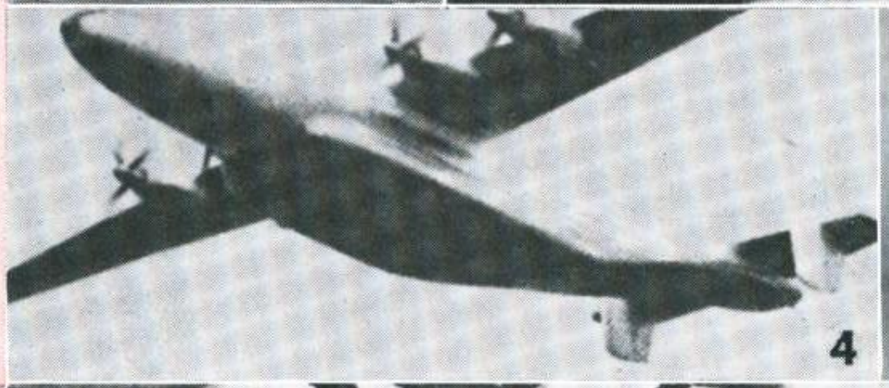
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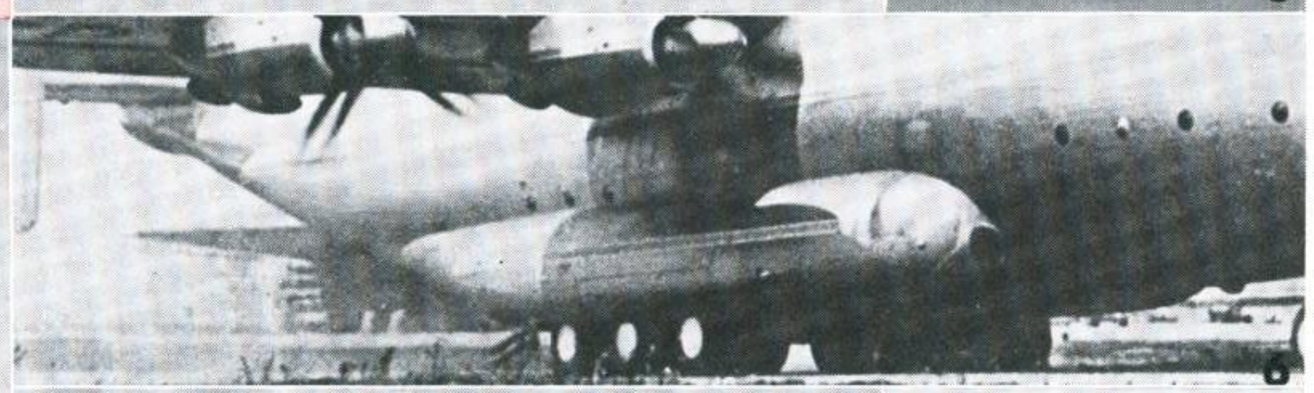
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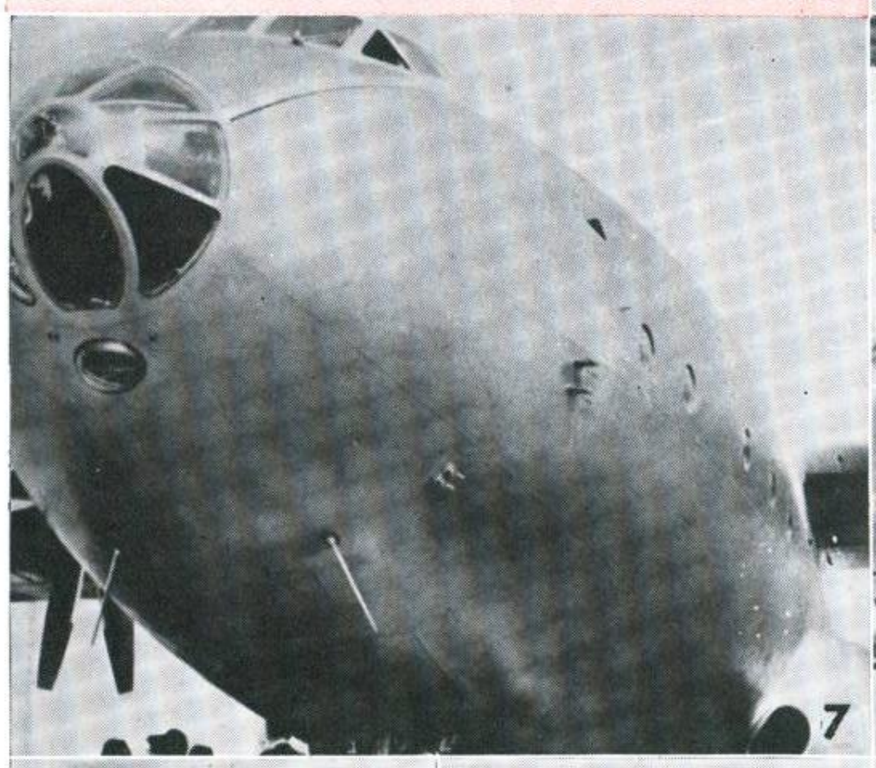
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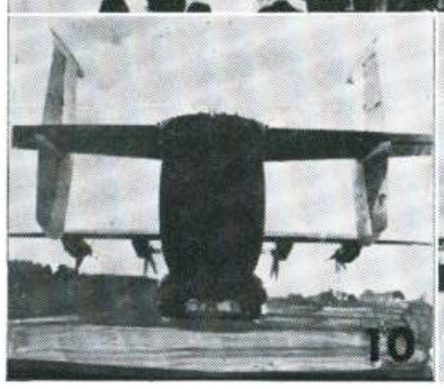
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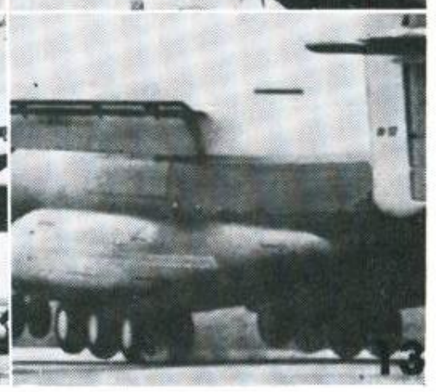
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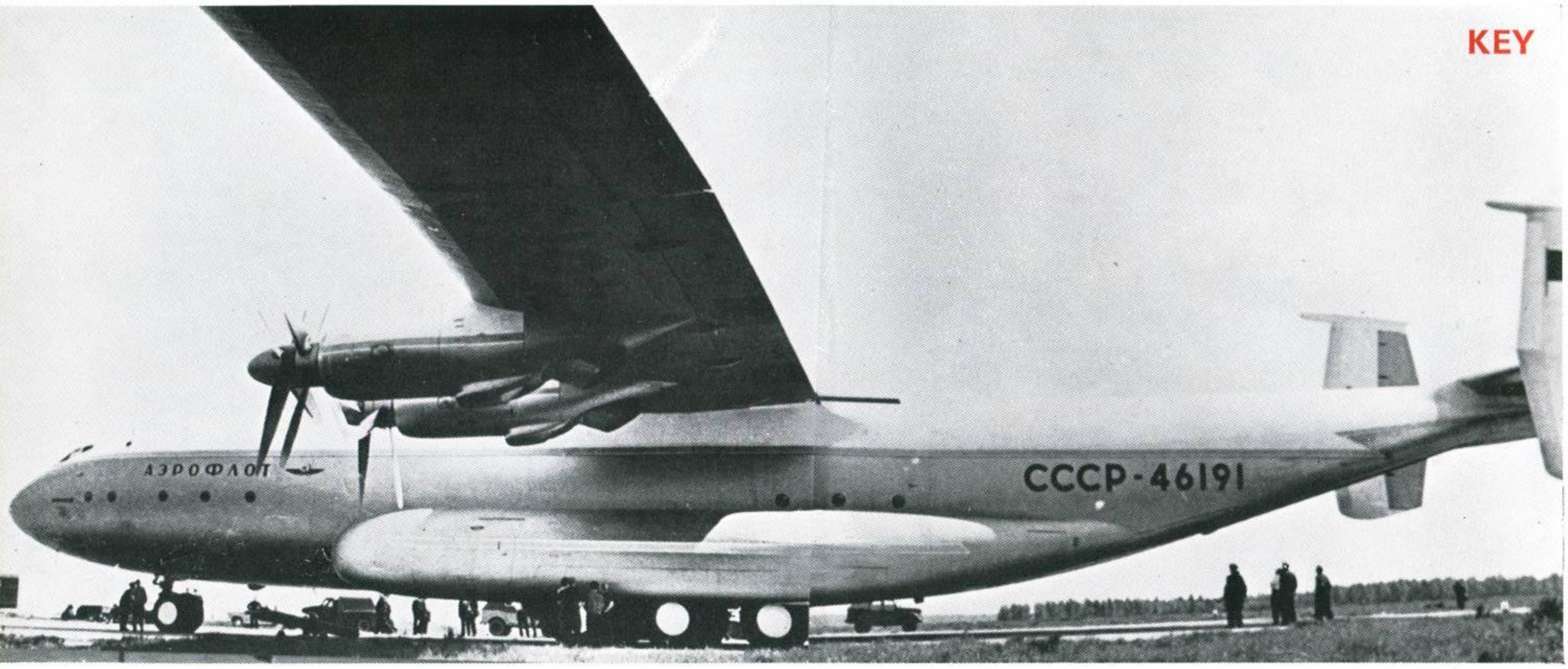
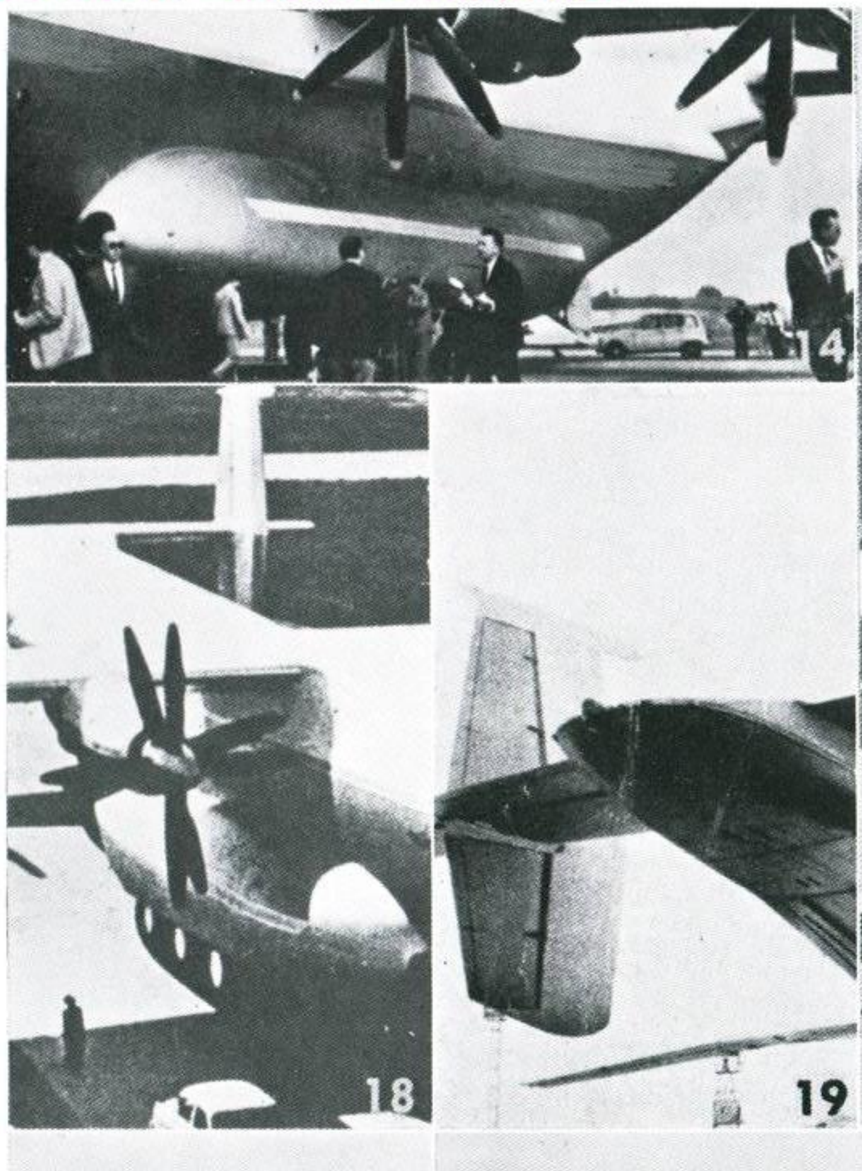
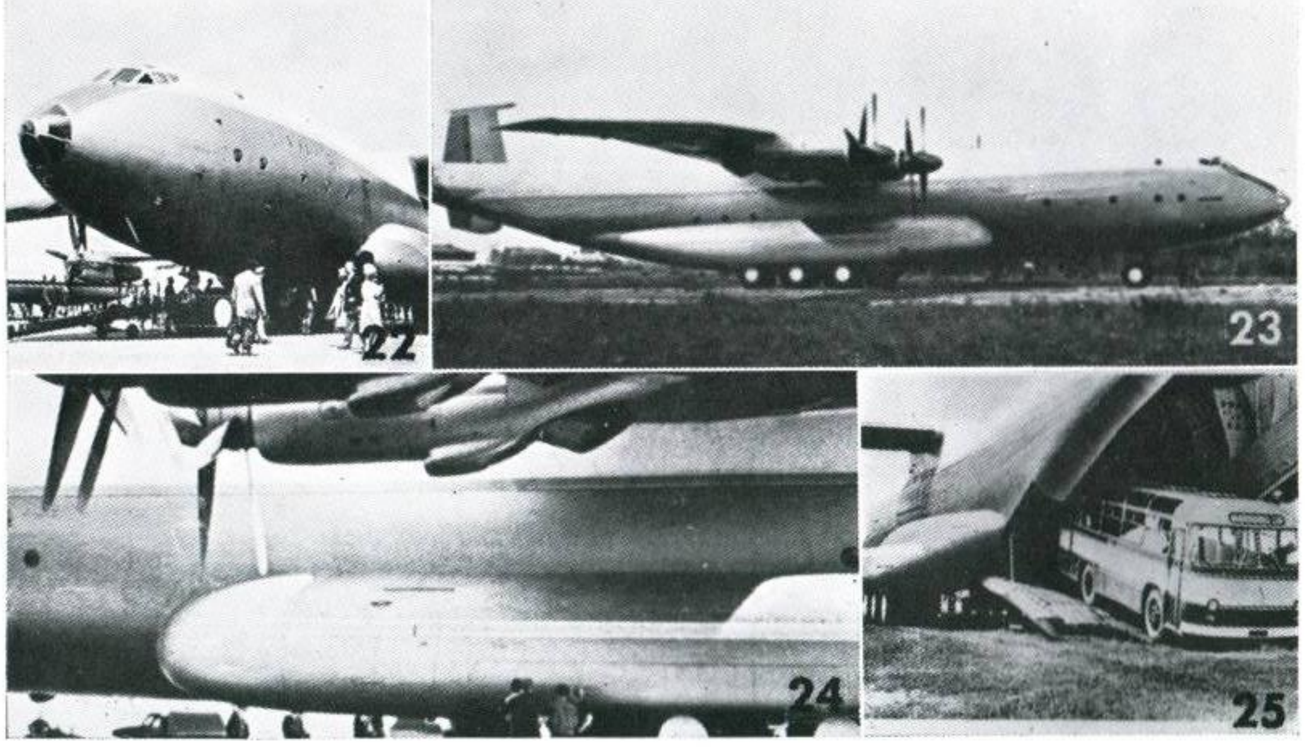


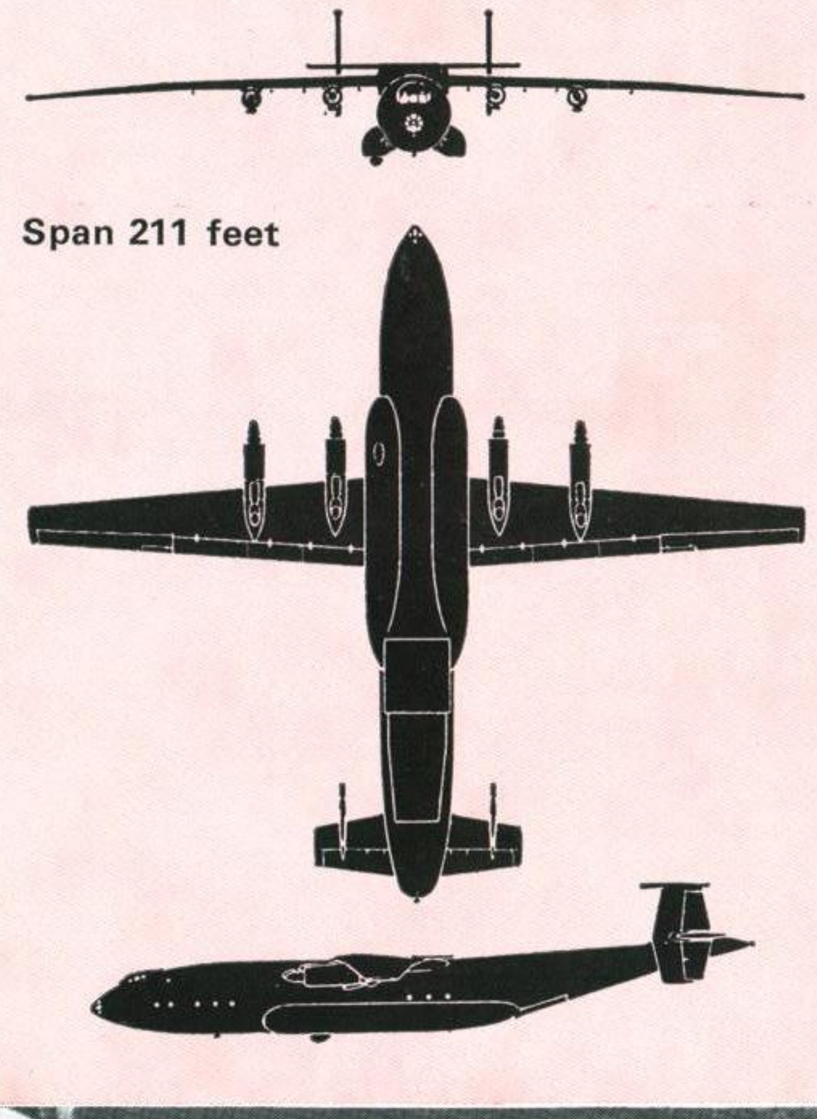
COCK—AN-22 *continued*

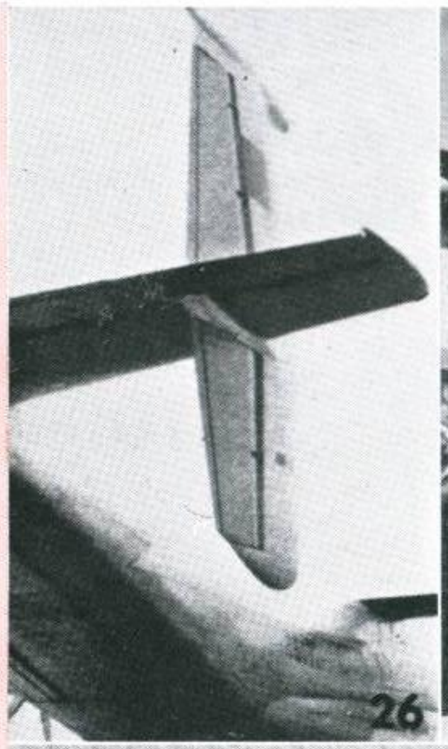




Powered by four 15,000 e.h.p. Kuznetsov NK-12MA turboprops, the An-22 has a maximum speed of 460 m.p.h. and can carry 99,208 lb. payload 6,835 miles, or 176,370 lb. payload 3,107 miles. It has a crew of five to six, a cabin for 28–29 passengers between freight hold and flight deck, and in the freight hold itself military loads can include three tracked carriers for a single Frog or twin Ganef missiles, self-propelled guns, etc.

In general outline, the An-22 is similar to its smaller predecessors, the An-10A (Cat) and An-12 (Cub), the main difference being that the An-22 has twin fins and rudders.

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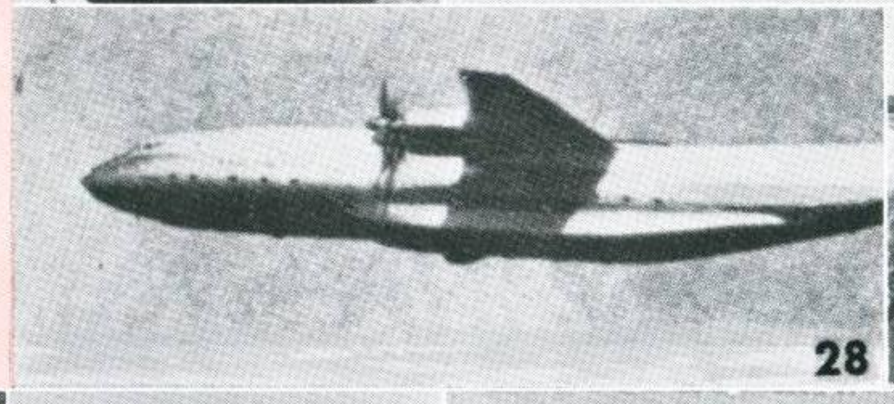
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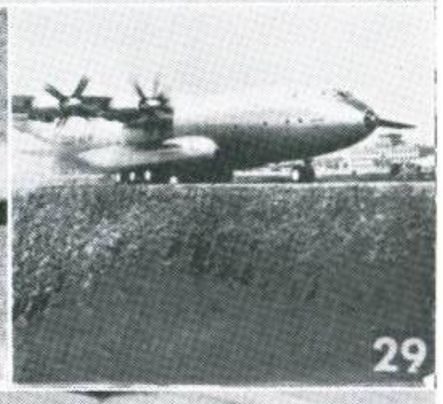
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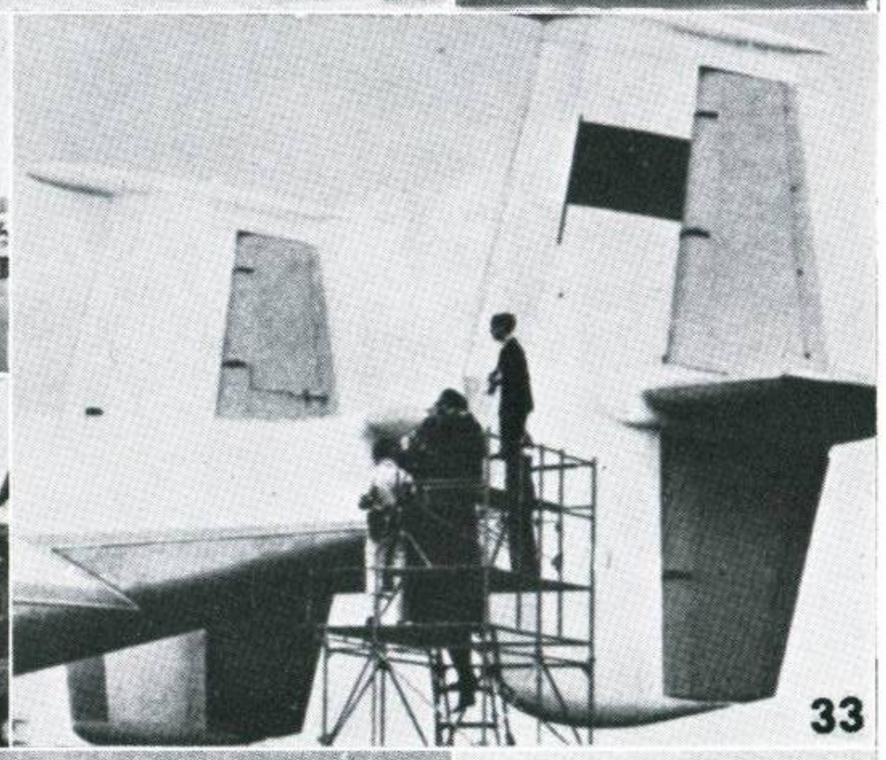
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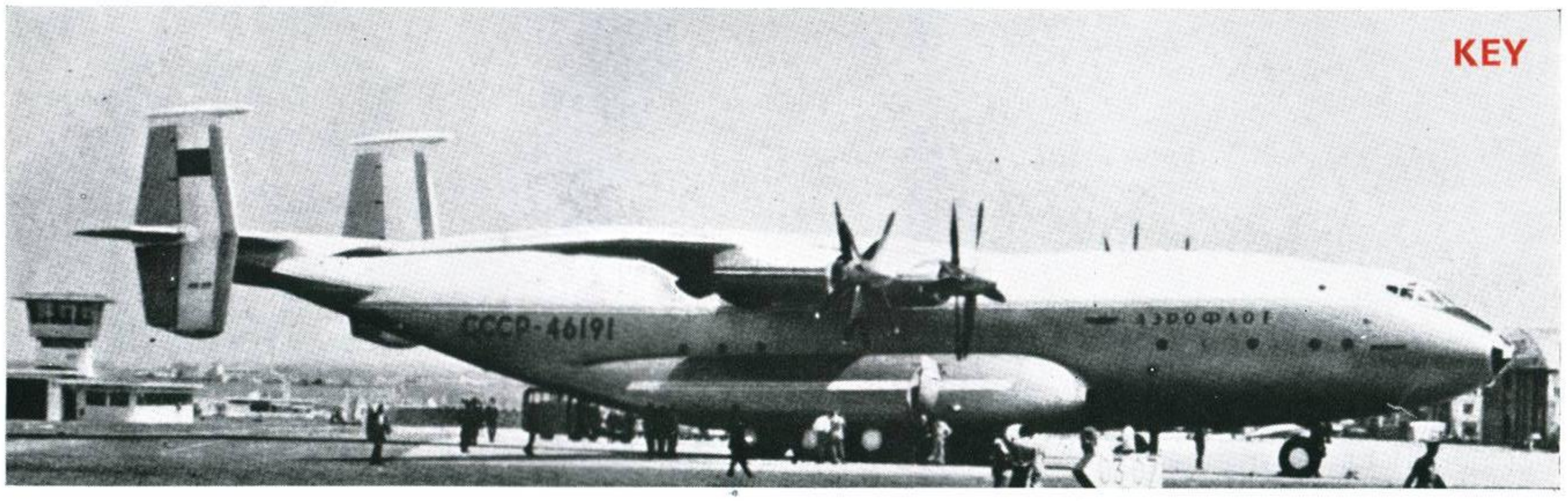

M 551 Sheridan tank

KEY

In U.S. Army terms, the M551 Sheridan is an Armored Reconnaissance/Airborne Assault Vehicle, or ARAAV. In effect, it is a light tank which has been developed to replace the M41 light tank used by U.S. reconnaissance units and the 90-mm. M56 self-propelled anti-tank gun of the U.S. airborne formations.

To enable it to perform its intended role, the M551 Sheridan has had to be provided with powerful armament without making it unduly heavy. The solution to this has been found in the 152-mm. gun/launcher which can fire Shillelagh guided missiles as well as conventional, spin-stabilised projectiles. In consequence, the M551

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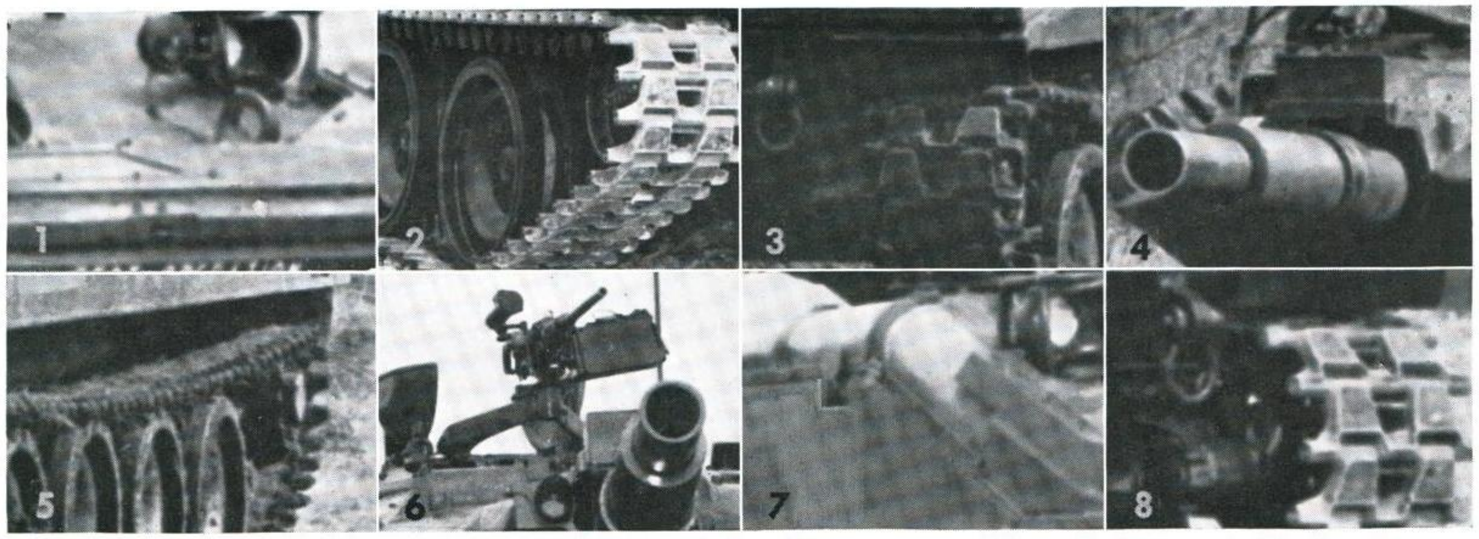

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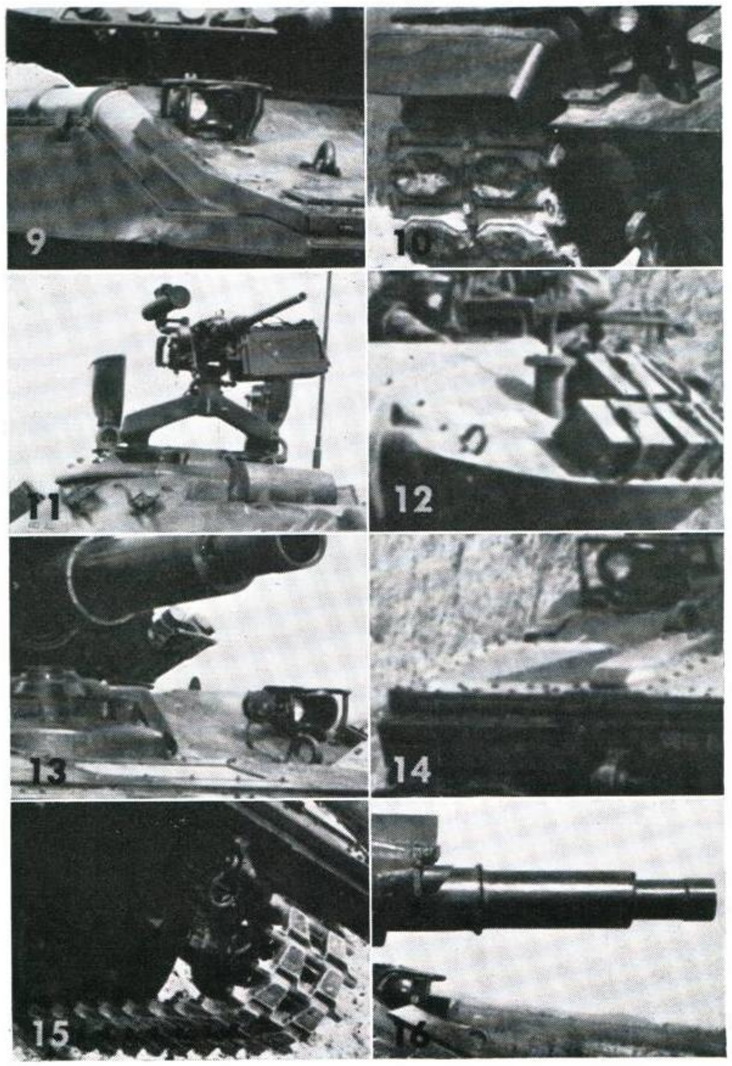

M 551

Sheridan is as well armed as the latest version of the U.S. M60 battle tank, the M60A1E1, but weighs only 15 tons.

In addition to being light enough not only for transport by air but also for delivery by parachute, the M551 Sheridan can swim across water obstacles with the aid of a collapsible flotation

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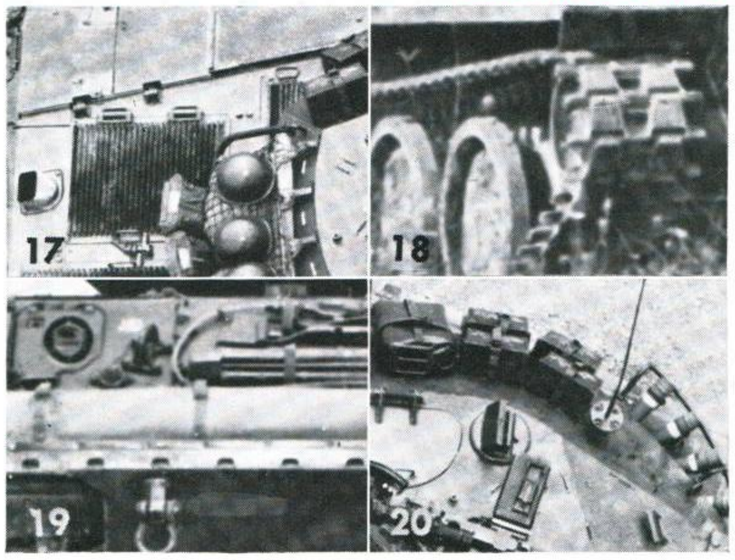

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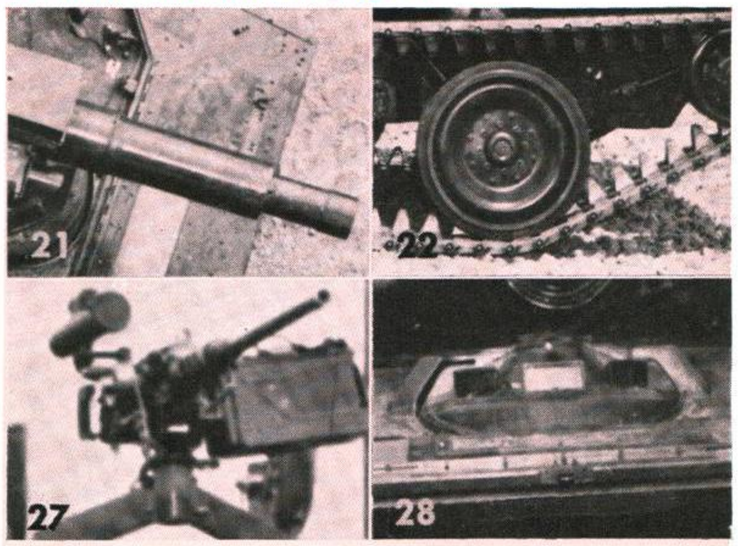

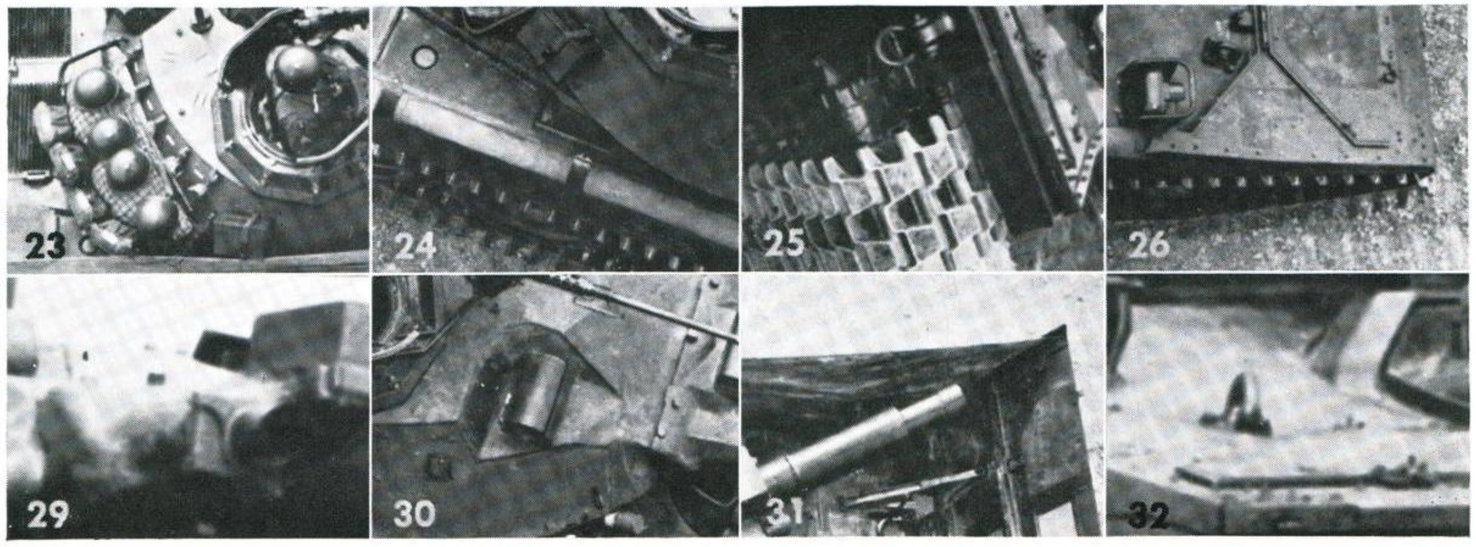

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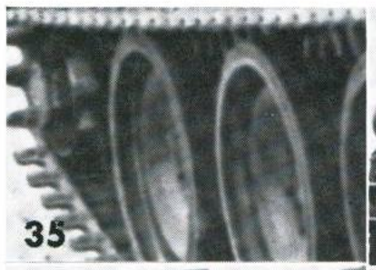

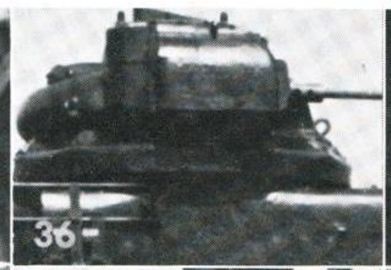

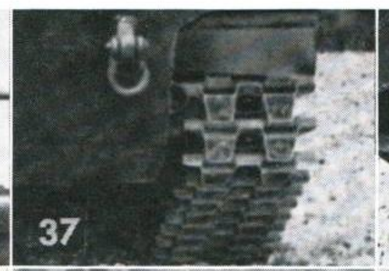

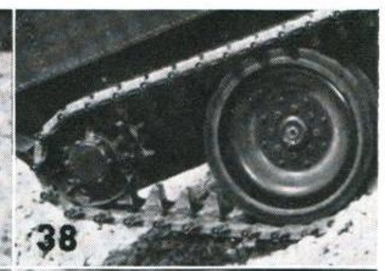

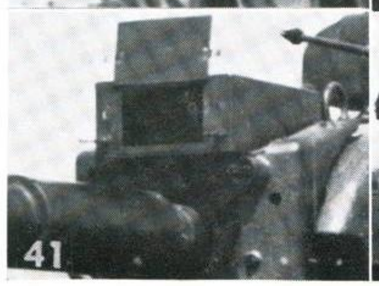

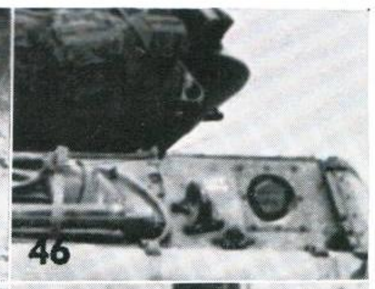

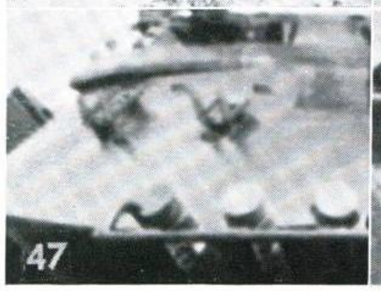

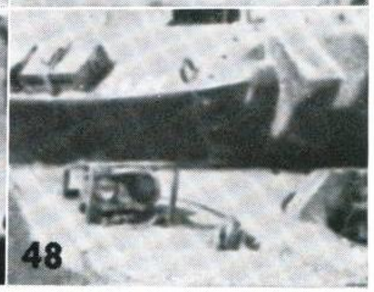

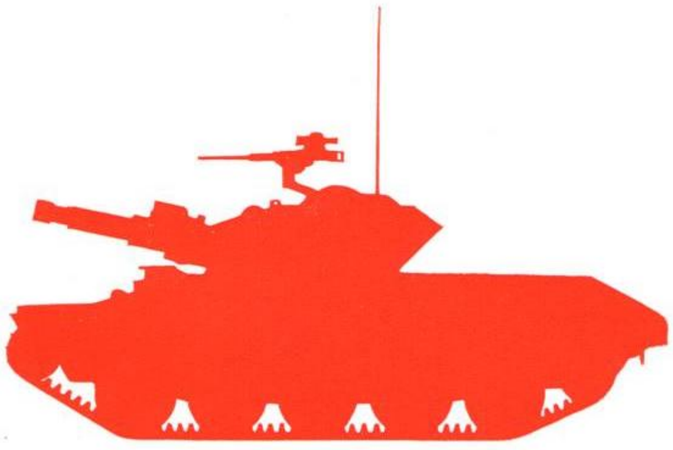

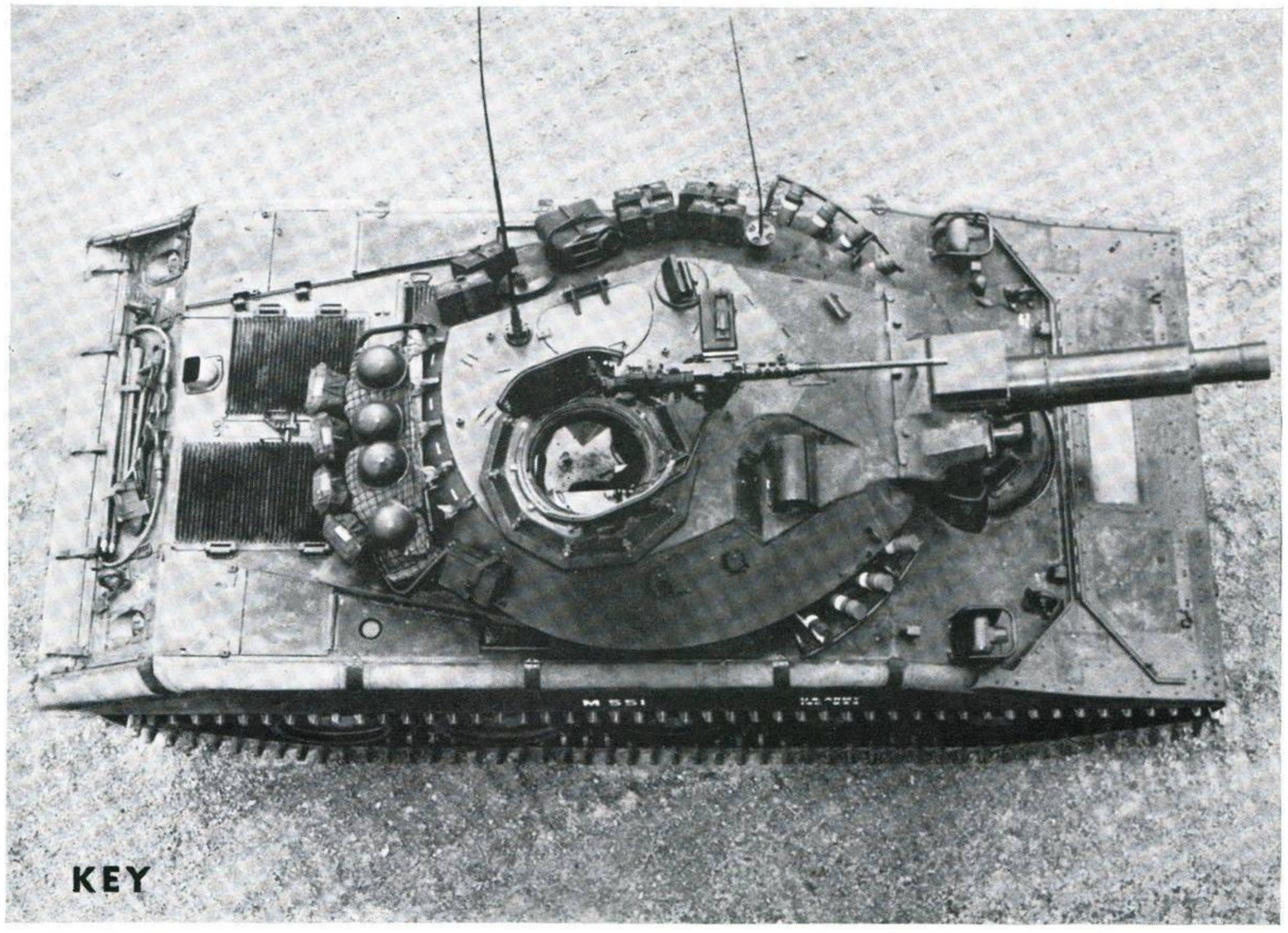


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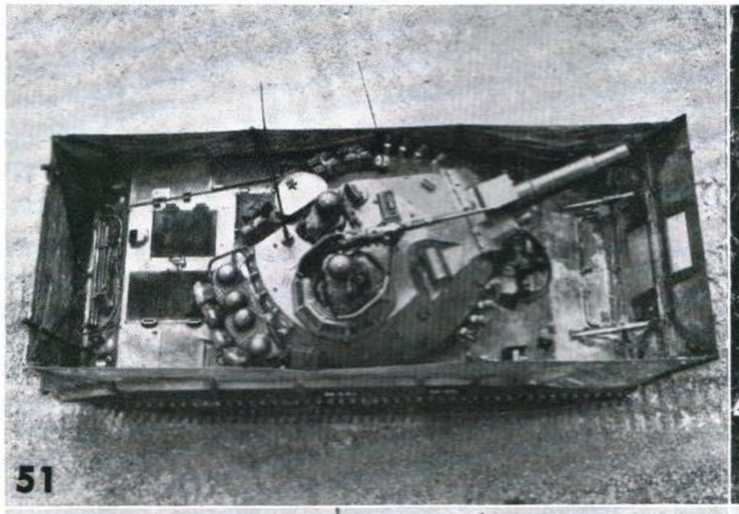
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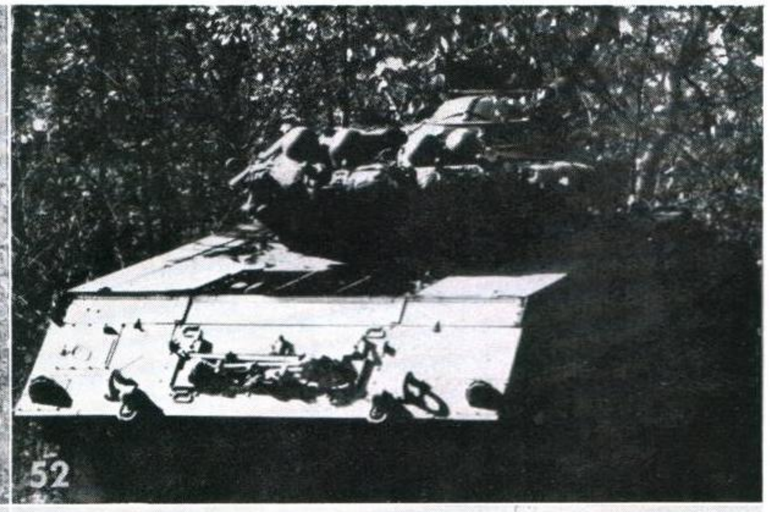
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55

M 551 Sheridan tank

screen which it carries. Because of its light weight and wide tracks it is also mobile off-the-road and on roads it can move at up to 43 m.p.h., thanks to its 300 b.h.p. V-6 General Motors diesel.

Other characteristics of the M551 include a crew of four, an aluminium alloy hull and a welded steel turret with undercut sides. Its tracks, with two small rubber road pads per link, are different from those of earlier U.S. light tanks and it has no track return rollers, each track running back over the tops of five medium-size road wheels.

Lesson instructions are on page 61, and solutions on the back cover.


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Cover Photo: Sikorsky S-64E Skycrane lowers drawworks engine assembly to offshore platform. An average of only 1·7 minutes required for the Skycrane to precision-place each piece of equipment. Loads were flown to the rig at a speed of 100 knots. The average round trip from marshalling yard to rig was 13·6 minutes.

SOLUTIONS TO TESTS AND EXERCISES

Page 60 **TEST PAPERS**

U.S.S. KITTY HAWK: Joker is second line 3rd picture.
LONG BEACH: Joker is first line 1st picture.
ABDIEL: No Jokers.
Page 61 VIGGEN: Jokers are first line 4th picture and second line 3rd picture.
BTR-50: Jokers are second line 4th picture and third line 2nd picture.

Page 62 **LEOPARD CLASS**

All targets are **Leopard Class** except Nos. 12, 14, and 23 which are jokers.

Page 66 **VICTOR**

1 Victor B2
2 Victor BK1A
3 Victor Mk. 2
4 Victor B2
5 Victor BK1A (Super Sabres refuelling)
6 Victor B2
7 Victor BK1A
8 Victor B(SR)2
9 Victor B2
10 Victor BK1A
11 Victor BK1A
12 Victor B2
13 Victor BK1A
14 Victor BK1A
15 Victor B2
16 Victor B2
17 Victor BK1A
18 Victor B2
19 Victor B(SR)2
20 Victor Mk. 2
21 Victor Mk. 2
22 Vulcan B2
23 Victor B2
24 Victor BK1A (Lightning refuelling)
25 Victor B2
26 Victor Mk. 2
27 Victor BK1A
28 Victor
29 Victor B2
30 Victor B2
31 Vulcan B2
32 Victor B2
33 Victor BK1A
34 Victor B2
35 Victor BK1A
36 Victor BK1A

Page 70 **RB-57F**

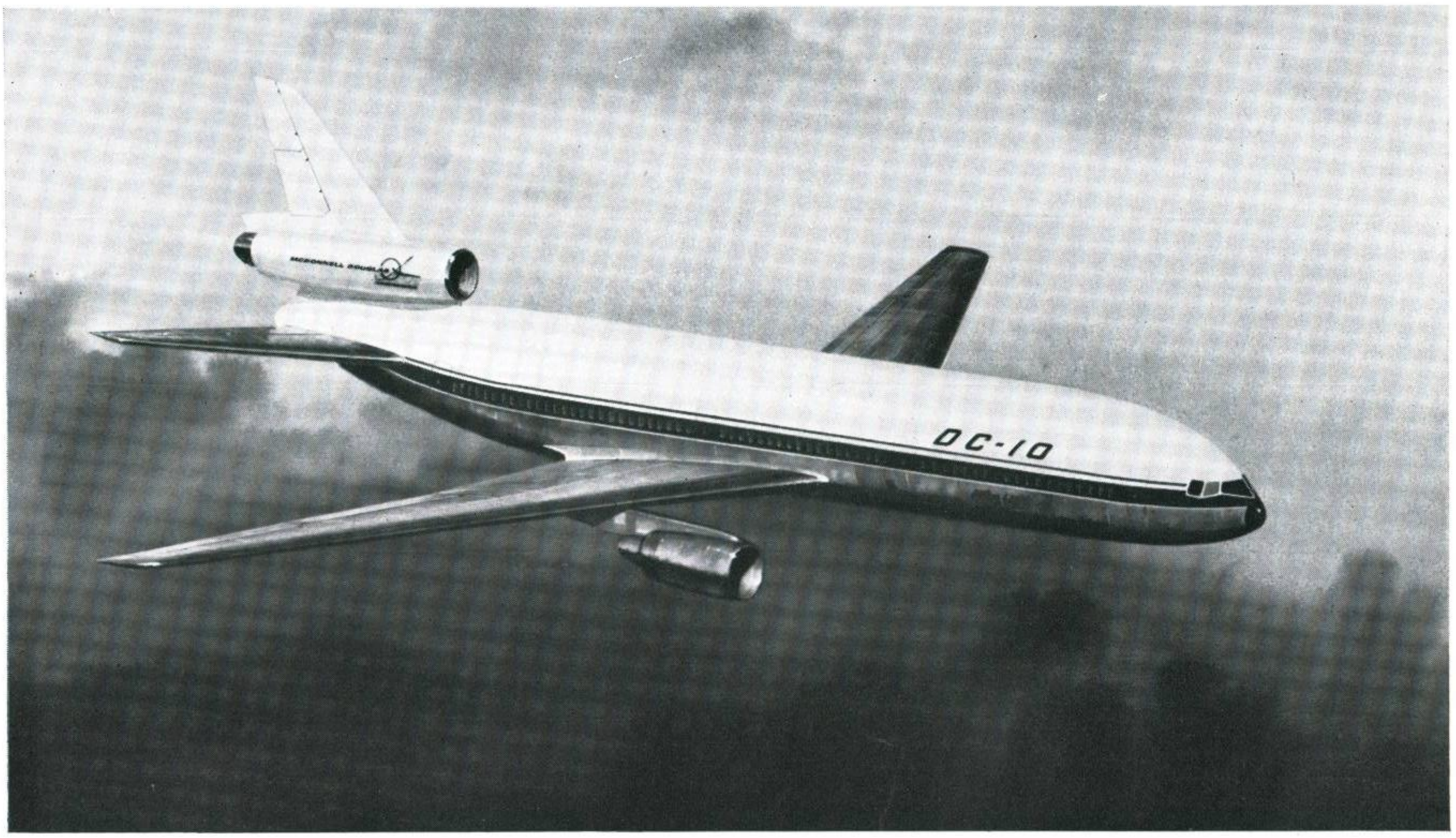
All targets are **RB-57F** except Nos. 10 **Canberra PR9**, 17 **Canberra B(I)8** and 28 **Mandrake.**

Page 74 **COCK—AN-22**

All targets are of **Cock** except No. 5 **Cat** and Nos. 20 and 30 **Cleat.**

Page 78 **M 551 SHERIDAN**

All targets are **M 551 Sheridan** except Nos. 10, 36 and 41 which are jokers.



AIRPLANE OF THE FUTURE *The McDonnell Douglas DC-10 trijet is designed to operate either from short-runway airports like LaGuardia in New York or from larger terminals such as International Airport in Los Angeles. The DC-10's three high-by-pass engines will give the new transport a cruising speed of 600 m.p.h. over routes up to 3,000 statute miles. Designed to carry more than 300 passengers in an all-economy configuration and 252 passengers in a mixed class design, the DC-10 is 179 feet, 8 inches long and has a wingspan of 155 feet, 4 inches. Its height is 57 feet, 3 inches and the gross takeoff weight is 386,500 pounds.*

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