

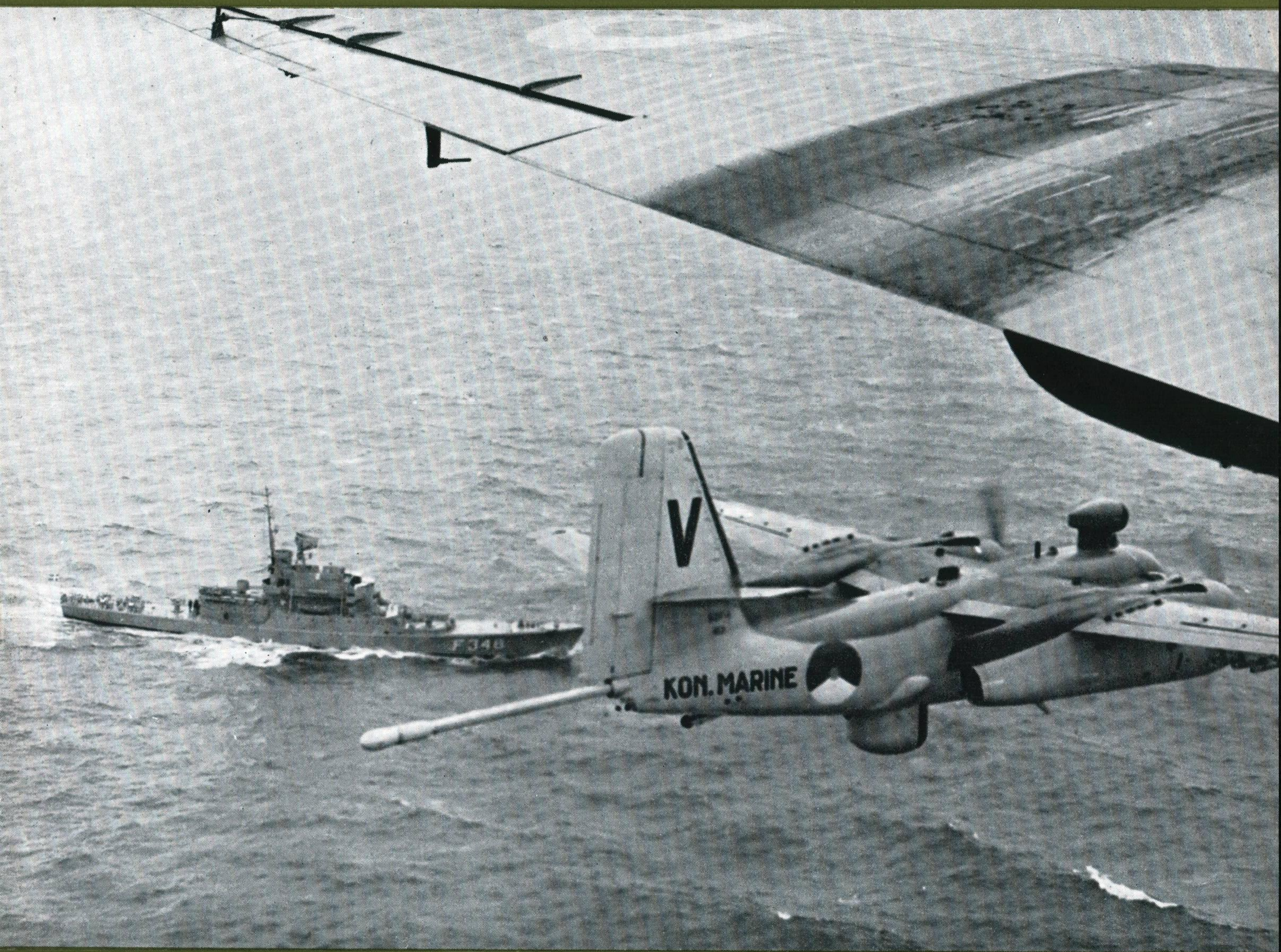
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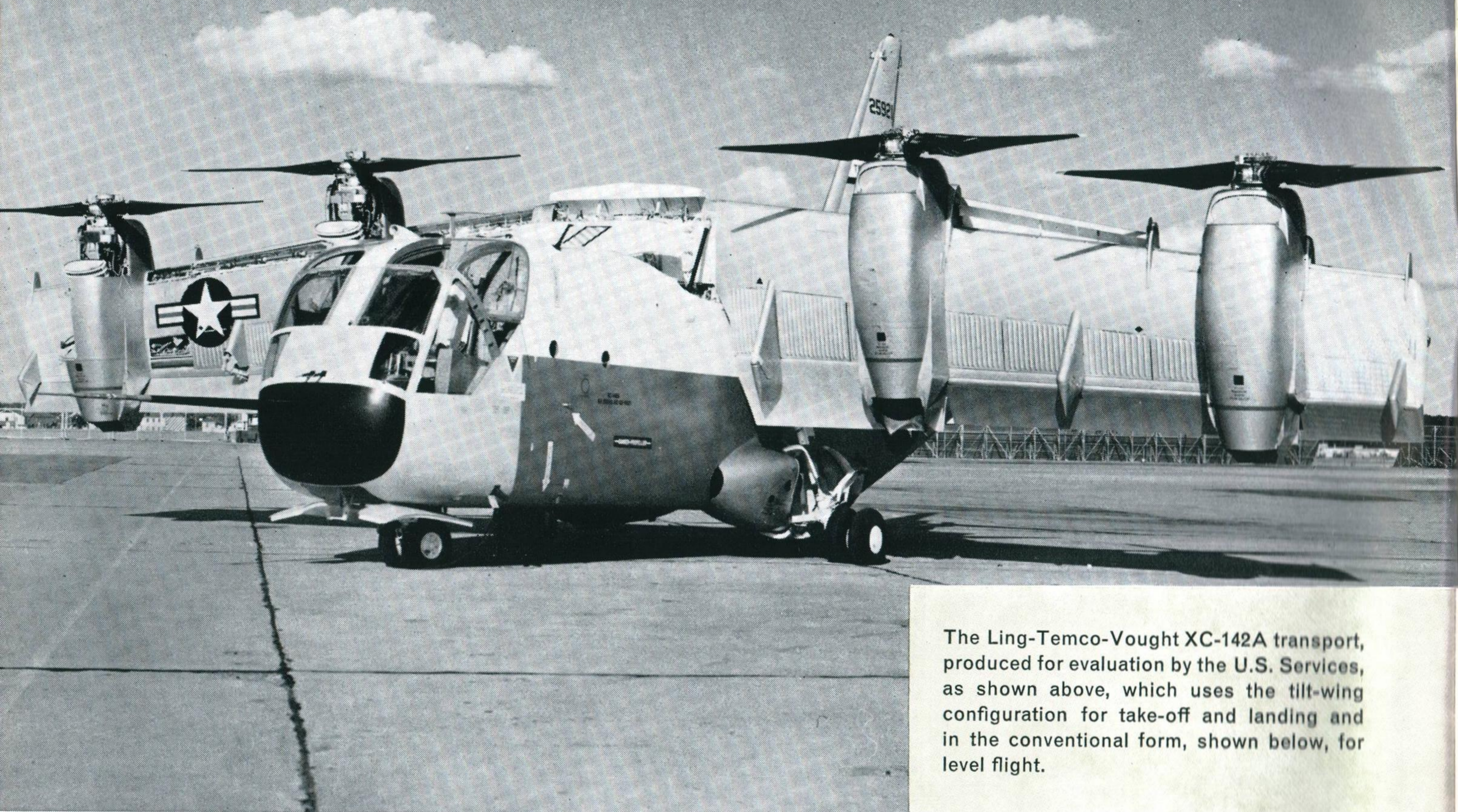
SERVICES

# RECOGNITION

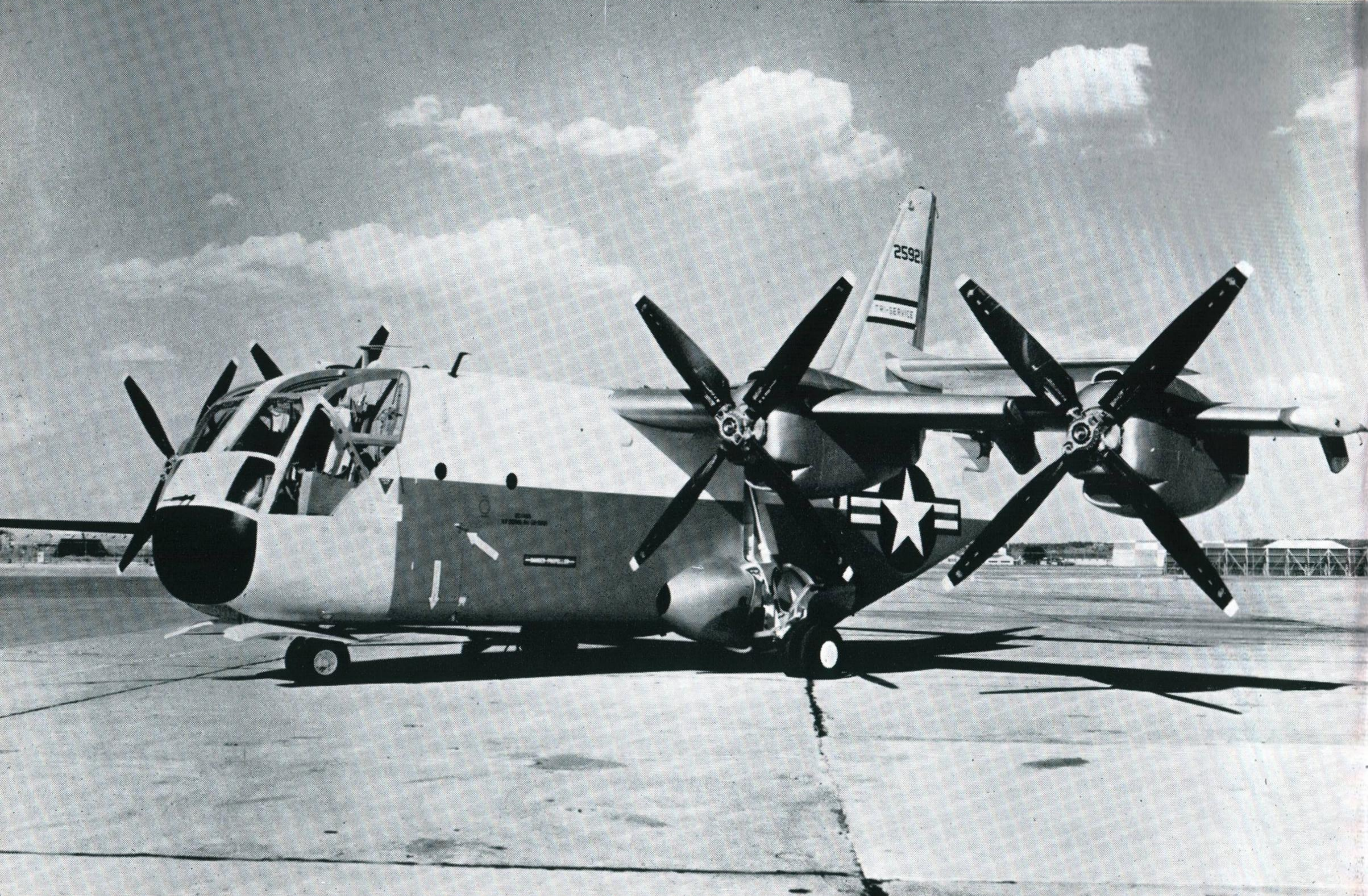
*Journal*



Vol. 19 SEPTEMBER 1964 No. 9



The Ling-Temco-Vought XC-142A transport, produced for evaluation by the U.S. Services, as shown above, which uses the tilt-wing configuration for take-off and landing and in the conventional form, shown below, for level flight.





JOINT SERVICES

RECOGNITION JOURNAL

The *Joint Services Recognition Journal* is a monthly publication produced by the Directorate of Flying Training (R.A.F.), The Ministry of Defence, and prepared in collaboration with the Admiralty Board, the Army Department and the Ministry of Aviation (Air Technical Publications). 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.

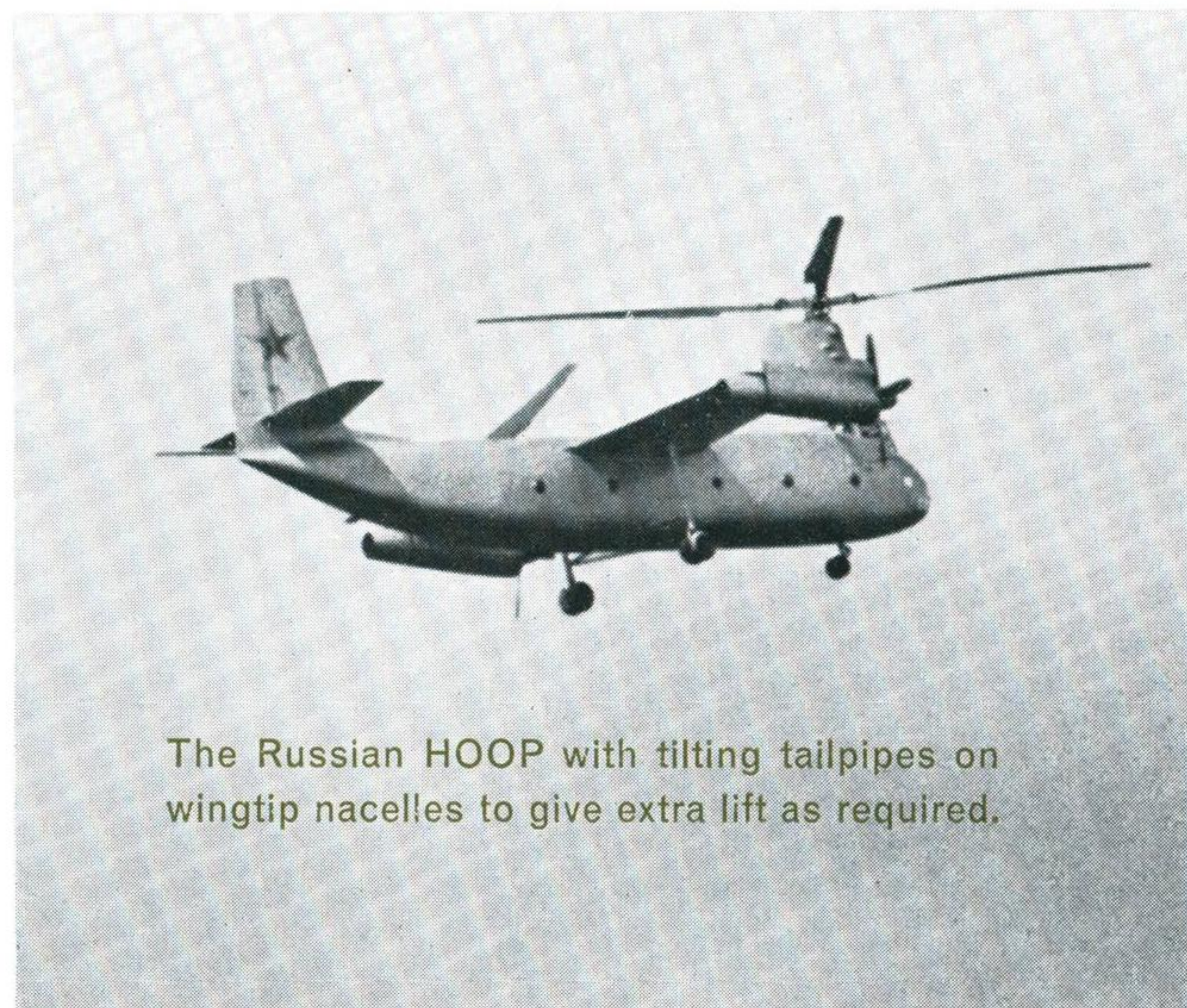
The Journal is produced solely for official use and can not be sold to members of the public. Contributions and correspondence should be addressed to the Editor, *Joint Services Recognition Journal*, Ministry of Defence, Queen Anne's Mansions, London, S.W.1.

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# WHAT'S THE FORM?

Identity training, properly done, can easily take in its stride not only the changing form of aircraft over the years, but aircraft of a particular type that can change their own form in a matter of seconds. The aircraft of variable geometry is already a practical proposition and, as might be expected, this new trend has come from America: to be precise the first indications came with the Crusader; our September 1962 edition lesson on this U.S. Navy fighter opened with these words: "Because of its variable incidence wing, the Crusader presents a different configuration at take-off and landing from that assumed in normal flying attitude". The changing form engenders—at any rate up to the present—no more distortion of basic character than the usual variations to be expected by the varying under-wing stores—or to bring it nearer home, the raising of the roof of the convertible car.



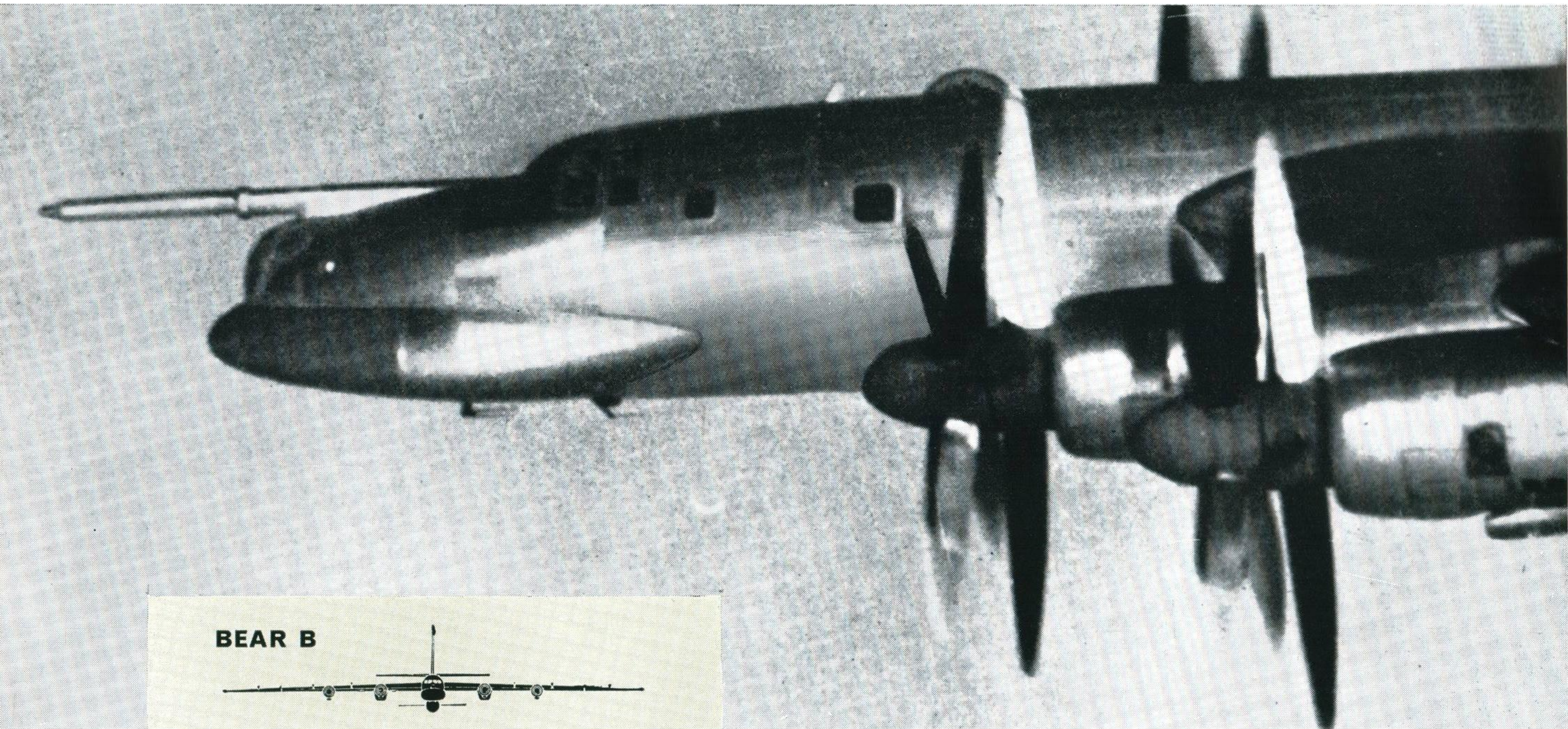
The Russian HOOP with tilting tailpipes on wingtip nacelles to give extra lift as required.

As far as can be foreseen the ultimate in aircraft of variable geometry is what is called the polymorphous aerodyne such has been proposed by Dr. Barnes Wallis, designer of the famous wartime dam-busting mine, for a variable sweep, delta-form aircraft. That, however, is a matter for the future; we are concerned with the more immediate needs. In this, we have to accept that the tilt-wing aircraft has already arrived at the promising prototype stage.

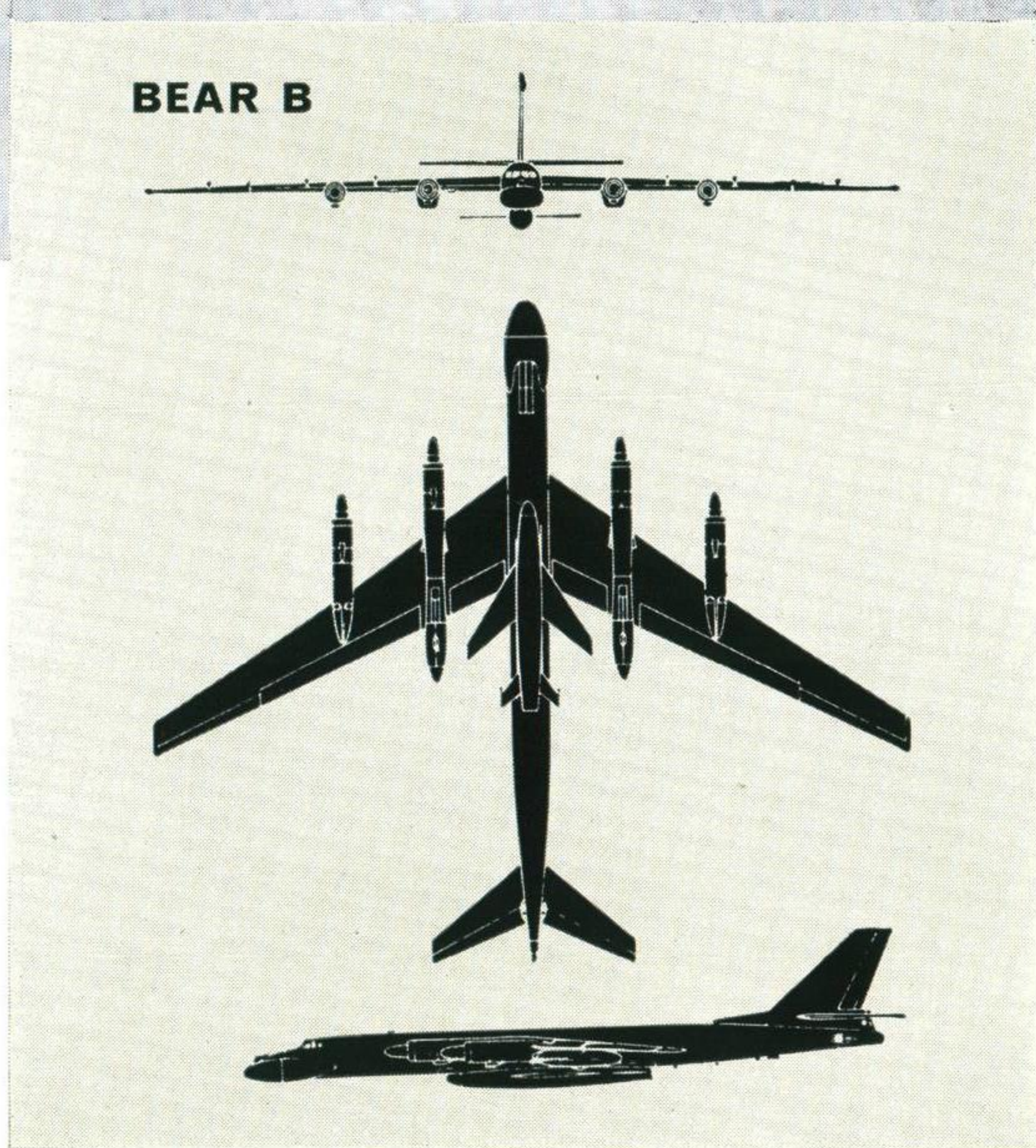
Apart from the example of a tilt-wing aircraft shown opposite, Canadair have two V/STOL prototype tilt-wing transports under construction; the Bell X-22A is a tilting duct research aircraft for U.S. Navy evaluation in 1965; Curtiss-Wright are experimenting with tilting wing-tip engine nacelles and the Russian HOOP, already described as a convertiplane, may well be developed further. No longer can we divide aircraft into the two convenient groupings of fixed-wing and rotorcraft.

The 20 degrees change in wing incidence of the Crusader, as stated, does not present any identification difficulties; the 90 degrees swing of a tilt-wing aircraft, however, completely alters configuration, but since individual shapes remain unaltered this should not prove to be any more difficult than, say, the Shackleton for which the M.R.2 and M.R.3 versions vary on more than one aspect. As with one, so with the other, it is a matter of the inclusion of these changing aspects in trainers.

One important pointer to the future of identity training emerges from the introduction of tilting techniques, that the very mechanism involved to achieve a vertical take-off, restricts the airframe as a whole to the sub-sonic sphere. Time may be saved by a vertical rise and descent, but level speeds of such types used as military transports are not expected to be much more than that of a last war fighter—at least for some years yet. Thus, whatever the form the need for identification training remains, as does the need to perform it correctly.



**BEAR B**



## BEAR

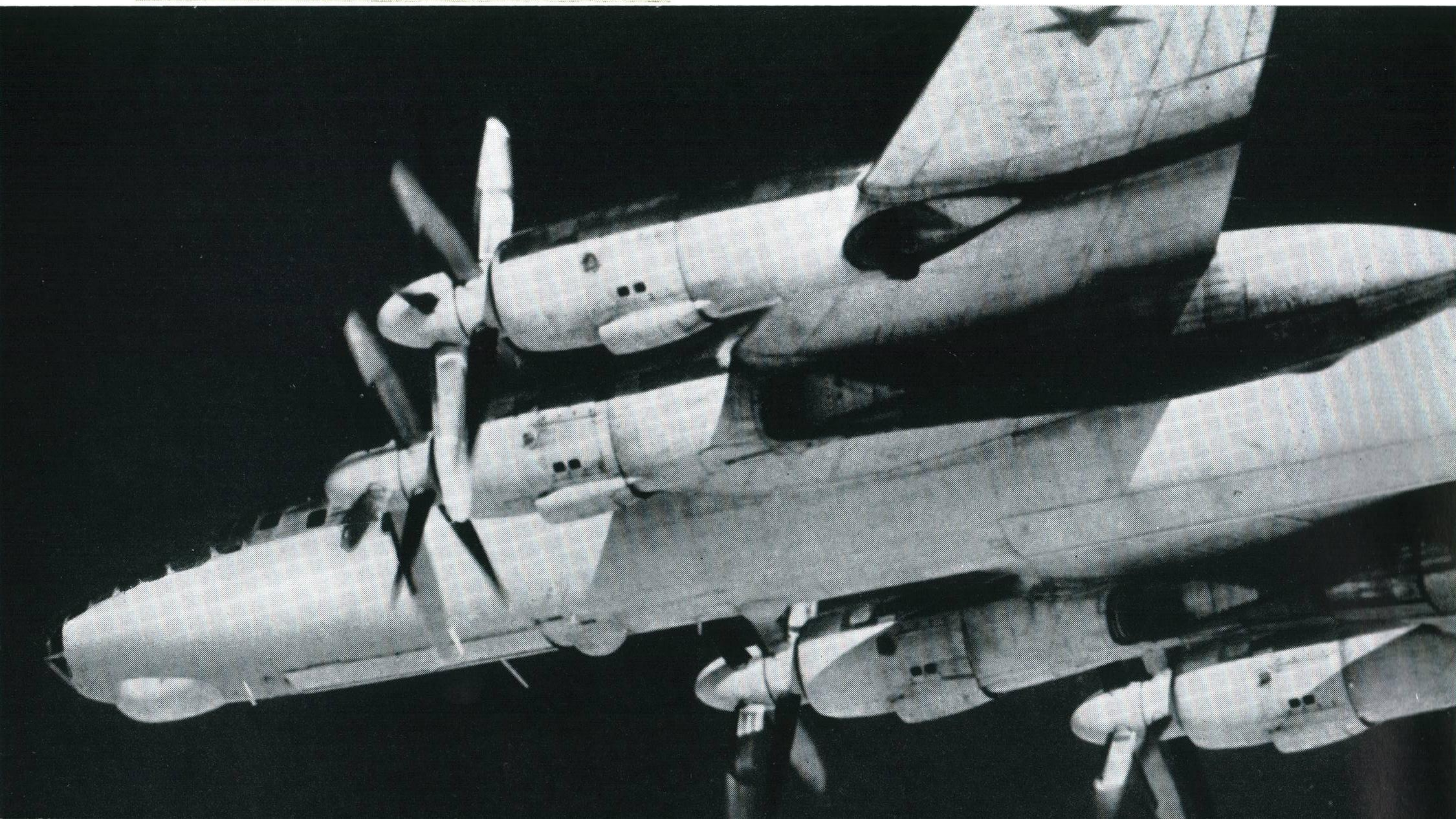
The Russian Tu95 is produced in two main versions, named Bear A as shown below and Bear B as depicted above.

The Bear B can carry an air-to-ground missile, known by the Tripartite name of Kangaroo, as shown in the adjacent silhouette, although the large re-fuelling probe shown in the key view above is not necessarily a standard fitting.

From this key information you are required to classify the target views as Bears A or B, but also watch for jokers. Solutions on the cover.

**Span 165 feet**

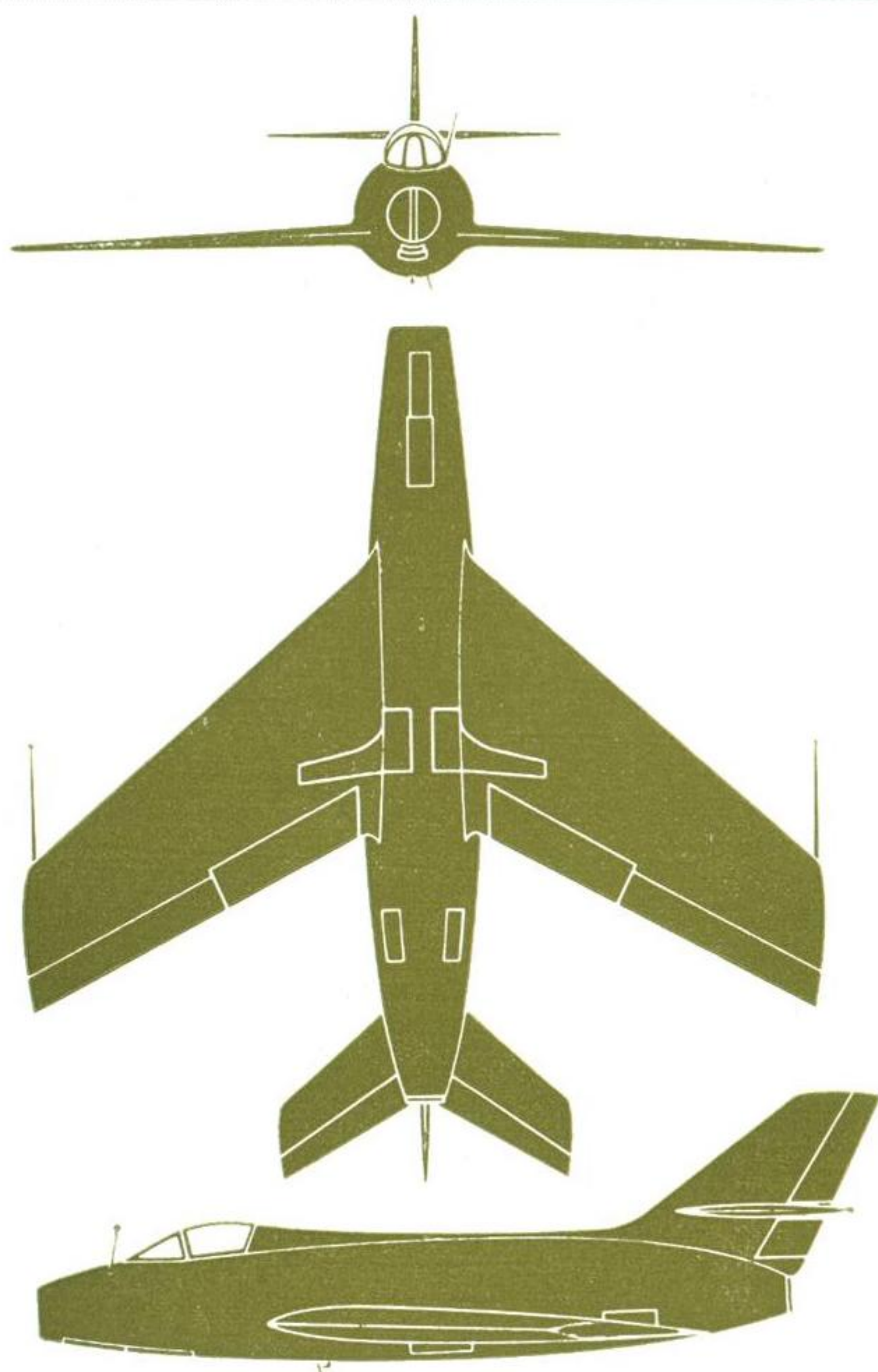
**BEAR A**







Span 36 feet

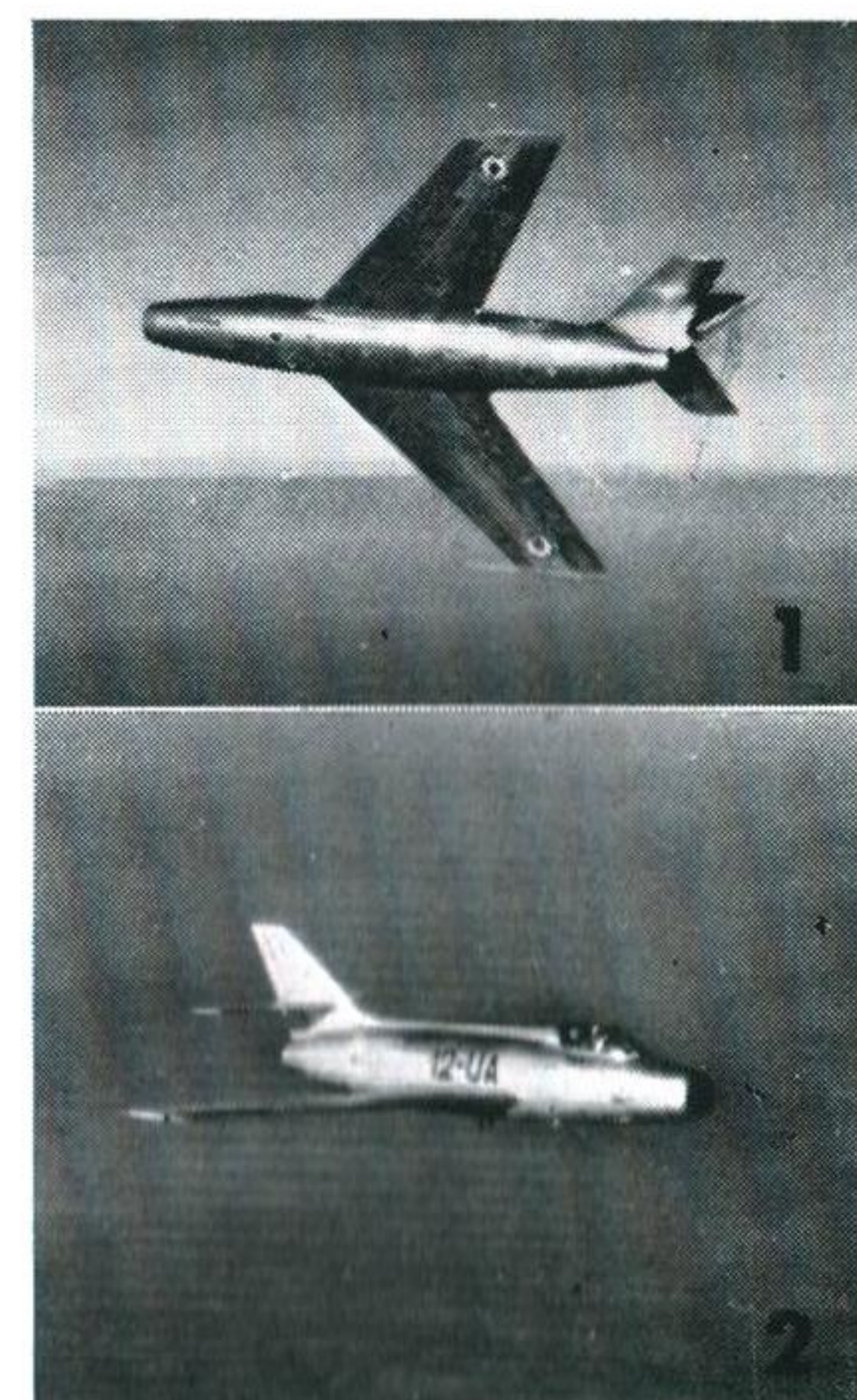


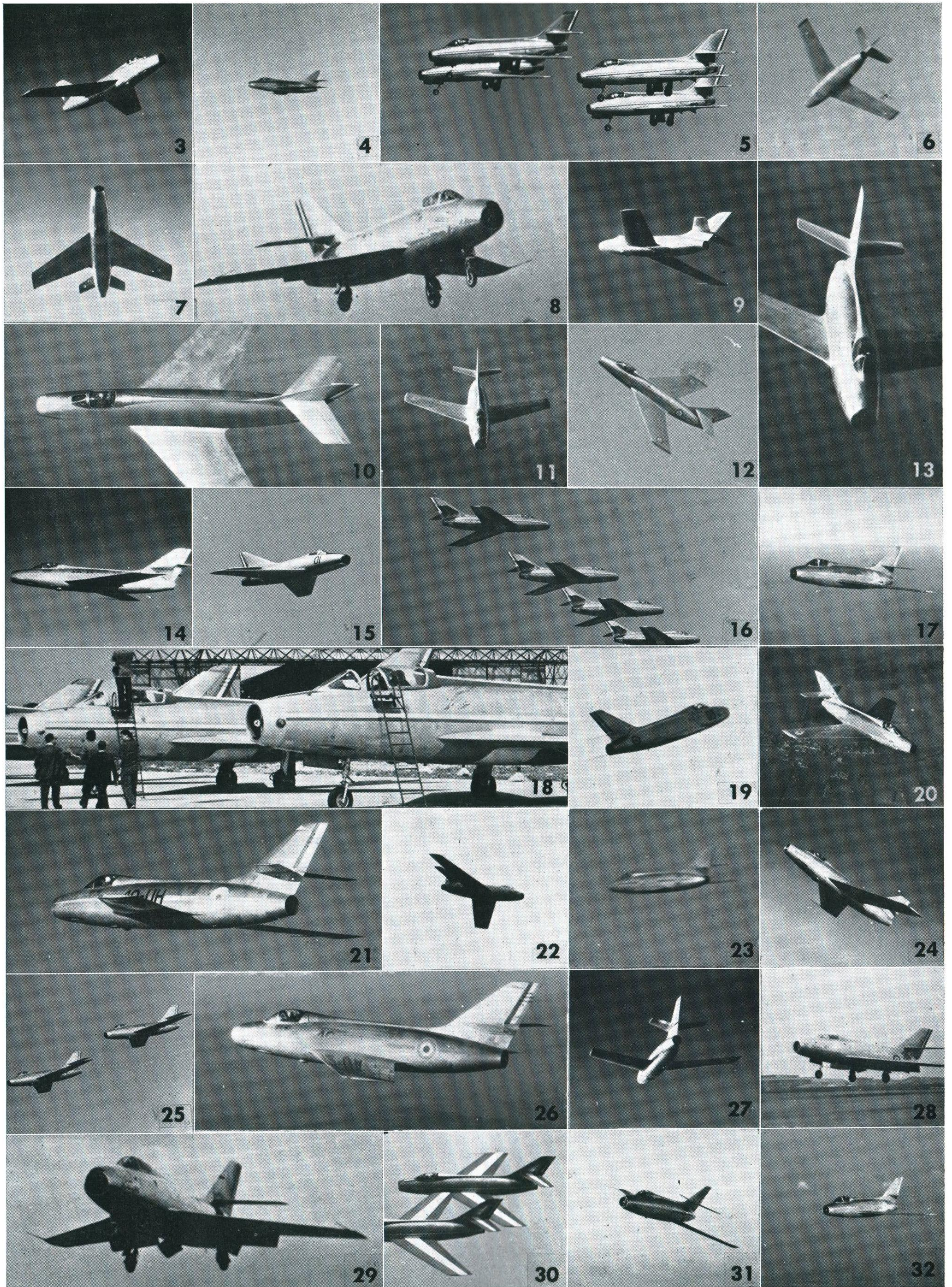
## MYSTÈRE

A French single-seat interceptor or ground attack fighter, the Mystère IVA is in much the same class as the familiar Hunter. Some 250, including an American "off-shore purchase" have been delivered to the French Air Force; additionally batches of 110 and 60 respectively have been produced for the Indian and Israeli Air Forces.

Only the name Mystère (pronounced Mis-stair) is necessary for reporting as neither the earlier types before the IV, nor the IVB or IVN versions, went further than very limited production. Therefore, for all practical purposes, the Mystère IVA is *the* Mystère. This does not, however, include the later Super Mystère with increased sweepback on wings and fin. Variations in the Mystère concern only stores, including auxiliary fuel tanks and Matra rocket containers, which may be slung from four attachment points, two under each wing.

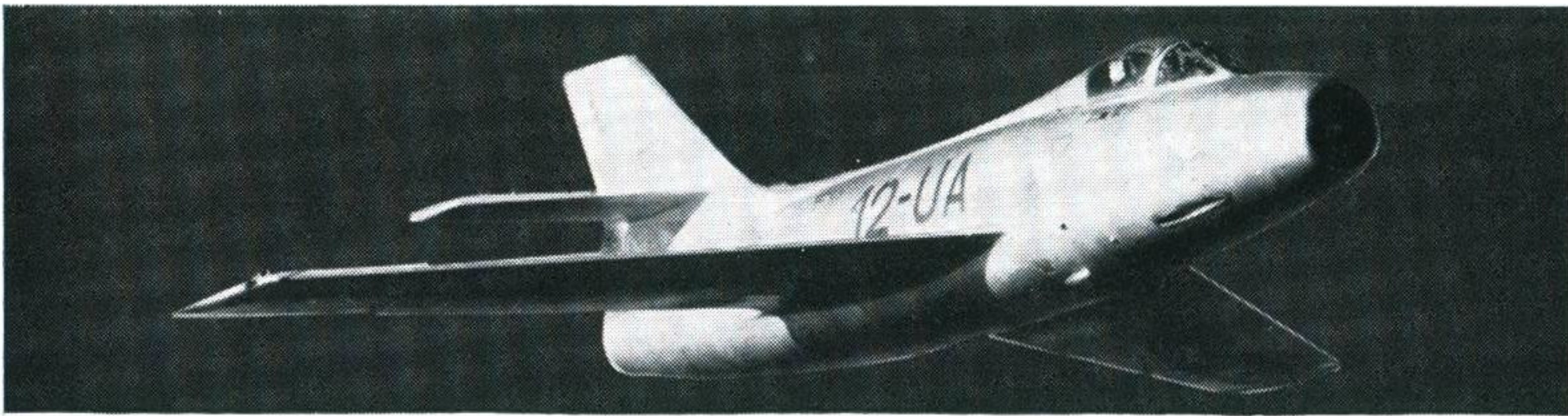
To dispel any mystery about Mystère identification, read the lesson instructions on page 237.





Solutions on the cover.

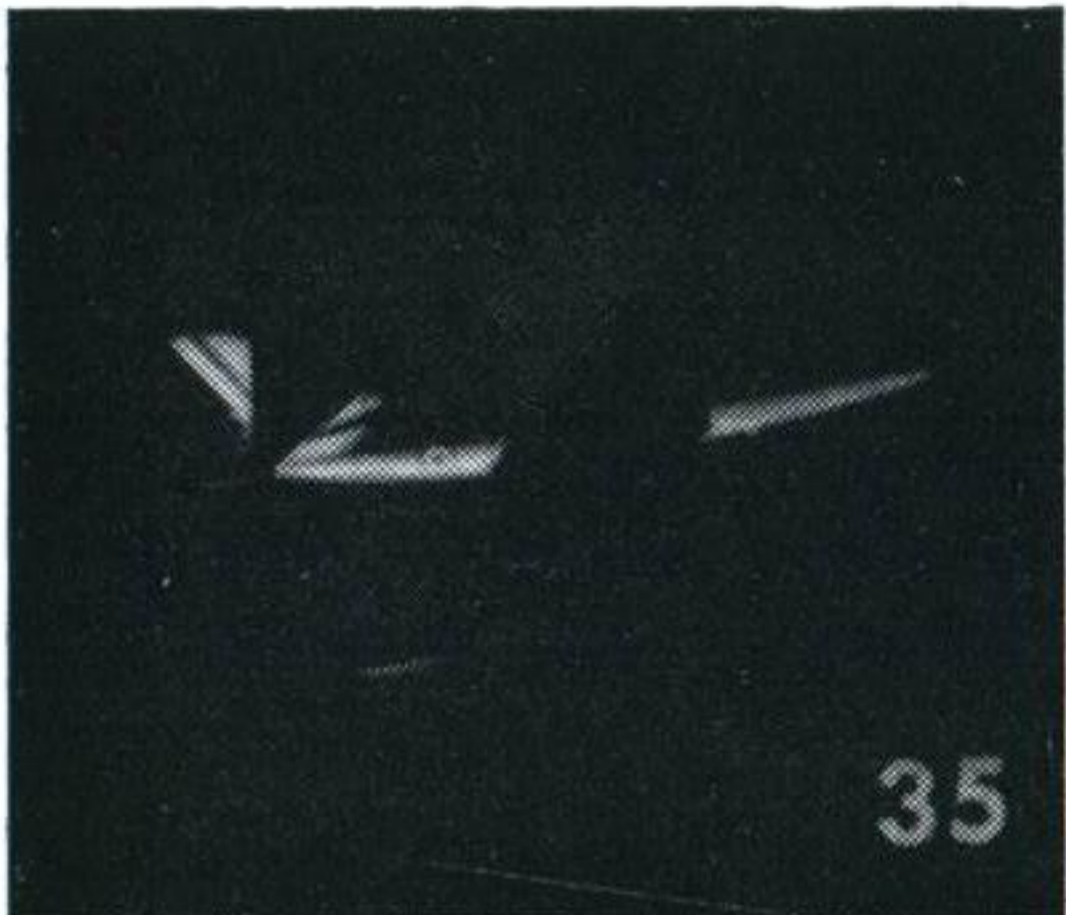
**MYSTÈRE (continued)**



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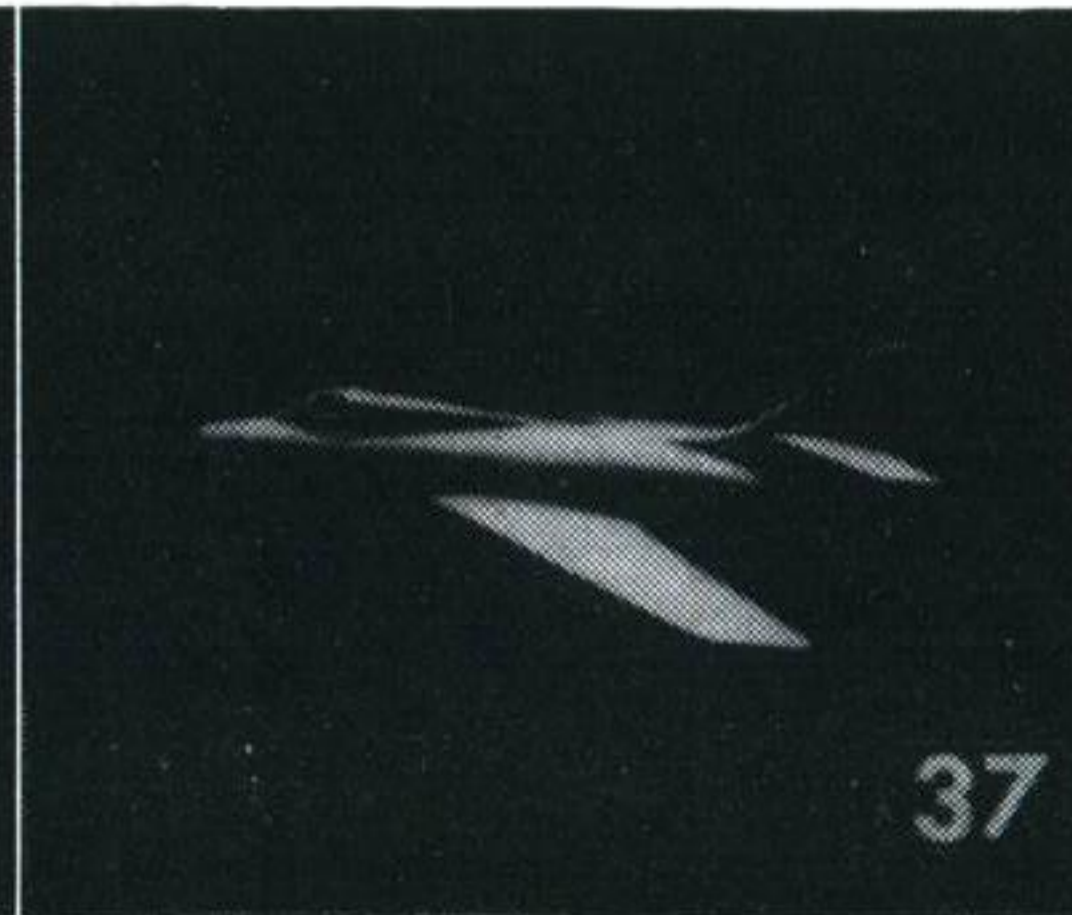
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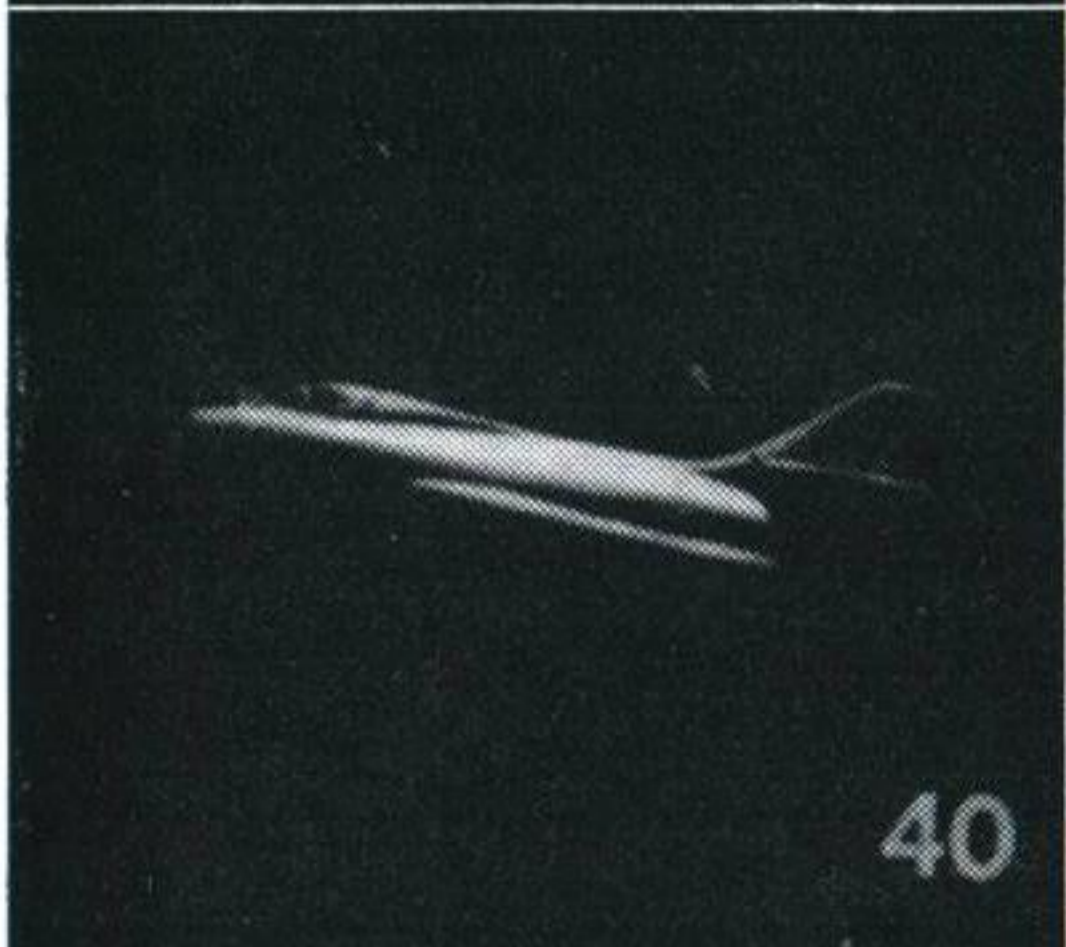
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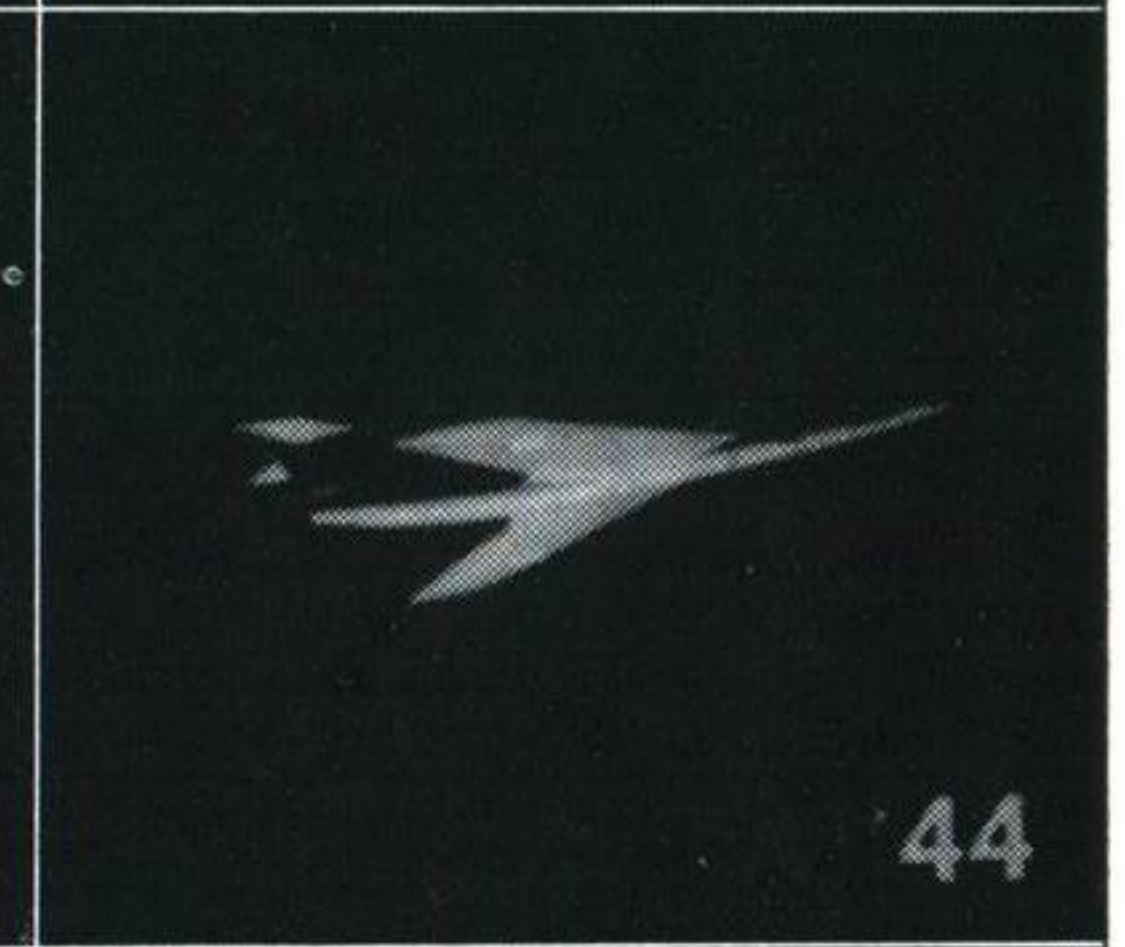
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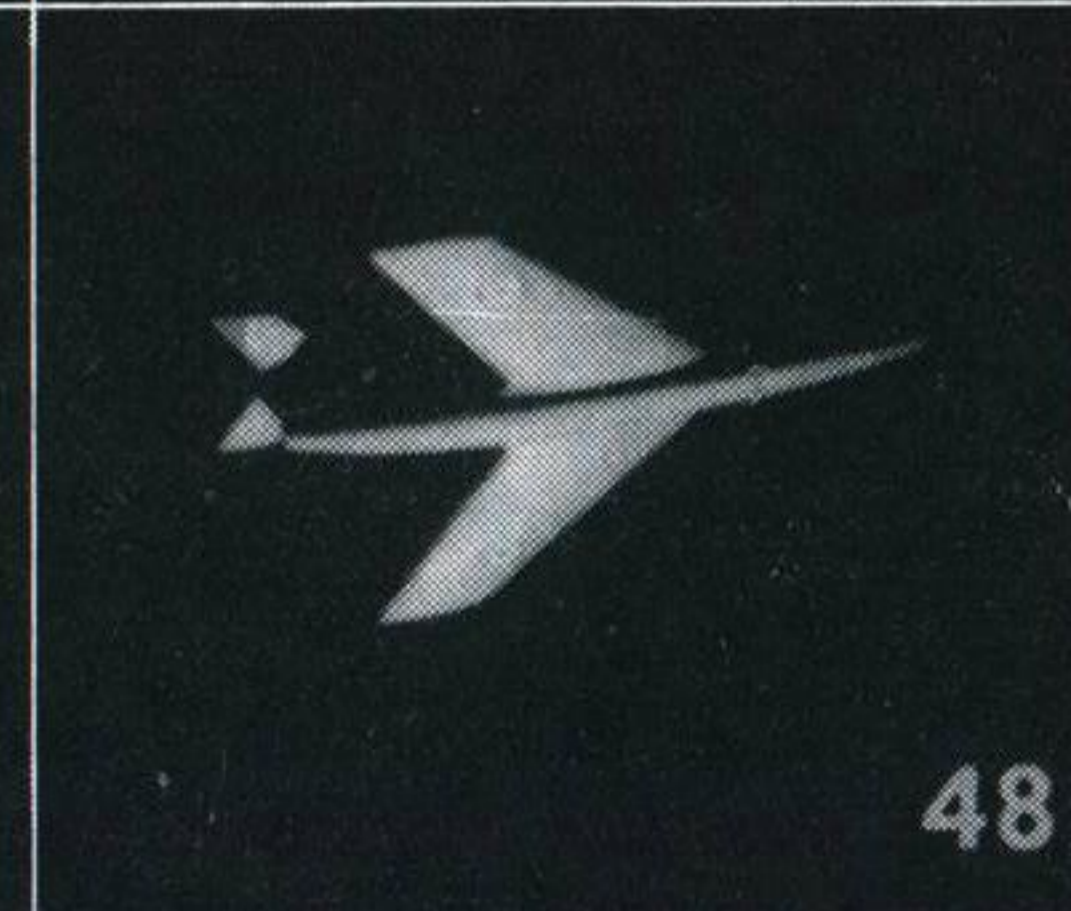
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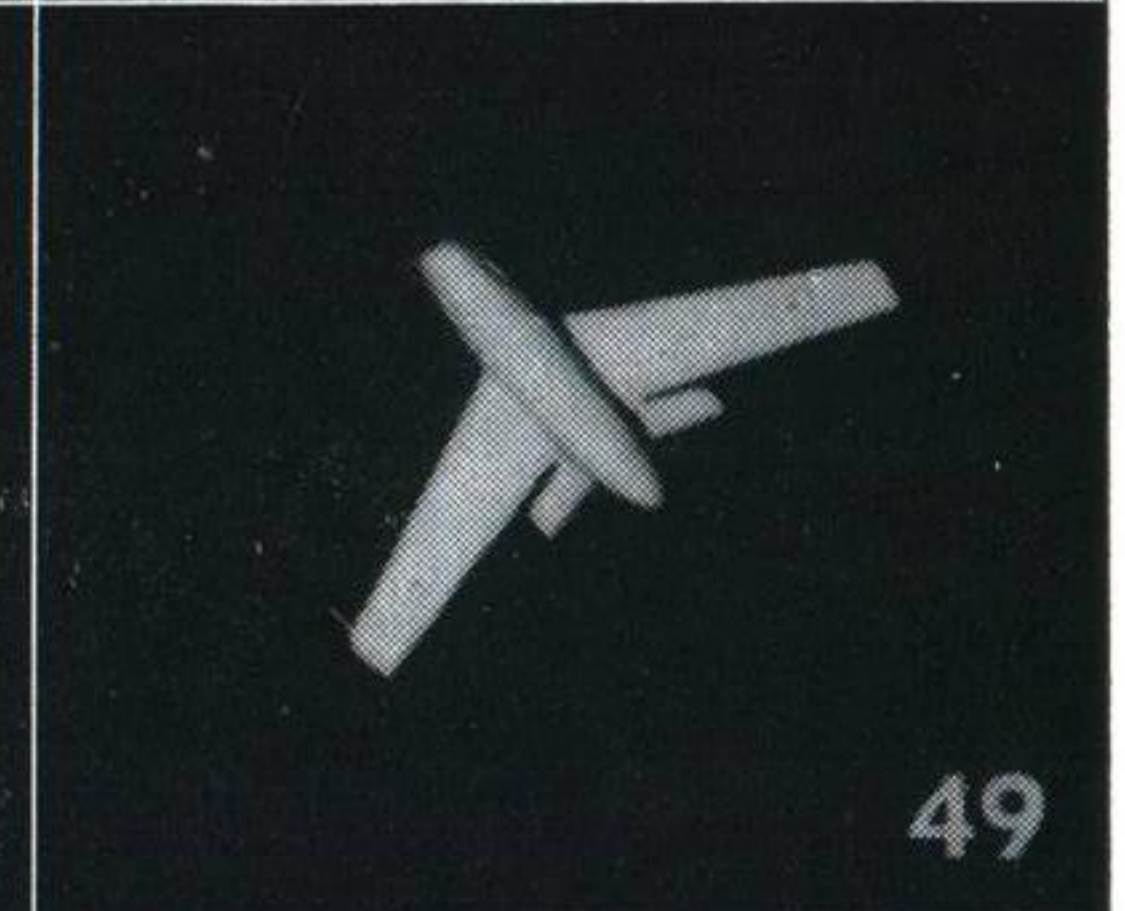
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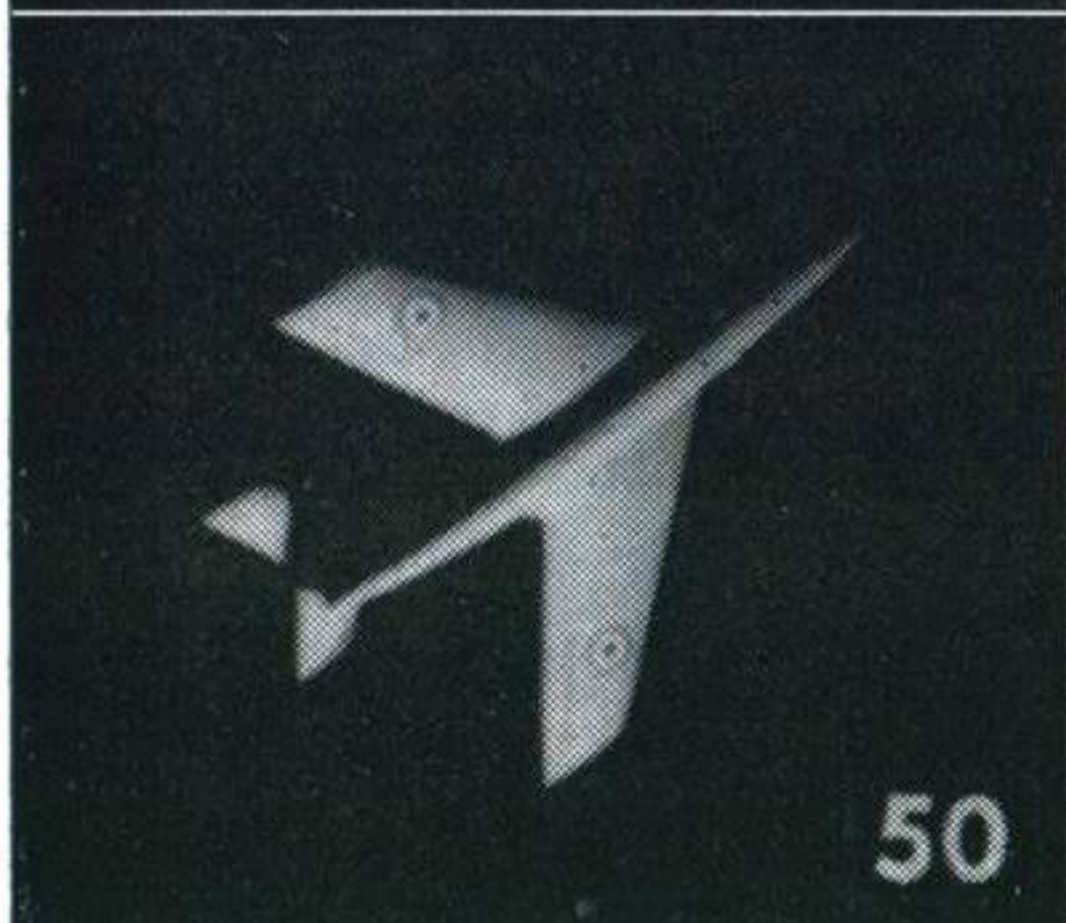
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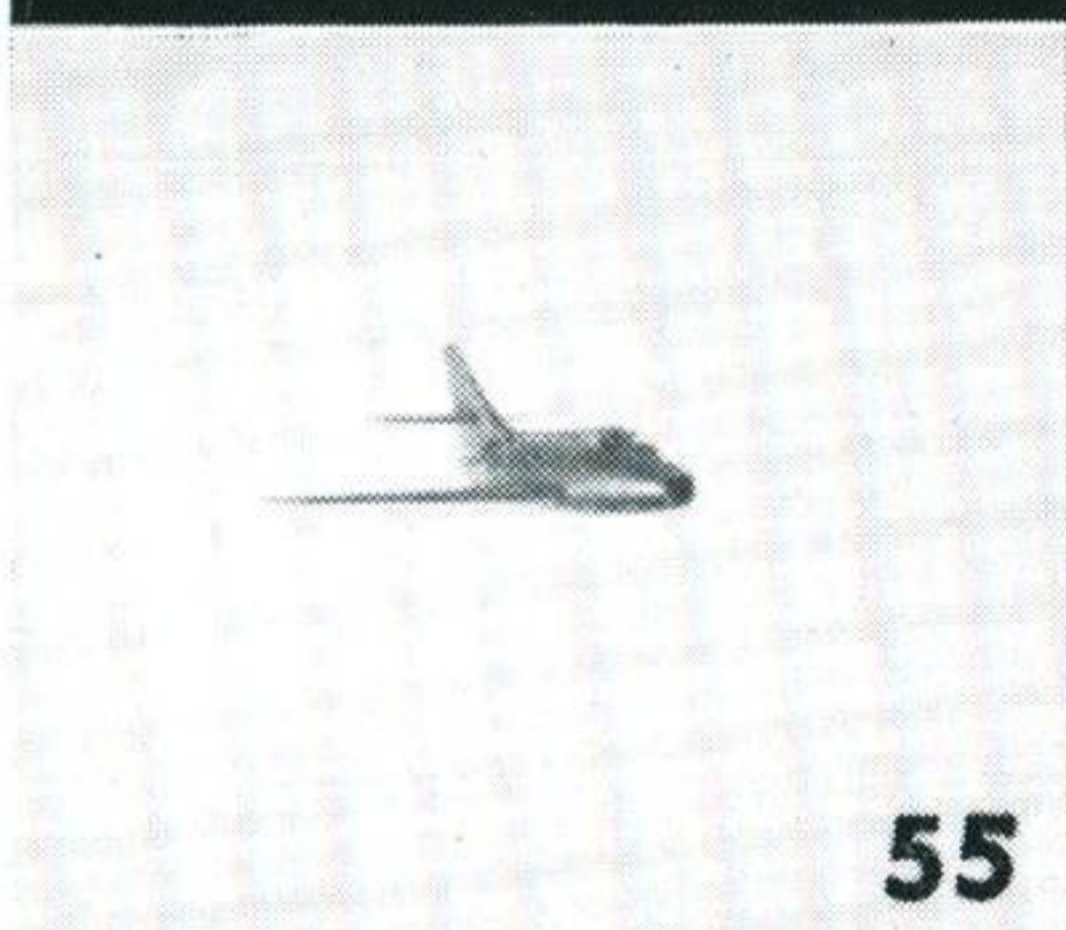
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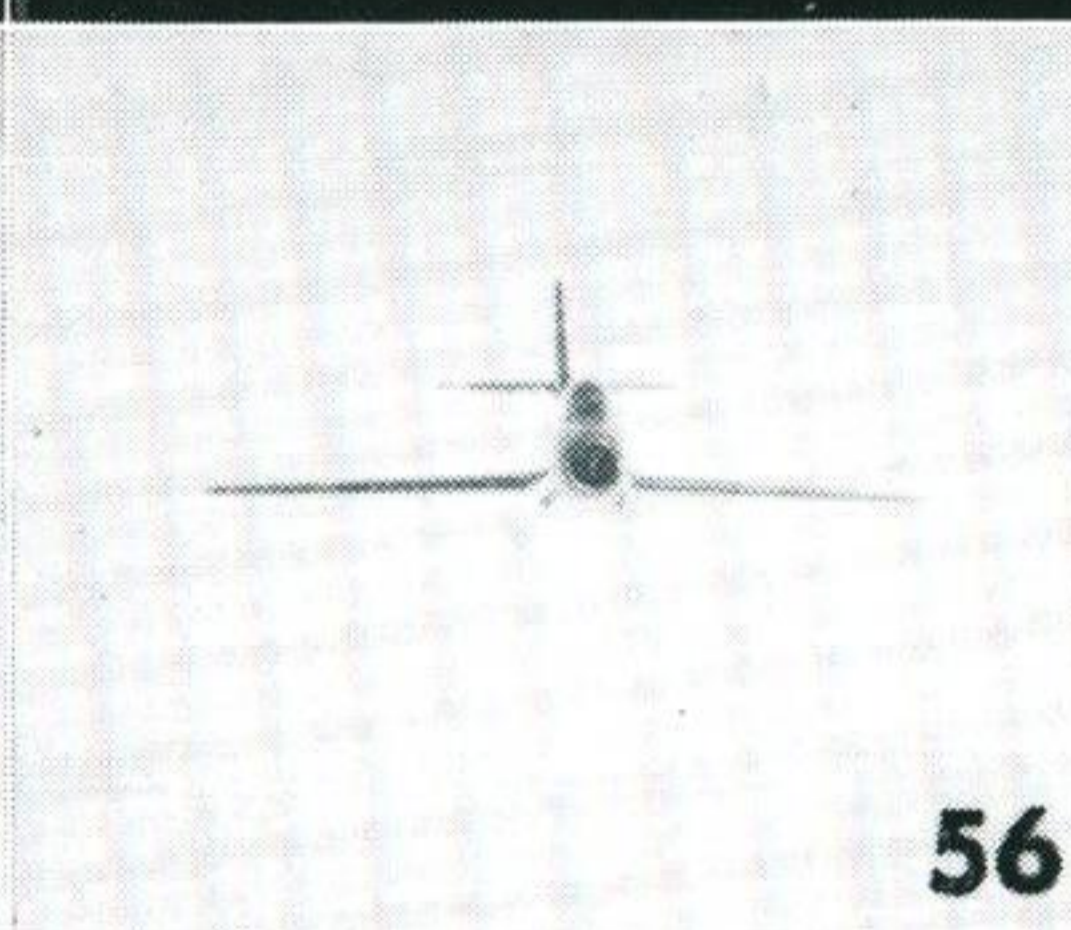
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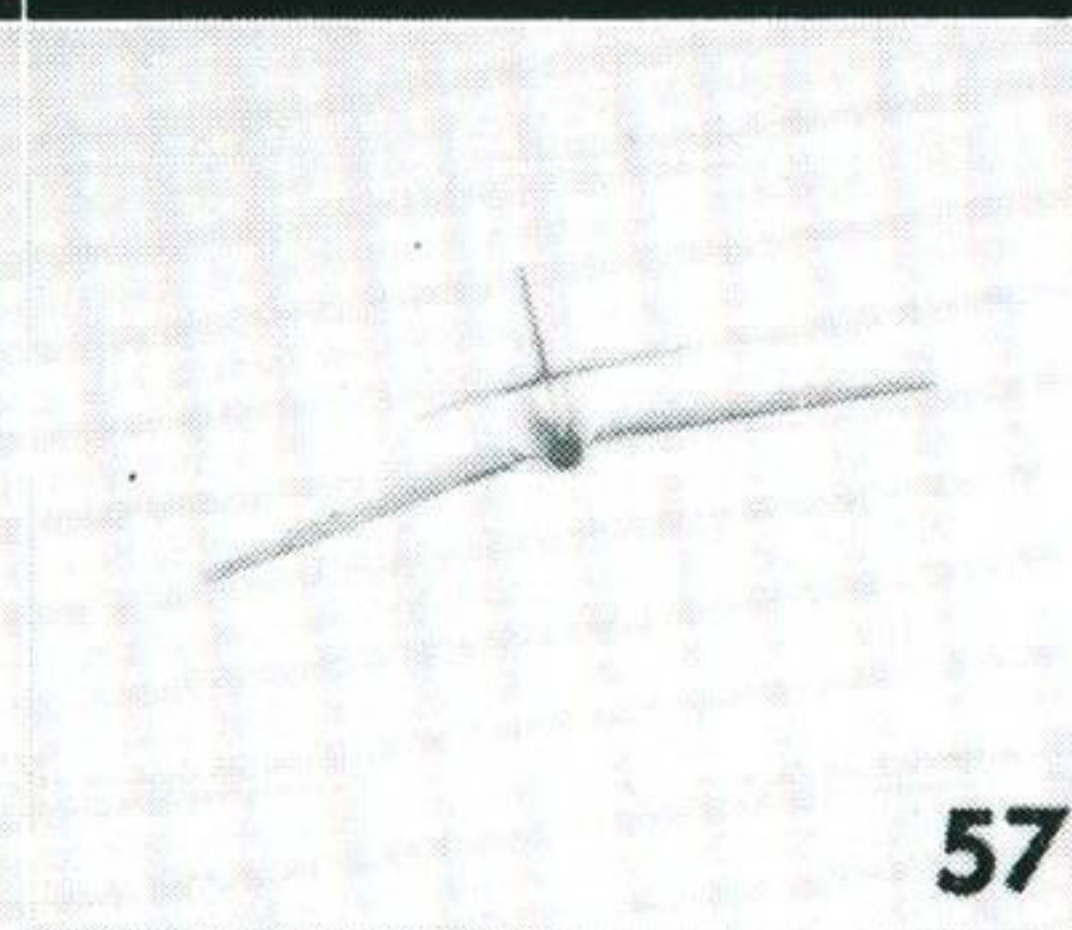
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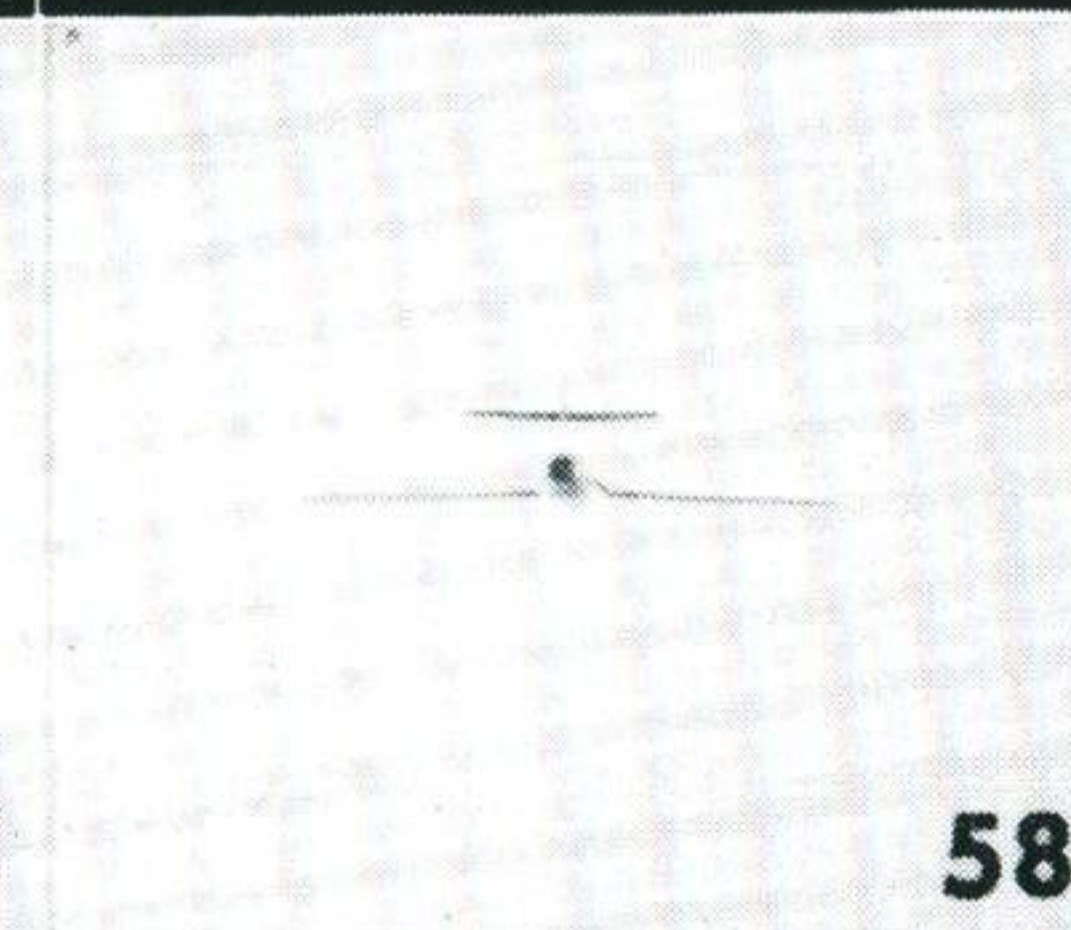
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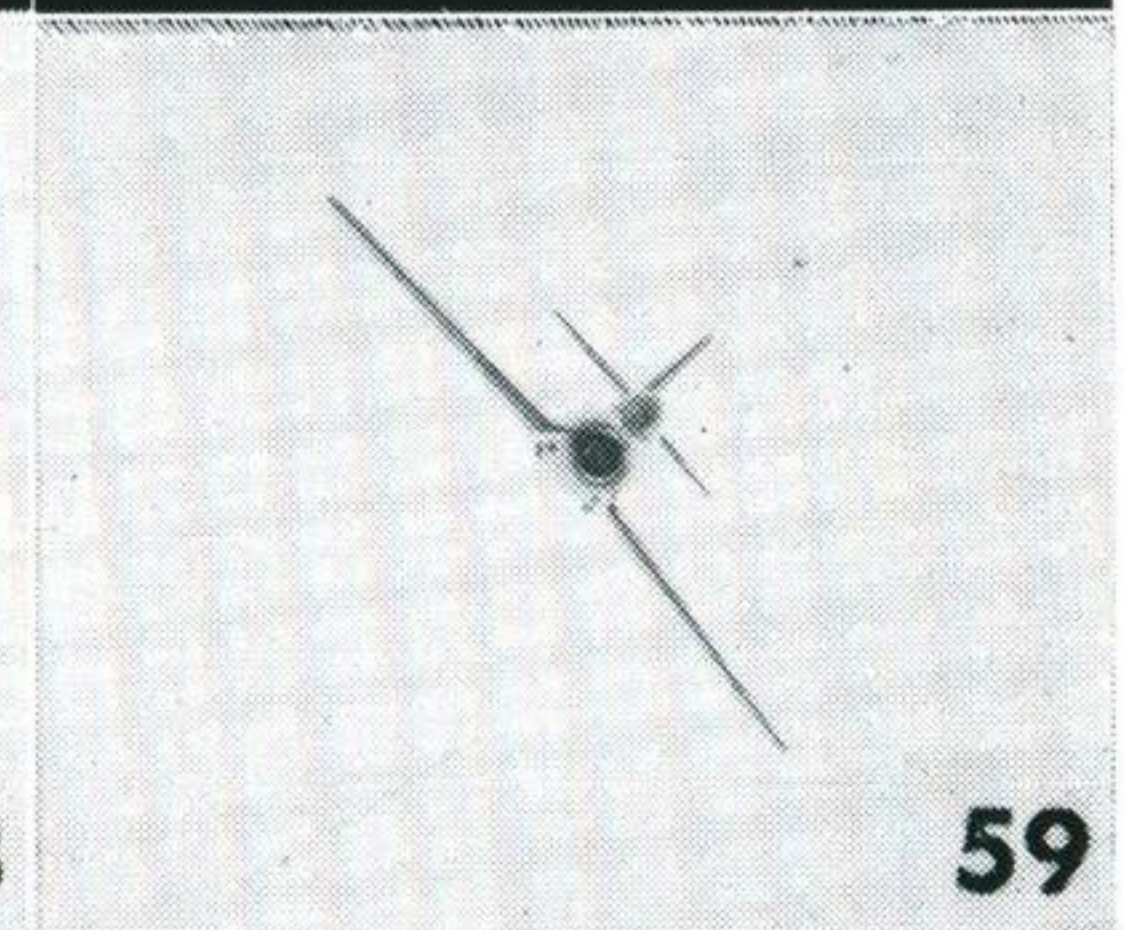
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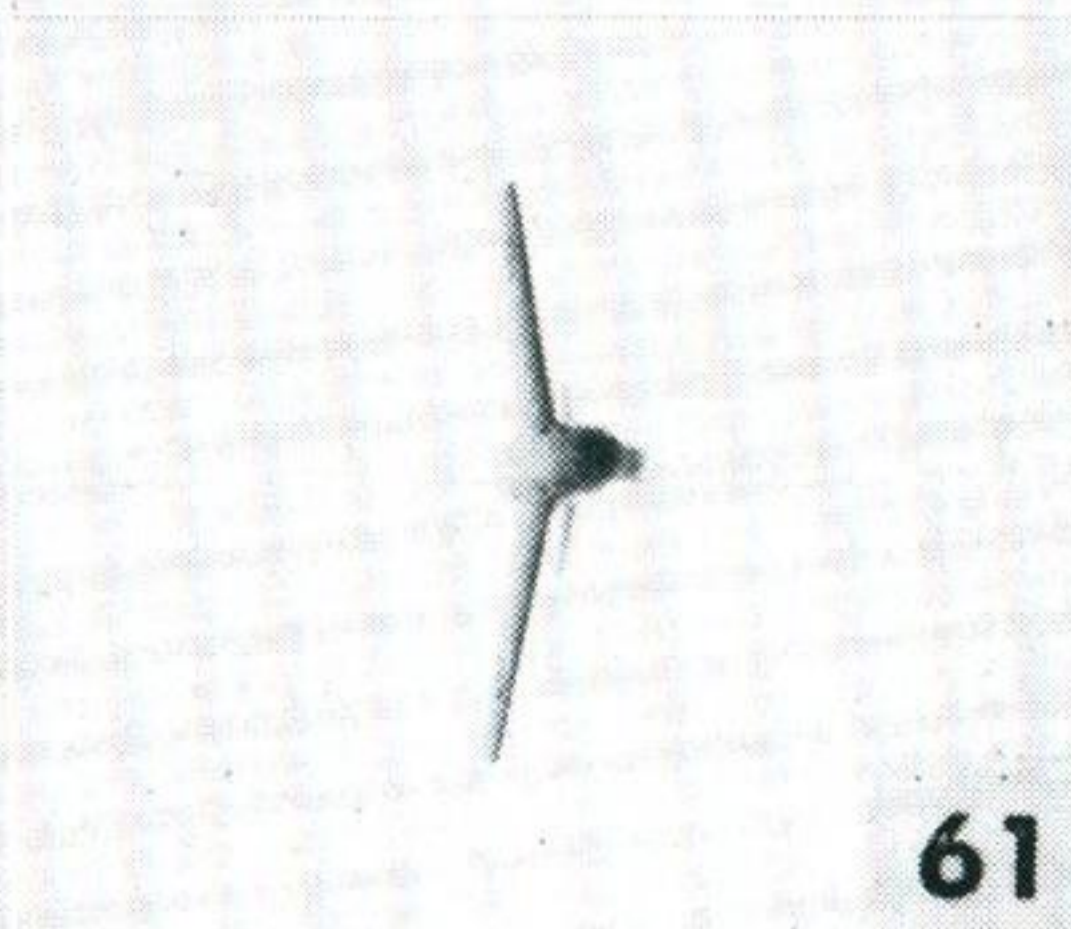
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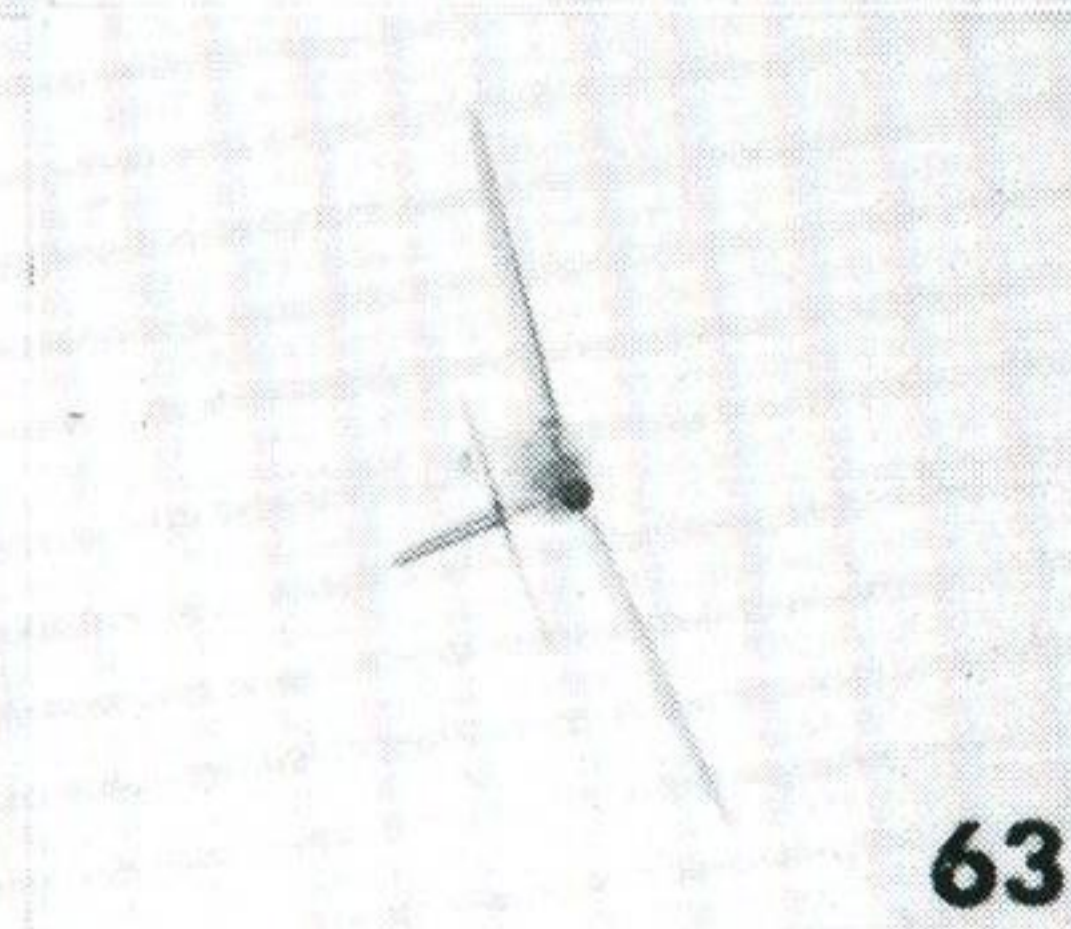
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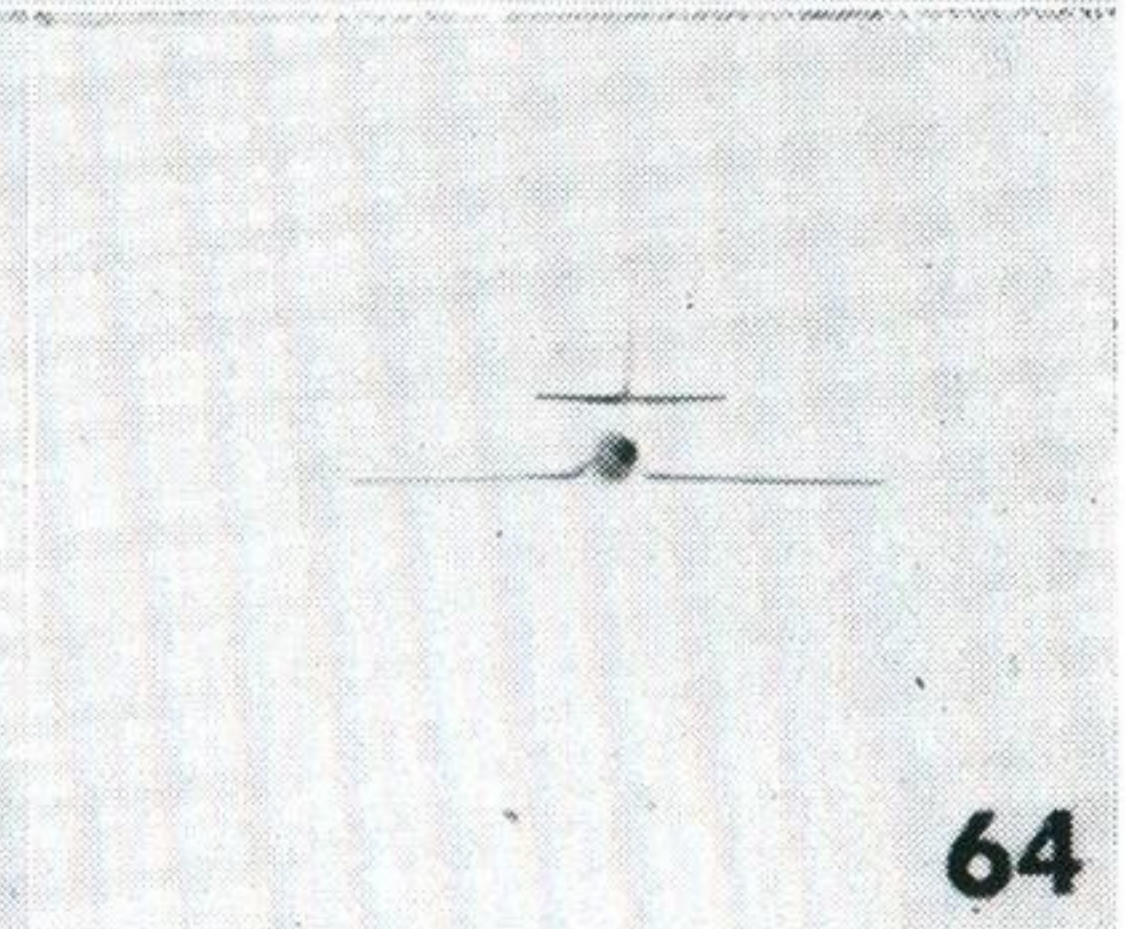
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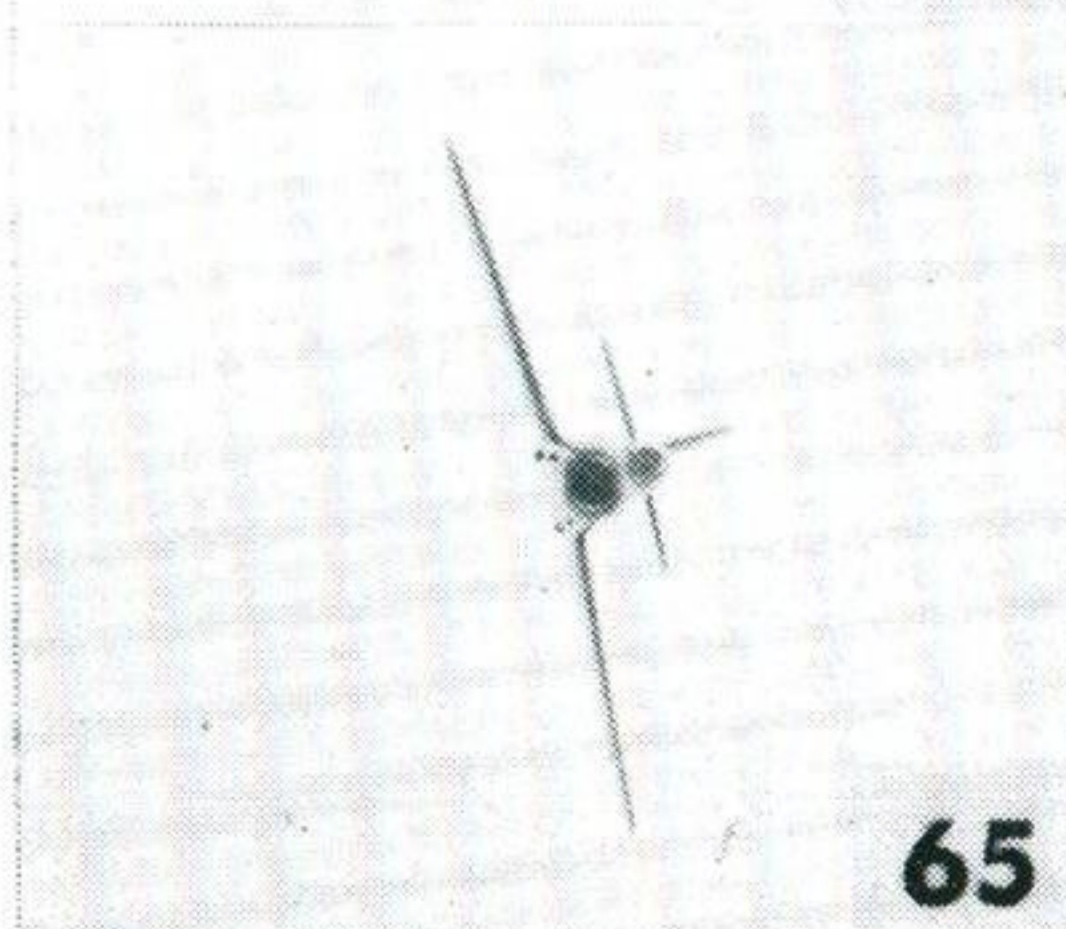
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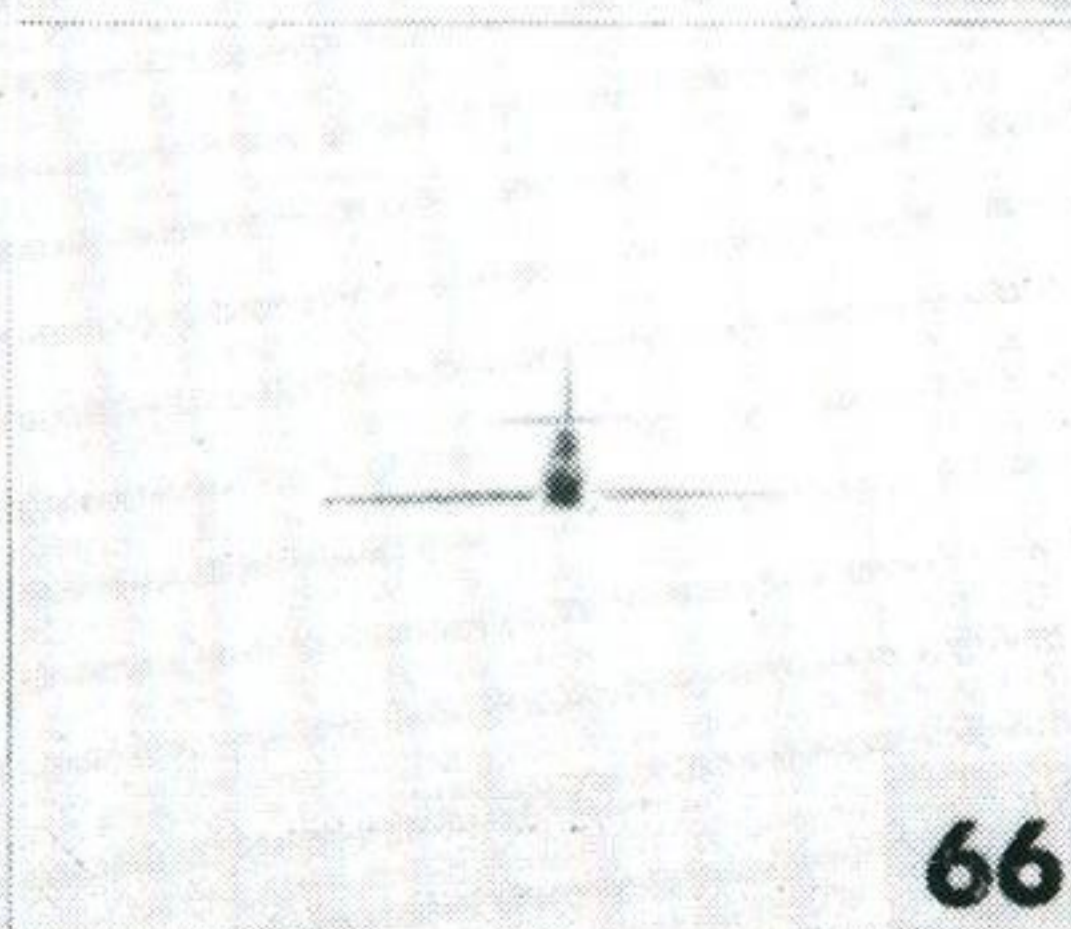
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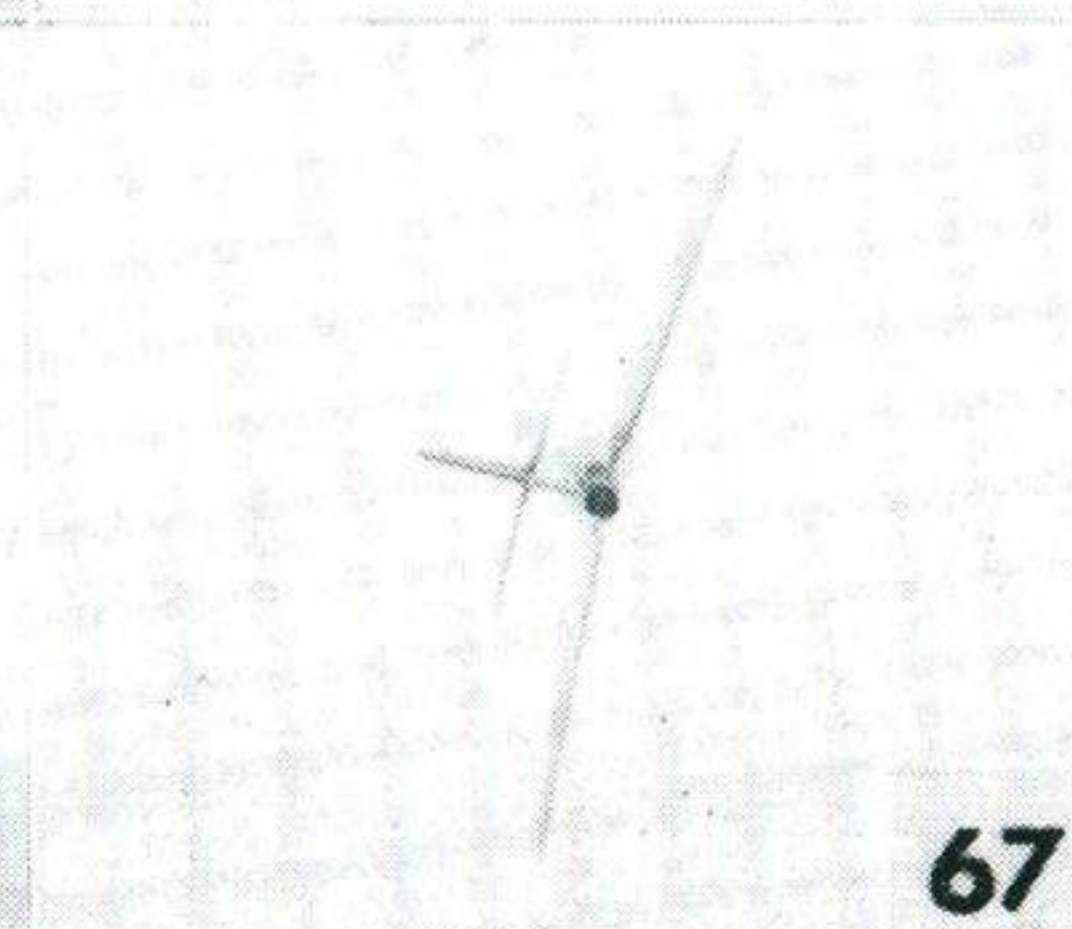
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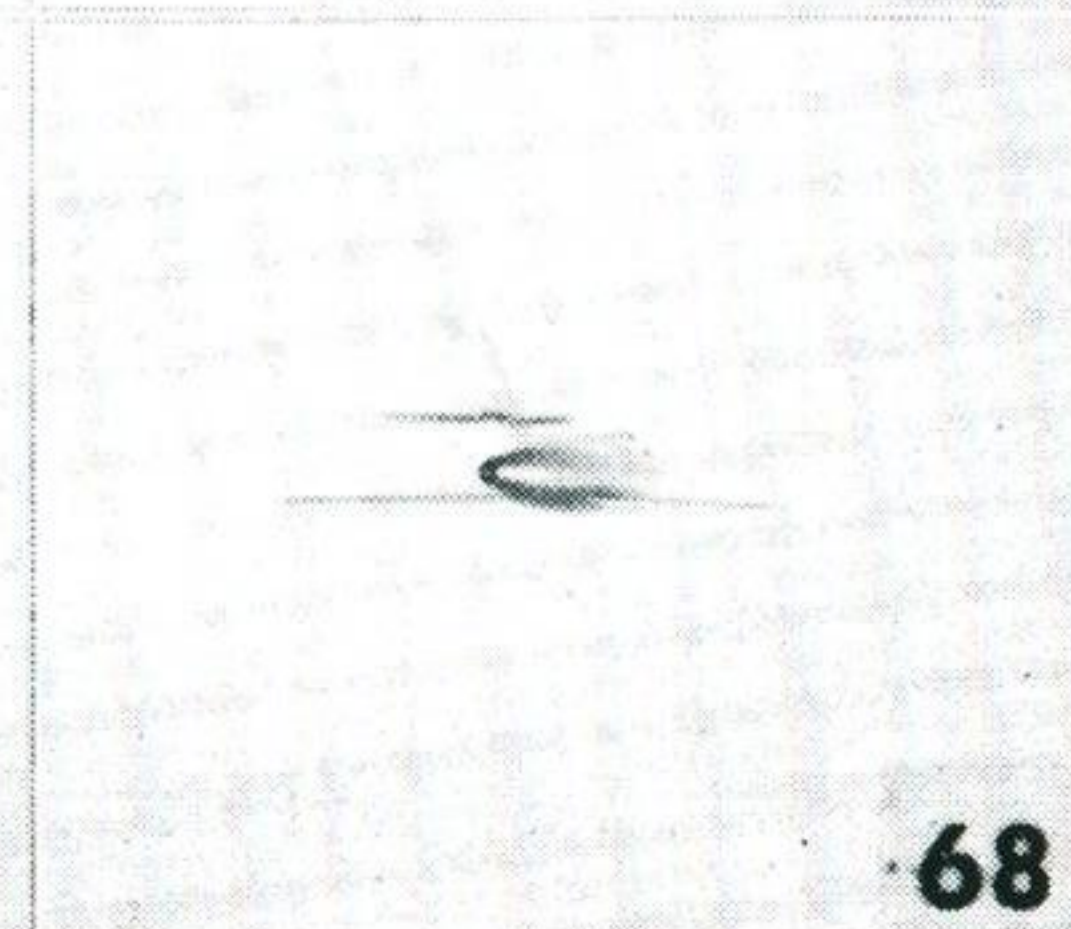
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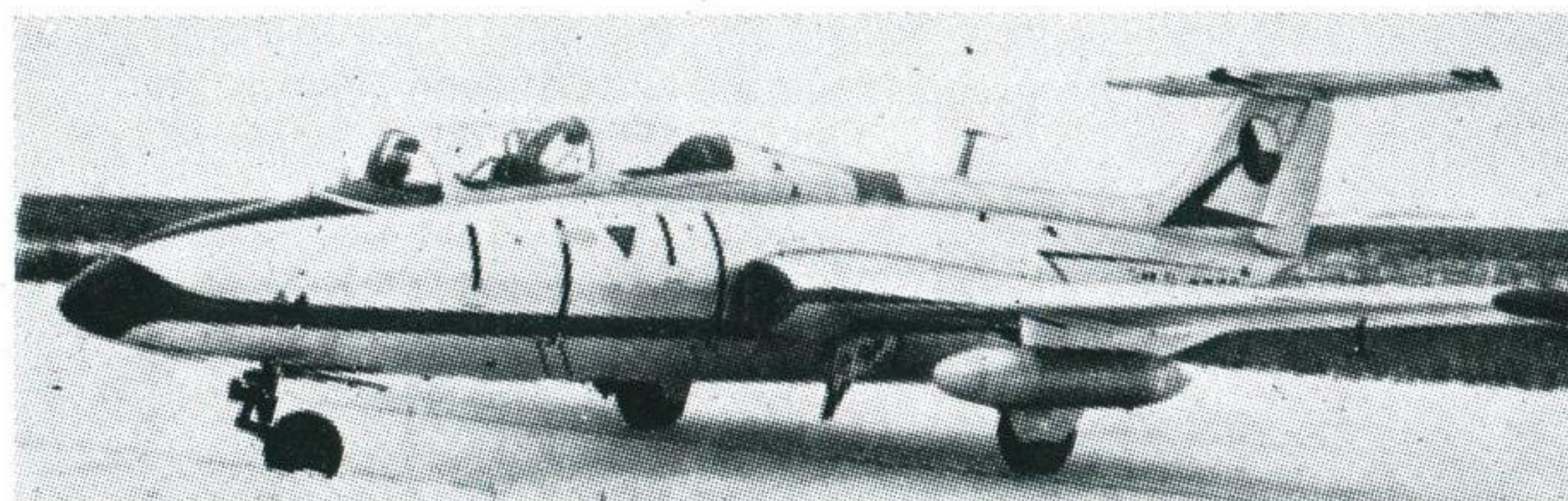
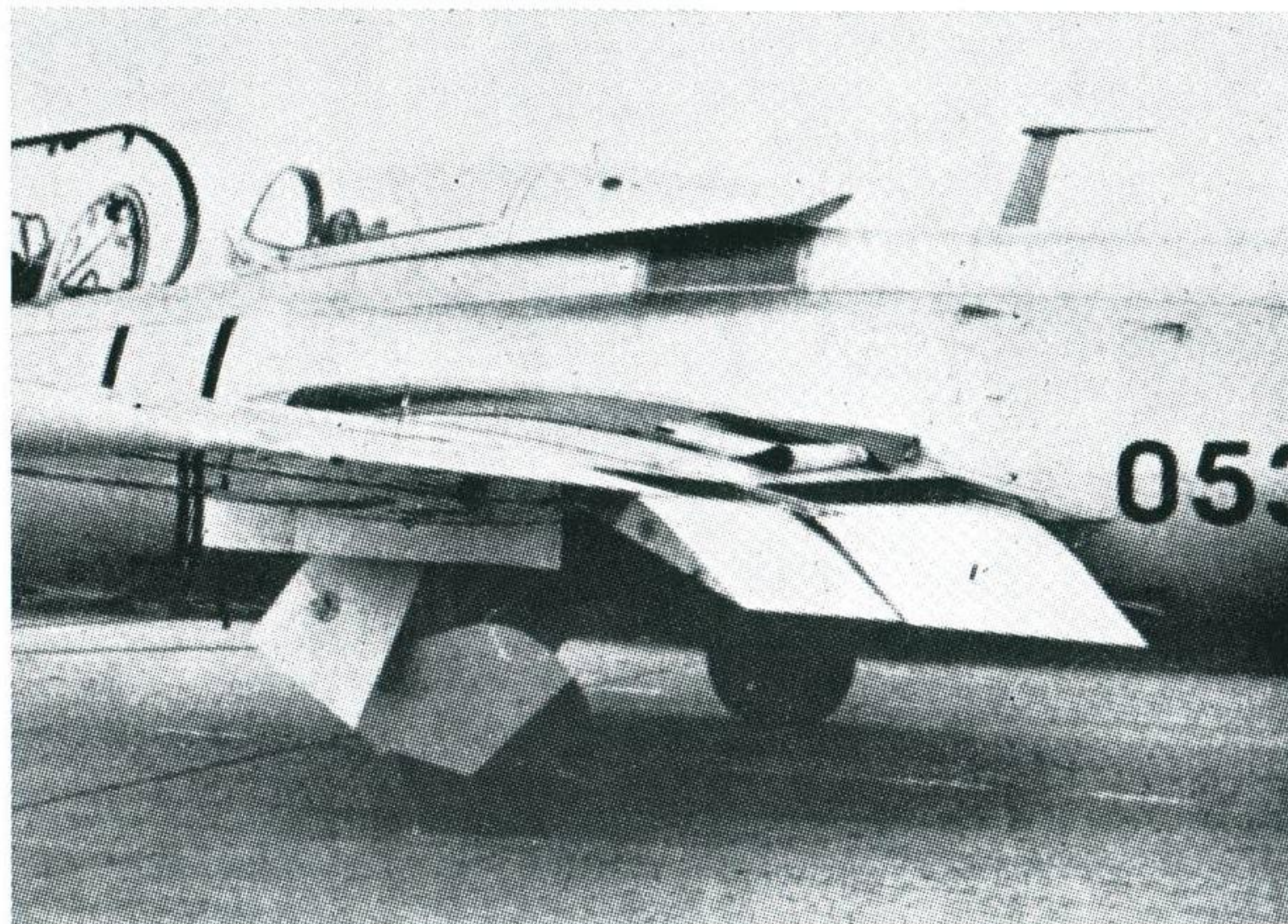
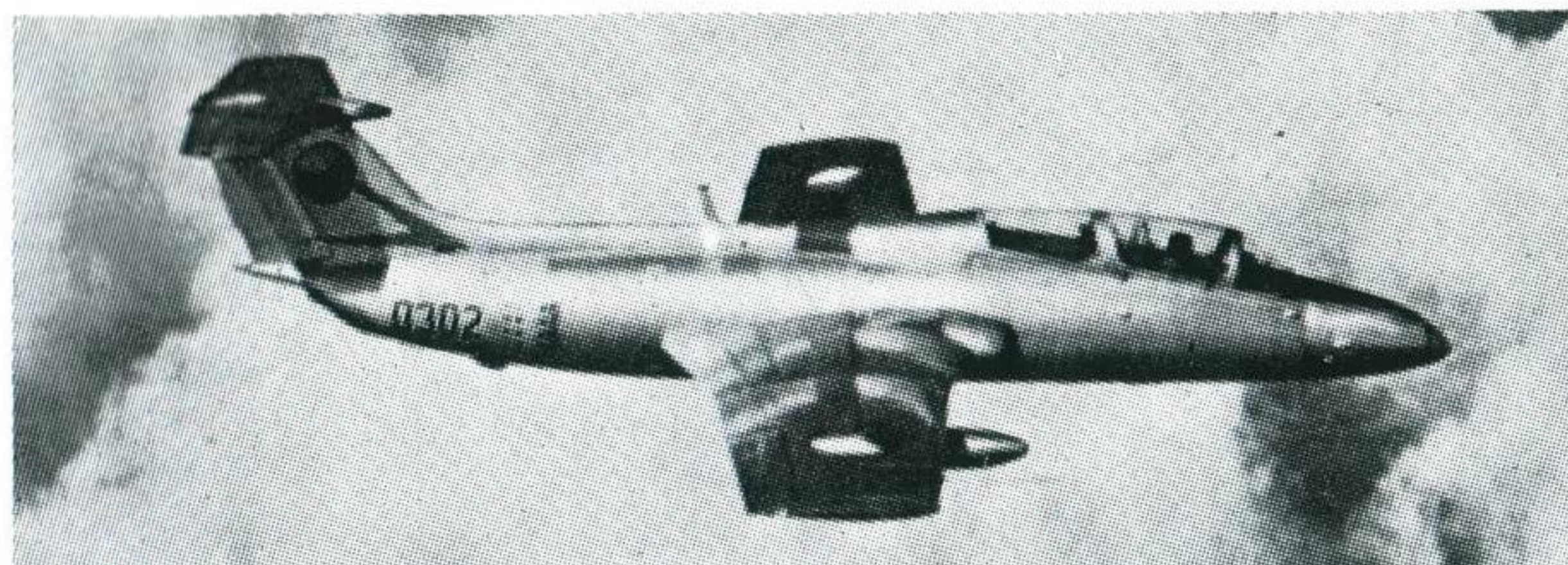
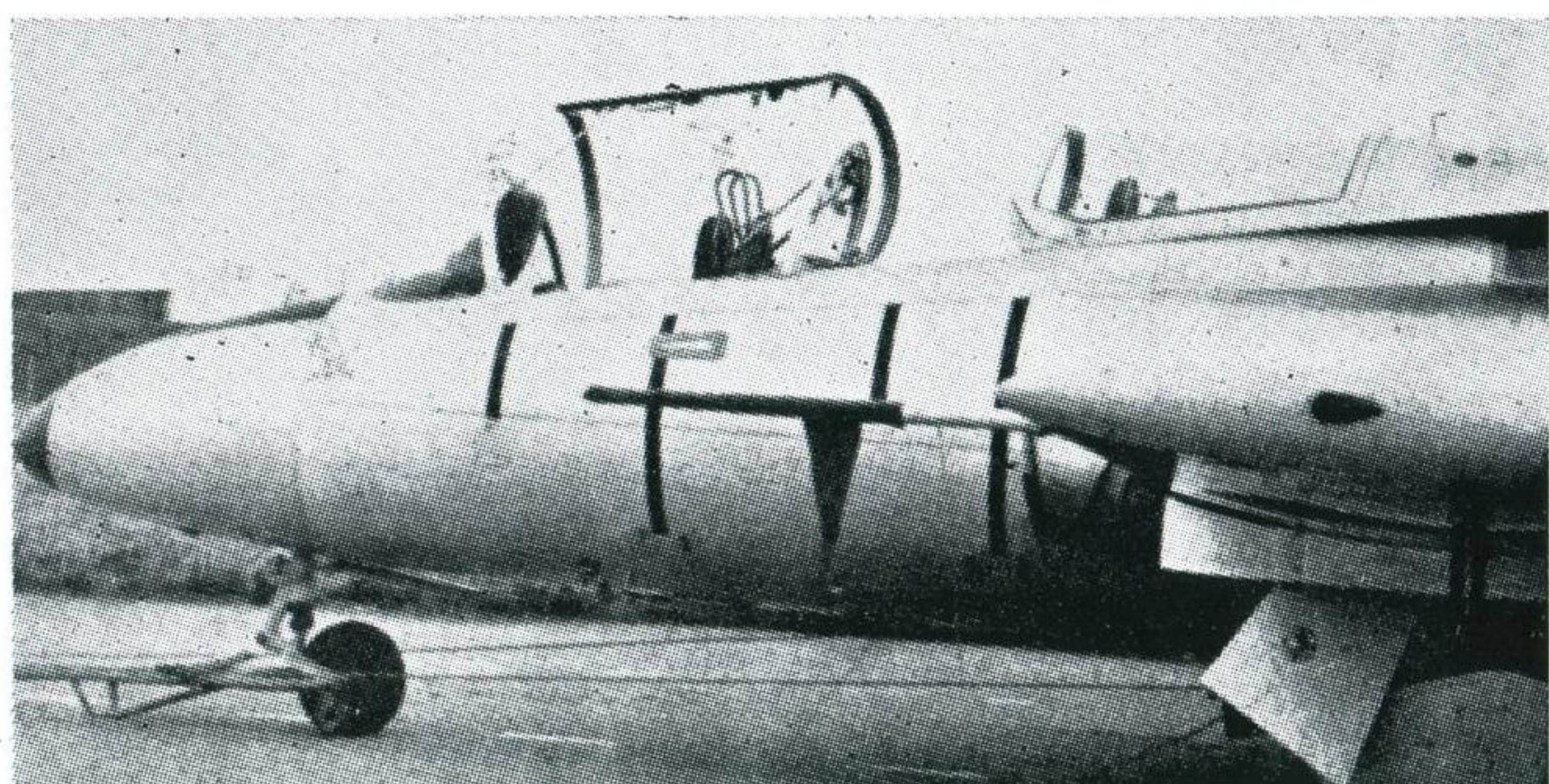
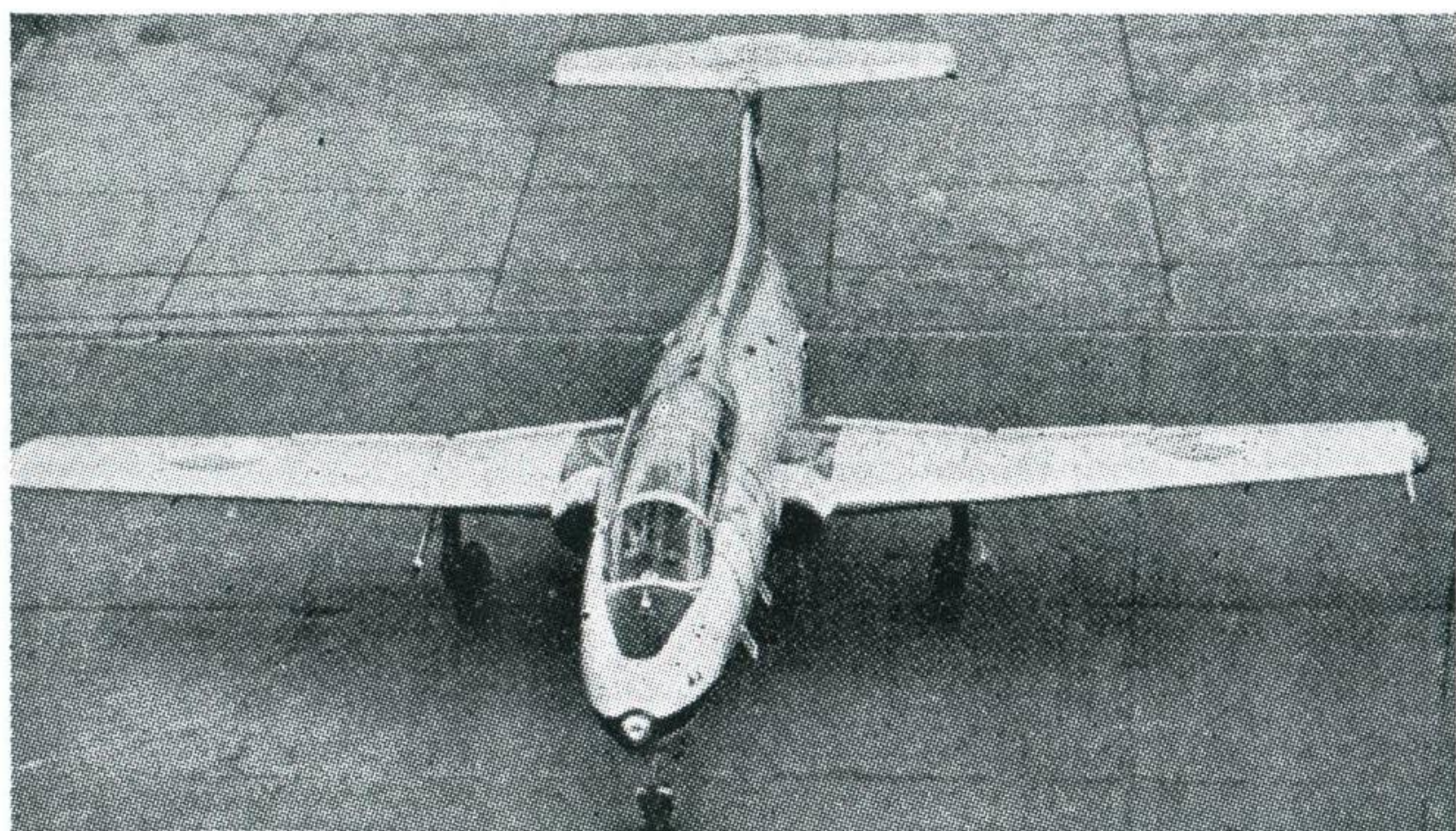
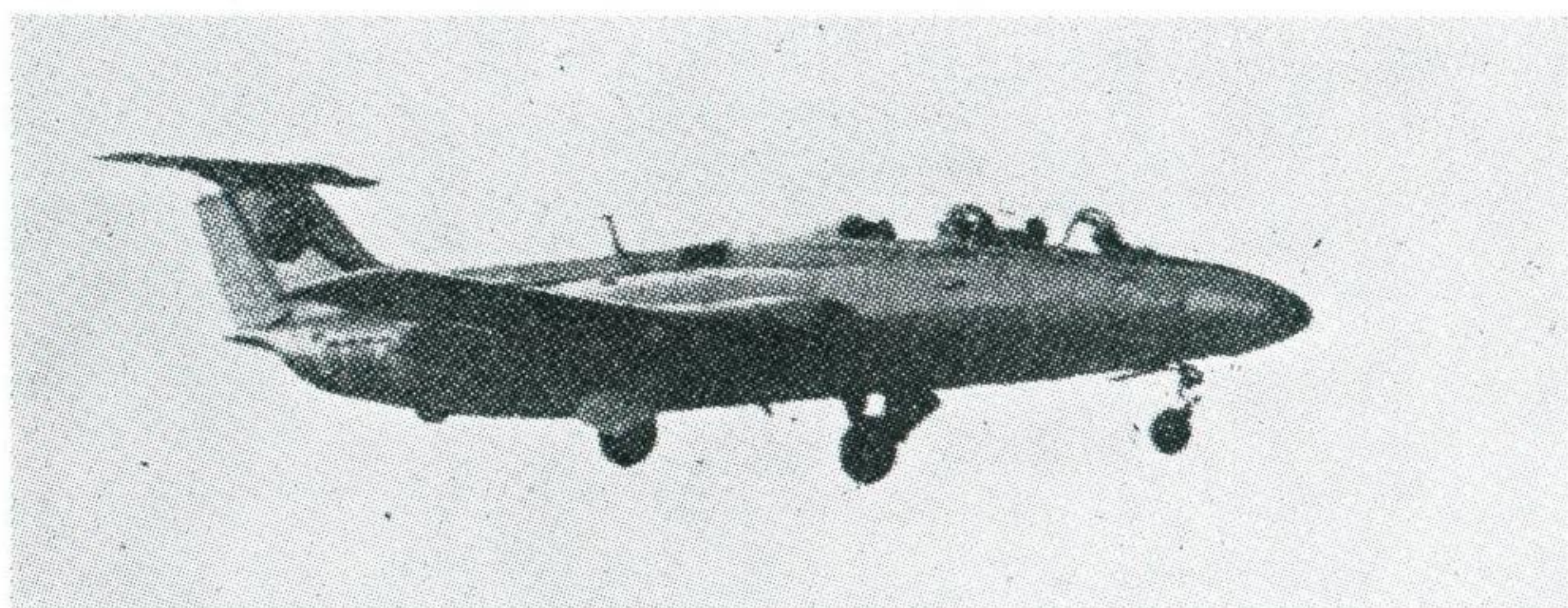
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# DELFIN

The Czech equivalent of our Jet Provost, the L-29 Delfin is now in production for the Czech Air Force. Auxiliary fuel tanks may be carried under the wings as shown and it is to be expected that light bombs could be carried in an armament training role. Its speed is in the 400 m.p.h. range.



# THE PICK OF THE PAST

Issues of the Joint Services Recognition Journal from 1958 onwards contain a considerable amount of training devices which are current and are held in stock at A.P.F.S., Kidbrooke, for issue on demand through the usual channels. Items worthy of particular note are listed below.

Vol. 13 No. 2 February 1958

A single page lesson appears on the French **Broussard**, a type still in military use for light liaison duties. There are also three pages on the **Cougar**, **Demon** and **Voodoo**, types that are still used but owing to relegation to reserve units or in limited use have not appeared in the more recent issues.

Vol. 13 No. 4 April 1958

**Britannia** airliners are still much in evidence and will appear again, but in the interim here is a page on Britannia identification. **Provider** and **Camp** are respectively American and Russian transports; they have much in common in configuration which is all the more reason why you should know them apart.

Vol. 13 No. 5 May 1958

**Varsity** and **Viking**, both still flying, but would you recognise them for what they are—if not apply for this *Journal*.

Vol. 13 No. 6 June 1958

If you want the February 1958 issue for the **Voodoo** and **Demon** mentioned above, apply also for this edition.

Vol. 13 No. 7 July 1958

The **Argus** is an important operational aircraft and will appear again in the *Journal*, meanwhile here is a lesson to hand. This issue is the only one available with a lesson on the **Piaggio P149D**, a trainer in use in Italy and Western Germany.

Vol. 13 No. 12 December 1958

The Russian **Beagle** should by now be well known, but to make sure this highlight lesson is recommended.

Vol. 14 No. 1 January 1959

A four-page lesson is devoted to the positive identification of the **Cargomaster** and a one-page lesson presents 24 target views of the **Twin Bonanza**.

Vol. 14 No. 2 February 1959

The **Canberra** is still an important aircraft and thereby so is this issue of the *Journal*.

Vol. 14 No. 4 April 1959

**Devon** and **Heron** aircraft are still widely used and both may be seen in R.A.F. colours.

Vol. 14 No. 6 June 1959

If you require the February 1959 issue for the **Canberra** mentioned above, apply also for this issue.

Vol. 14 No. 7 July 1959

Two important transport aircraft appear in this edition, the military **Hastings** and the civil **Electra**.



Vol. 14 No. 12 December 1959

Both the **Herald** and the **Friendship** have appeared in more recent editions, but in this edition they appear together for you to sort out. Do not use this as an initial lesson, but try it out after learning these two similar types separately.

Vol. 15 No. 1 January 1960

For the **Shackleton M.R.3**, here is the lesson.

Vol. 15 No. 3 March 1960

The **MS760 Paris** light jet is given two pages in this issue.

Vol. 15 No. 4 April 1960

The title "Still Going Strong" given to a lesson on the **C-46 Commando** is endorsed.

Vol. 15 No. 5 May 1960

Specially recommended is "Highlights on Heavyweights" featuring the **Coot** and the **Cargomaster**.

Vol. 15 No. 7 July 1960

Although withdrawn from R.C.A.F. first-line service, the **CF-100** is still flying.

Vol. 15 No. 8 August 1960

A refresher identification course on the **Beverley** is here for the asking and this is the only *Journal* with a lesson on the **Auster Aiglet**.

Vol. 15 No. 9 September 1960

Specially recommended is a test of air reconnaissance type pictures with ground shots of over a hundred aircraft.

Vol. 15 No. 10 October 1960

For the **Britannia**, **Neptune**, **Convair 880**, **Thunderstreak**, **Coot**, **Argus**, **Caravelle**, **Comet** and **Varsity** book this issue.

Vol. 15 No. 11 November 1960

For a comprehensive lesson on the **Super Mystère** with normal target shots, end-on and highlight views, obtain this issue. The lesson in this edition on the **Bristol Freighter** has the sub-title "Still Going Strong"—that is equally true now.

Vol. 15 No. 12 December 1960

**Coot** is presented in normal, end-on and highlight views here.

Vol. 16 No. 1 January 1961

**Cat** is presented in this issue similar to **Coot** above and this is an excellent issue for tests.

Vol. 16 No. 2 February 1961

**Camp** is given the same treatment as **Coot** and **Cat** above with highlight and end-on views.

Vol. 16 No. 3 March 1961

The **Packet** (or **Box-car**) is still flying in many parts of the world and the 1961 lesson on this aircraft in this issue is likely to be current for several years to come.

Vol. 16 No. 5 May 1961

This was an all-helicopter edition with much of the lesson and reference material still current.

Vol. 16 No. 6 June 1961

The Russian **Hound**, the equivalent of our **Whirlwind**, is the subject of a lesson in this edition.

Vol. 16 No. 7 July 1961

The last lesson to appear on the **Saab J-29** Swedish jet fighter, which is also in Austrian service, is in this edition.

Vol. 16 No. 8 August 1961

The only lesson to appear so far on the **Super Broussard** and the latest identification lesson on the **Vanguard**, both appear in this edition.

Vol. 16 No. 9 September 1961

The **Provence** of French civil aviation and the **Sahara** of French military aviation has four pages in this edition in which there is also a four-page presentation on United States Naval Aviation.

Vol. 16 No. 10 October 1961

For the Russian **Hare**, note this edition.

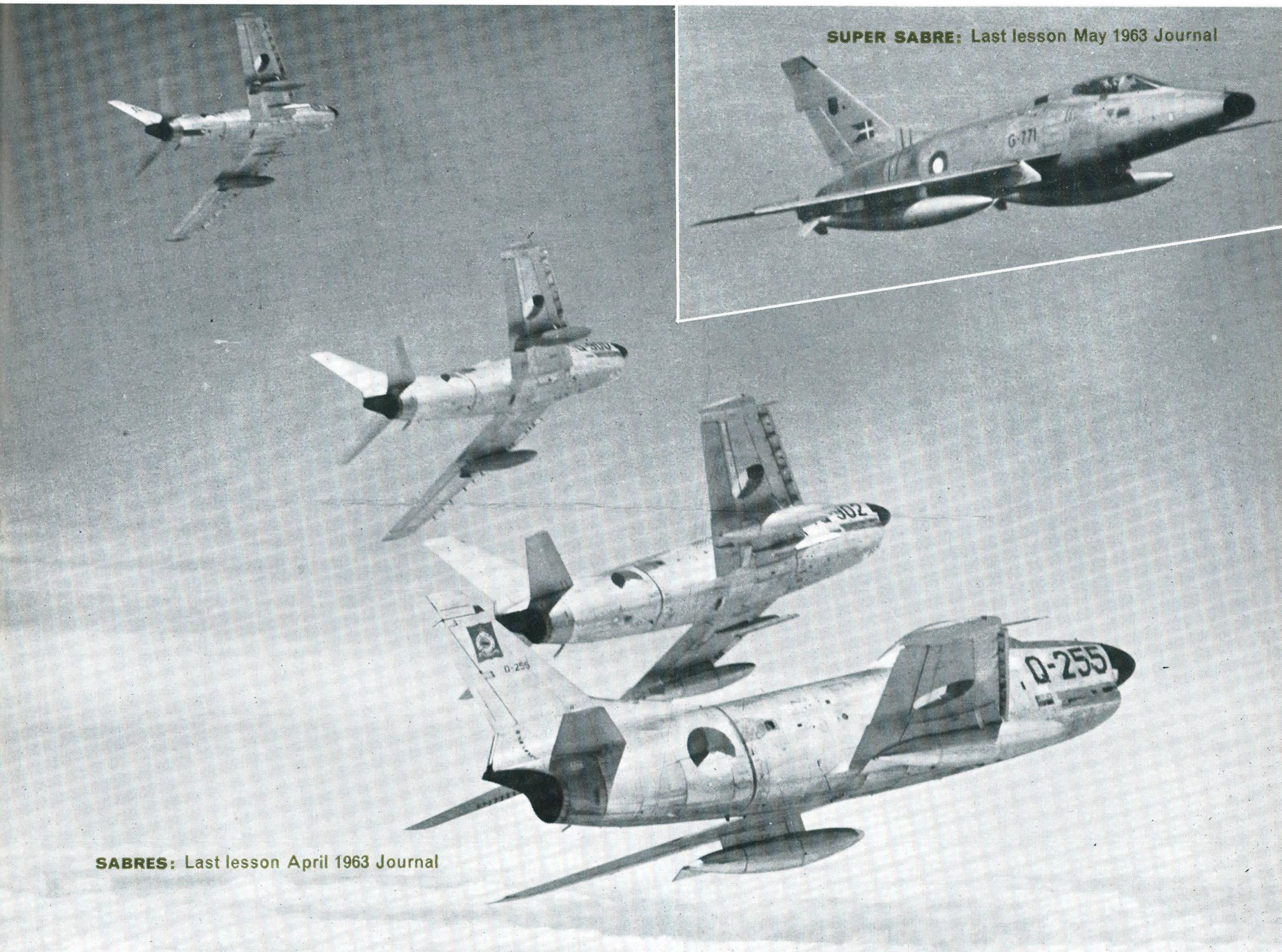
Vol. 16 No. 11 November 1961

Lessons on the **Djinn**, **Vigilante**, **Caravelle**, **Vertol** helicopters, etc., make this edition worth withdrawing from store.

Vol. 16 No. 12 December 1961

The only identification lesson on **Huskie** appears in this issue.

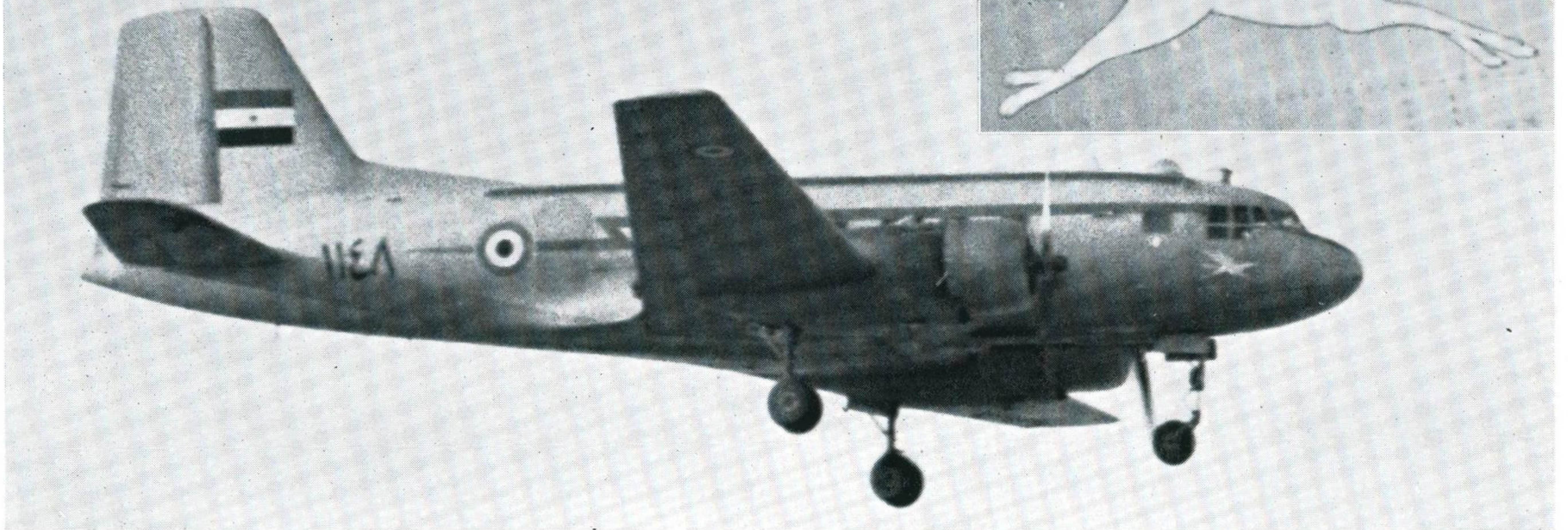
An index appears in the December issue of each year. Use these for a guide to past lessons which are, in the main, still current back to January 1958. This applies equally to ship and armoured fighting vehicle lessons.



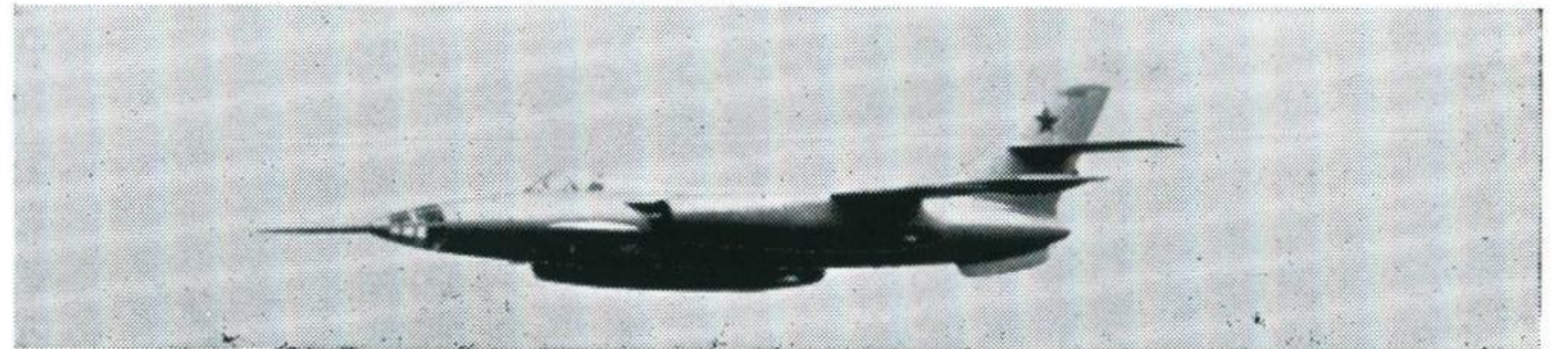
**SUPER SABRE:** Last lesson May 1963 Journal

**SABRES:** Last lesson April 1963 Journal

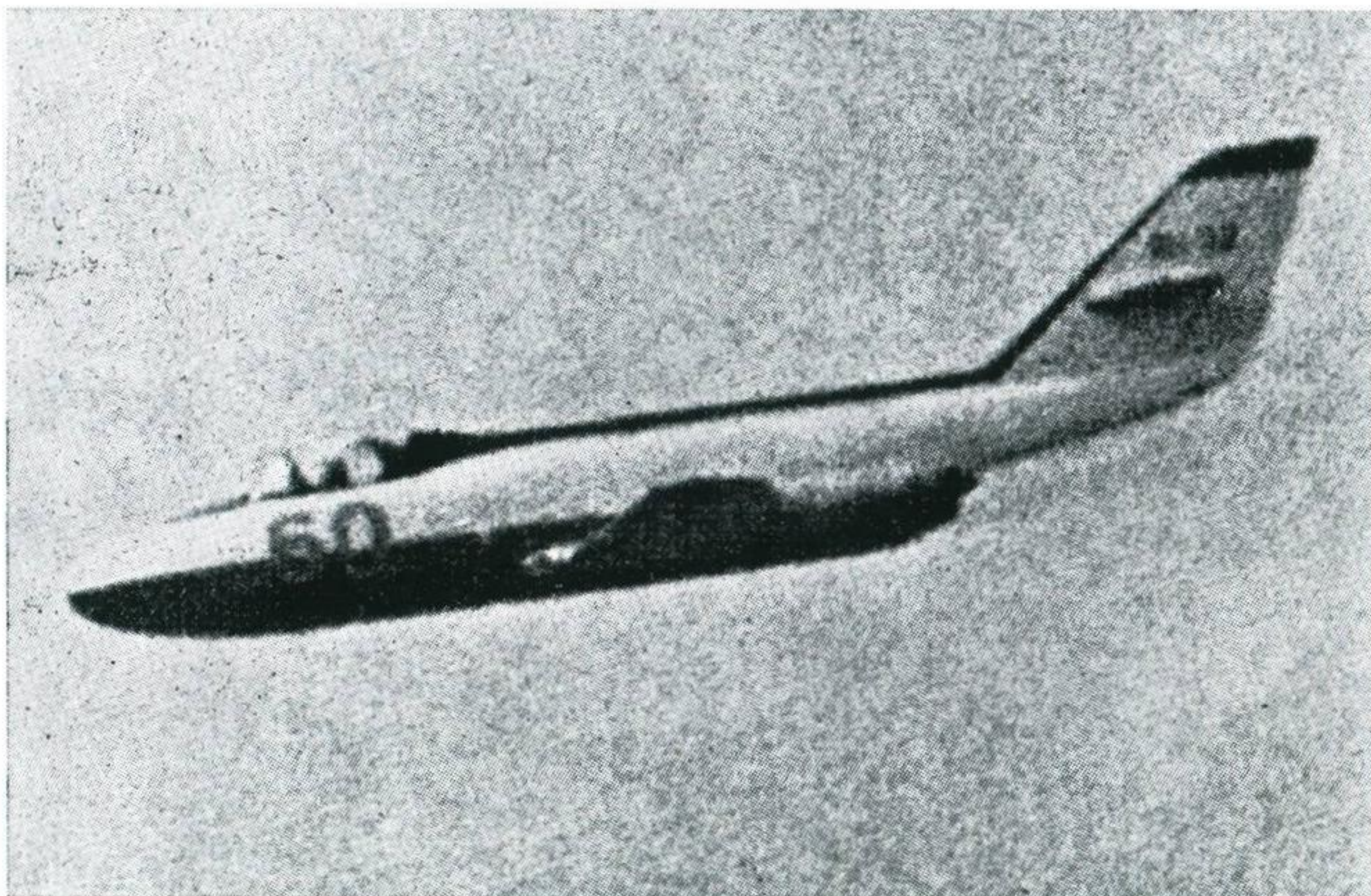
# SOVIET AIRCRAFT BRIEFS



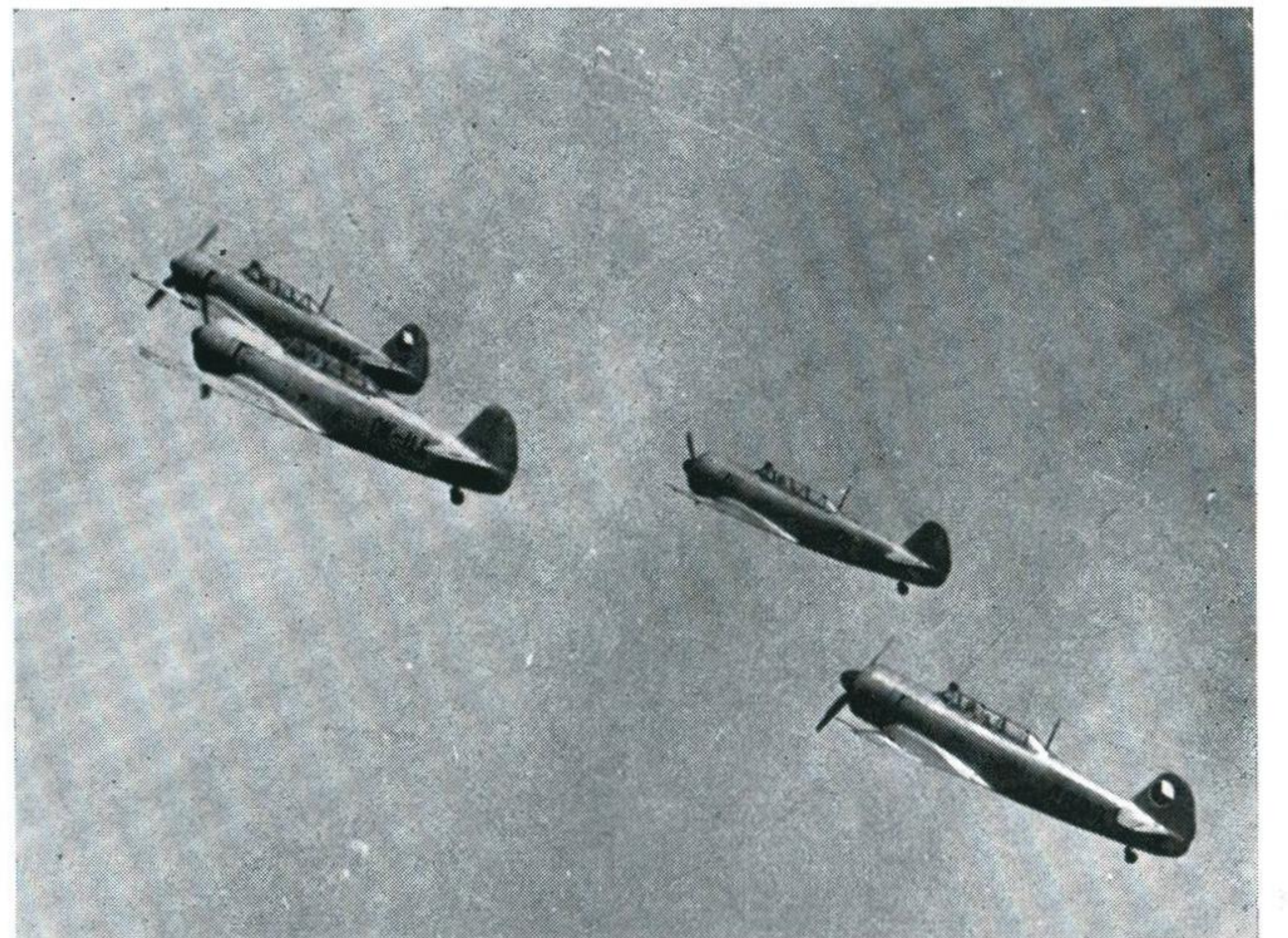
An Il-14 Coach of the Yemini Air Force, bearing a Pegasus insignia, being ferried into Khormaksar by an R.A.F. crew after a forced landing in the South Arabian Federation.



The bomber version of Firebar, hitherto Firebar B, is now re-named Brewer.



An impression of Mantis, the Russian Yak-32 jet trainer.



Moose migration. A number of Yak-11 Moose used for training in the Czech Air Force as shown above are presumed to be surplus to requirements due to the introduction of the Delfin jet trainer. This group of Moose (below), shepherded by two Czech Moravas, recently staged through Beirut en route for an undisclosed destination. The Egyptian, Syrian and Yemini forces are reported to have this type of trainer.



An Il-18 Coot in Bulgarian airline service.



# IN PASSING

B.A.C. One-Elevens awaiting flight-testing.  
A test of rear-jet types appears in this edition.



## BOOK REVIEW

**Das Kleine Panzerbuch** by F. M. von Senger und Etterlin.  
Published by Lehmanns Verlag, Munich.

**Das Kleine Panzerbuch** is the latest addition to an already impressive list of books on armoured vehicles by Dr. von Senger. The new book is, in effect, a supplement to his **Taschenbuch der Panzer 1960** and its English edition, "The World's Armoured Fighting Vehicles", published by Macdonald & Company in 1962. As such it largely concentrates on new vehicles. It includes a number of models which have already appeared in the two previous books but for most part it deals with types which have come to public notice during the past four years. It is, in fact, remarkably successful in bringing the record of the development of armoured vehicles up to date, as it does right up to the end of 1963.

Among the new models it includes such recently revealed battle tanks as the German Standardpanzer, the French AMX-30 and the Swedish S-tank and such new Soviet vehicles as the BTR-60(P) 8x8 amphibious armoured carrier and the ASU-85 tank destroyer. It does not cover all the experimental armoured vehicles which have been revealed during the past three or four years but it includes such interesting models as the U.S. T95 medium tank and the Swiss Mowag Pirate and Saurer Tartaruga tracked armoured personnel carriers.

### 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.

The format of the book is the same as that of the "Taschenbuch der Panzer 1960", but it dispenses with photographs. Instead, it relies entirely for its illustrations of the different vehicles on scale drawings which, in most cases, show not only the side elevation but also front, rear and plan views of each type in considerable detail. Tables of data, which were included at the end of the earlier books, have also been eliminated and the text has been confined to brief description and leading particulars of each vehicle. The text is, of course, in German but this should not deter those who cannot read German for the excellent drawings of the vehicles speak for themselves.

There are a few minor errors which reflect the speed with which the book was prepared but they do not detract from the great value of the book as an up to date source of reference on armoured vehicles.

R. M. O.

## DESIGNATIONS

To keep your May 1964 edition up-to-date with United States, Canadian and Russian aircraft designations, the following changes and additions are notified:

### UNITED STATES SERVICE AIRCRAFT DESIGNATIONS

Page 121	Stratotanker	Add below KC-135A RC-135B KC-135A with additional electronic equipment
	Vigilante	Add below A-5C RA-5C Specially equipped recon- naissance version of A-5C

### CANADIAN FORCES AIRCRAFT DESIGNATIONS

Page 122	CH-112	For Raven read Nomad
Page 122	CH-113	Amend to read
	CH-113	Vertol 107 Vertol Model 107 for R.C.A.F.
	CH-113A	Voyageur Vertol Model 107 for Canadian Army

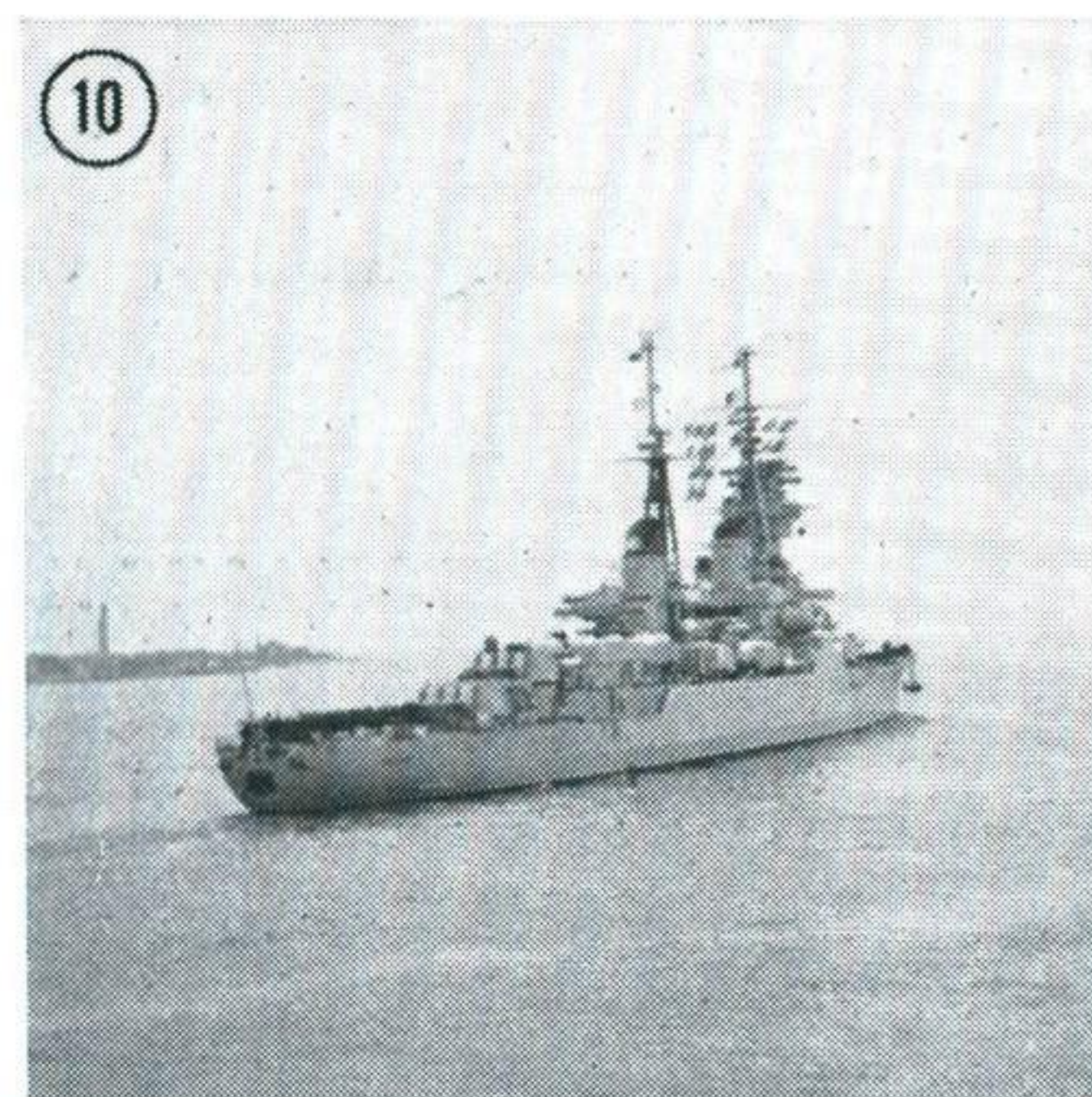
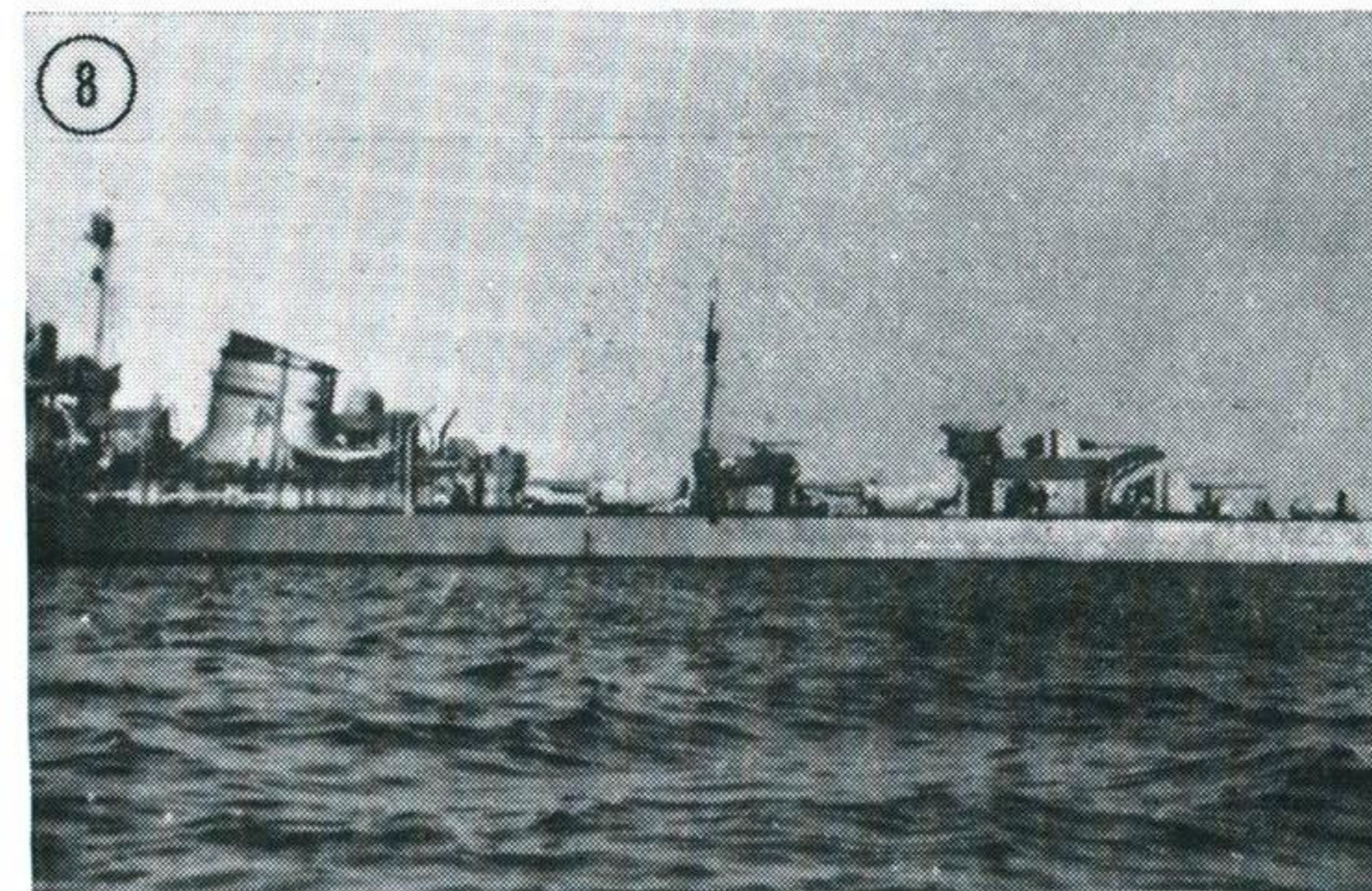
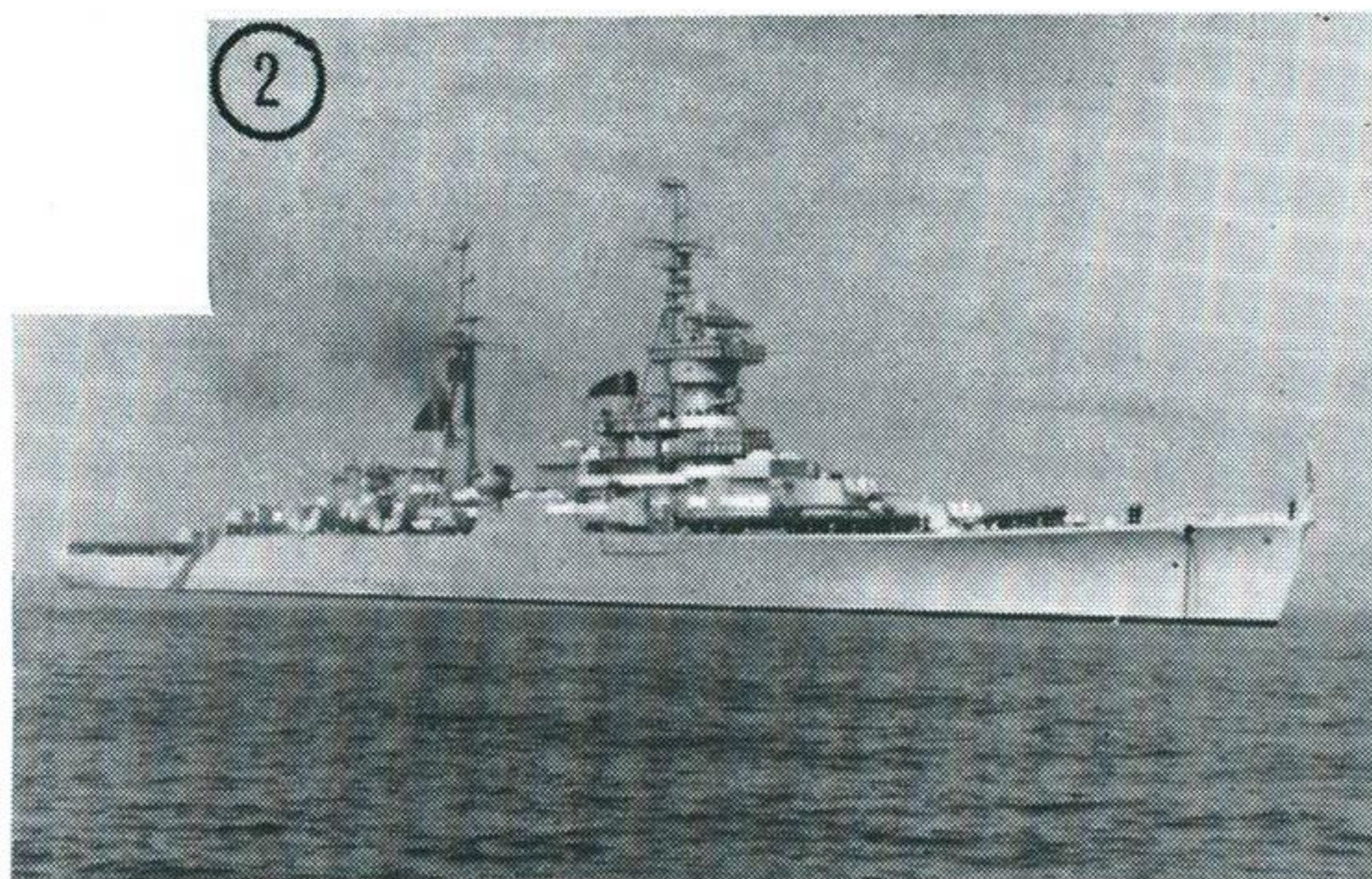
### SOVIET AIRCRAFT DESIGNATIONS

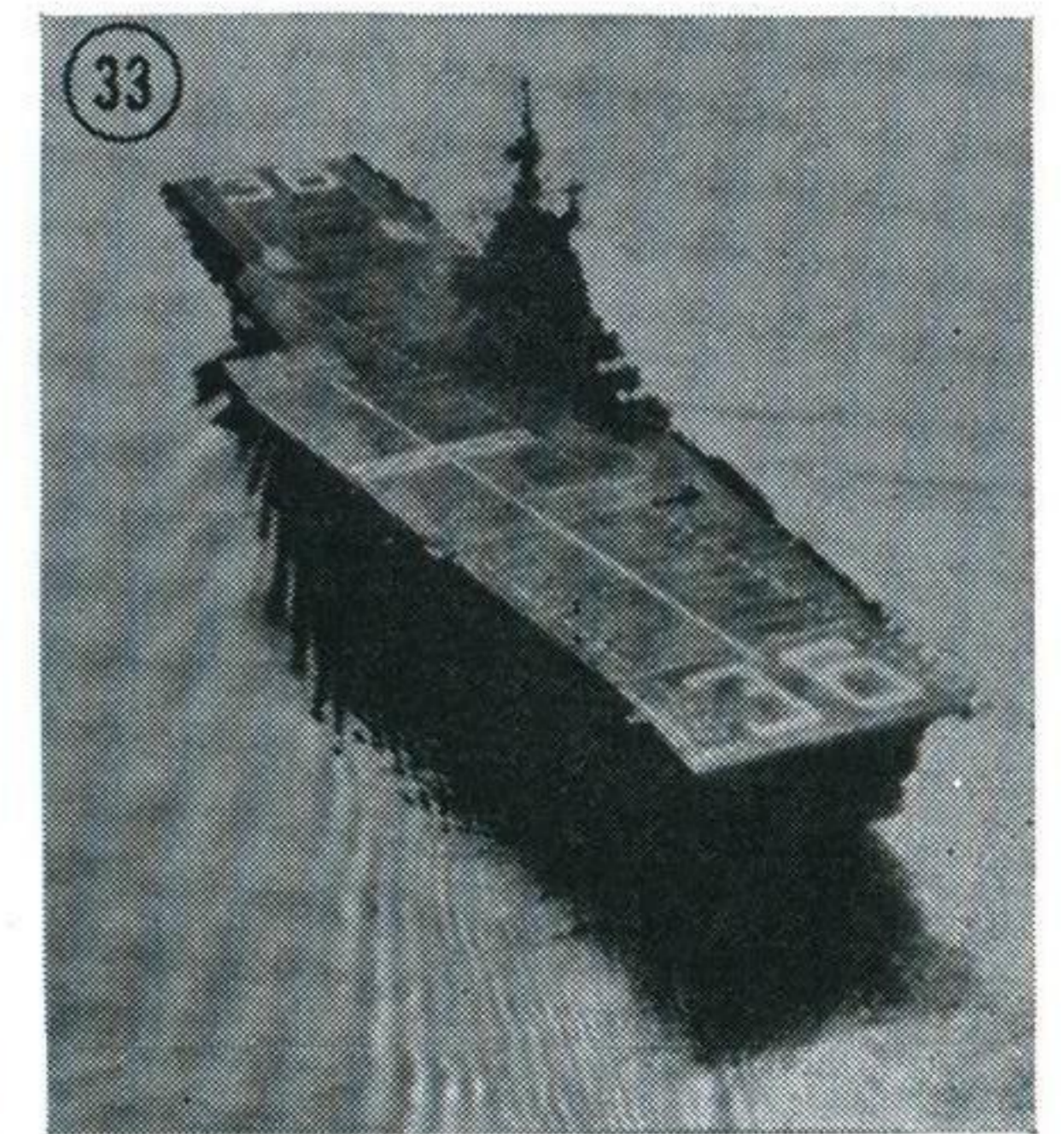
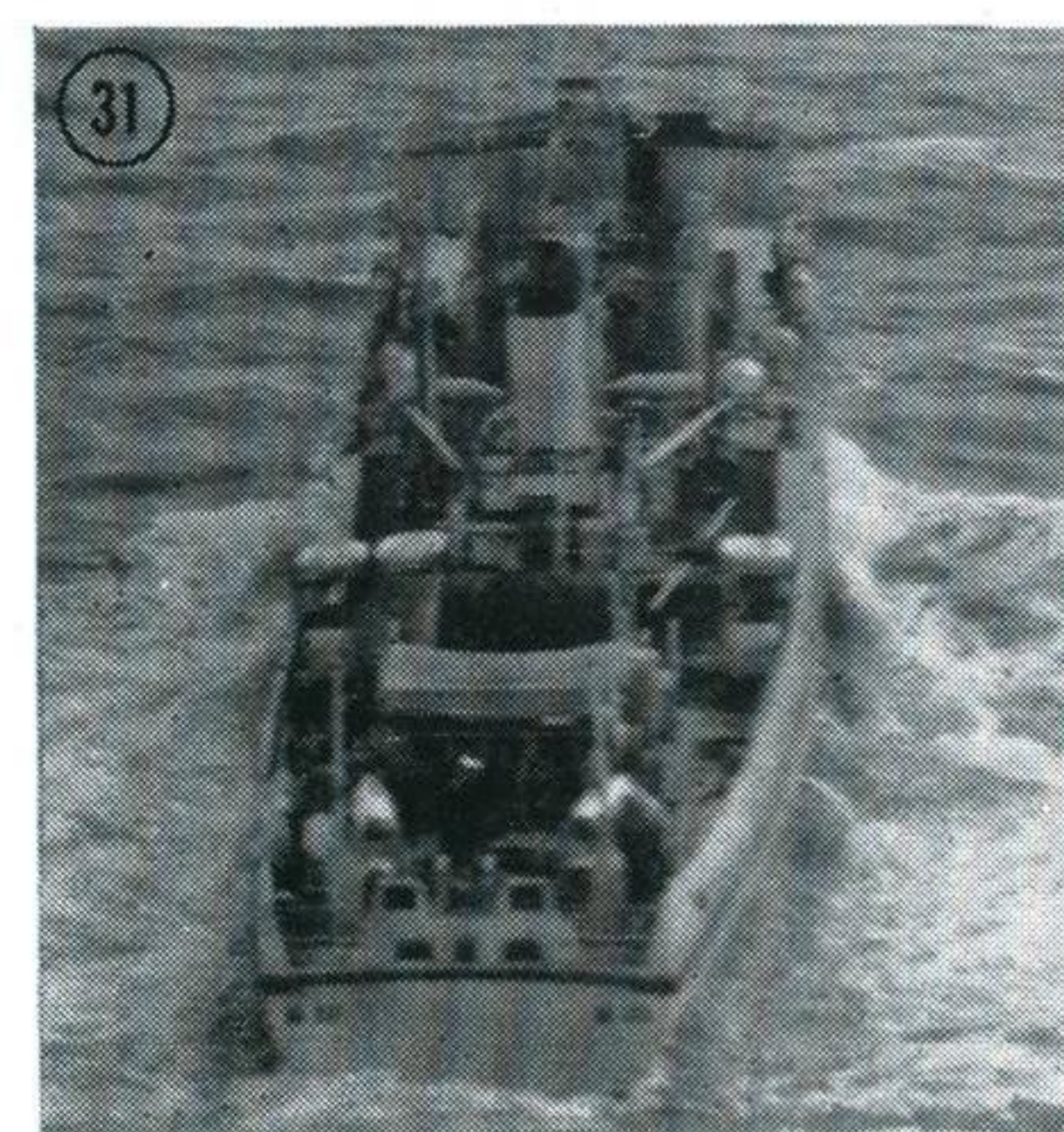
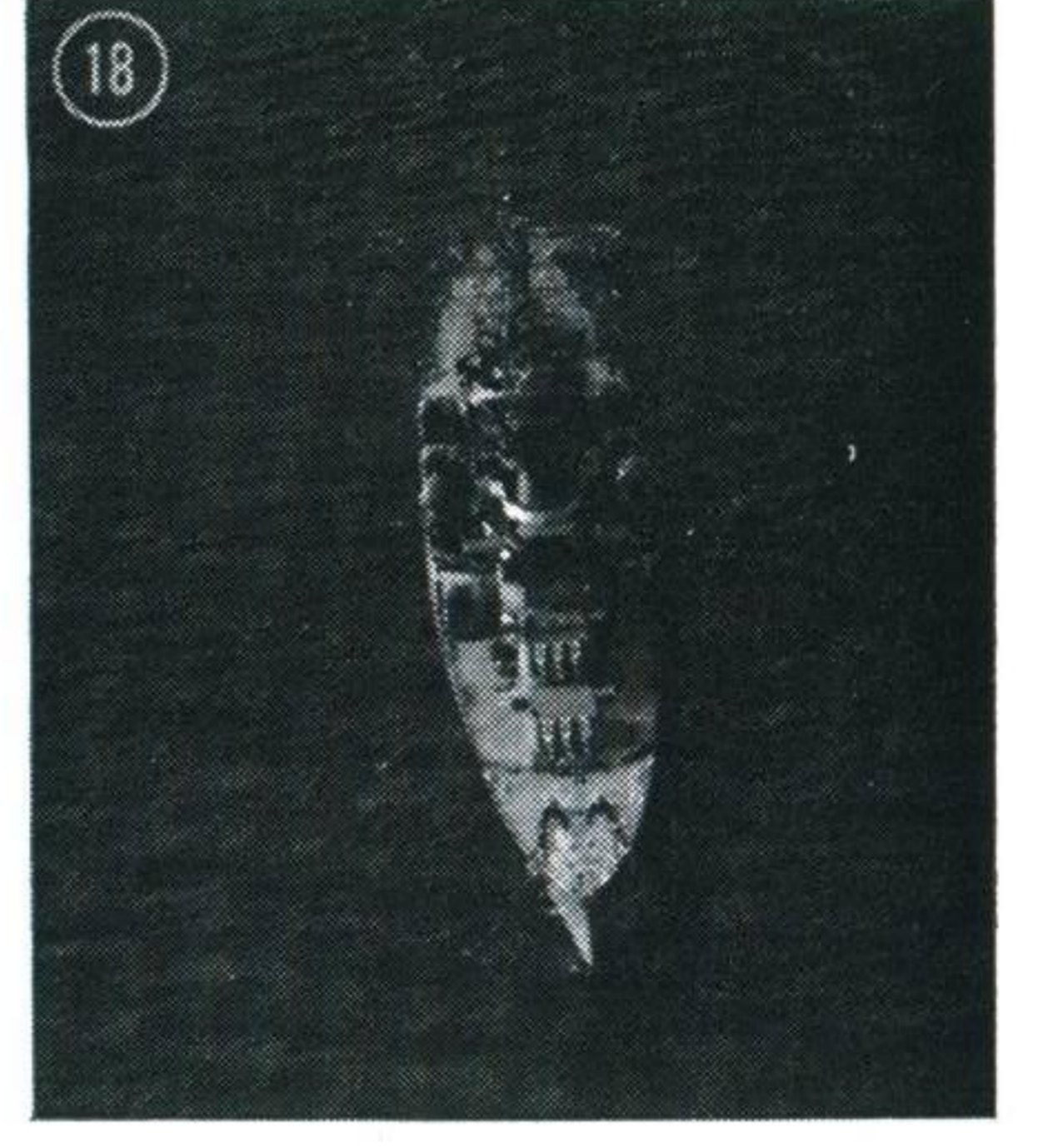
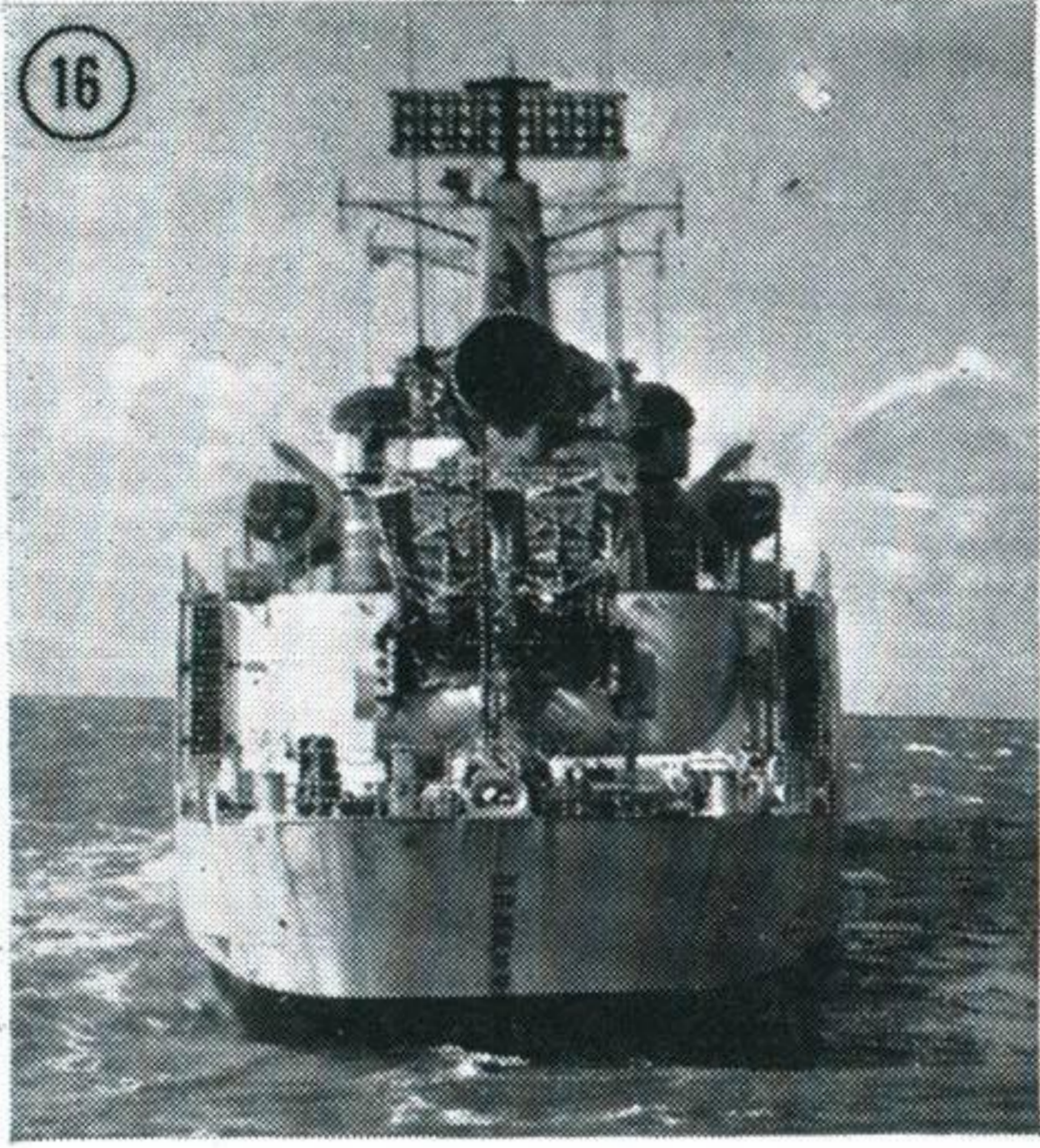
Page 123	Correct Bear Tu-20 to Bear Tu-95
	Correct Hoplight to Hoplite
	Add Magnum Yak-30 and Mantis Yak-32

# WARSHIP SPOTTING TEST No 3

The third in this series of tests contains British, American, French and Russian warships. Write down the target numbers 1-33 and report under the class, the type of vessel and the nationality of each. Correct solutions are on the cover, which also give, where known, the individual name of each vessel.

Should you fail to identify any ship, turn to earlier lessons for which the December editions provide an index.





# SHIP RECOGNITION

## INITIAL TRAINING SYSTEM

The Merchant Ship Initial Training System enables beginners to classify ships at the outset of training: at the same time providing a lead into the more difficult task of estimating ship sizes—particularly when seen from the air.

The System is based on the Reporting Code, devised by Lt. Cdr. E. C. Talbot-Booth, R.D., R.N.R., used successfully during World War II; it is carried out by observing certain features of ships and reporting them.

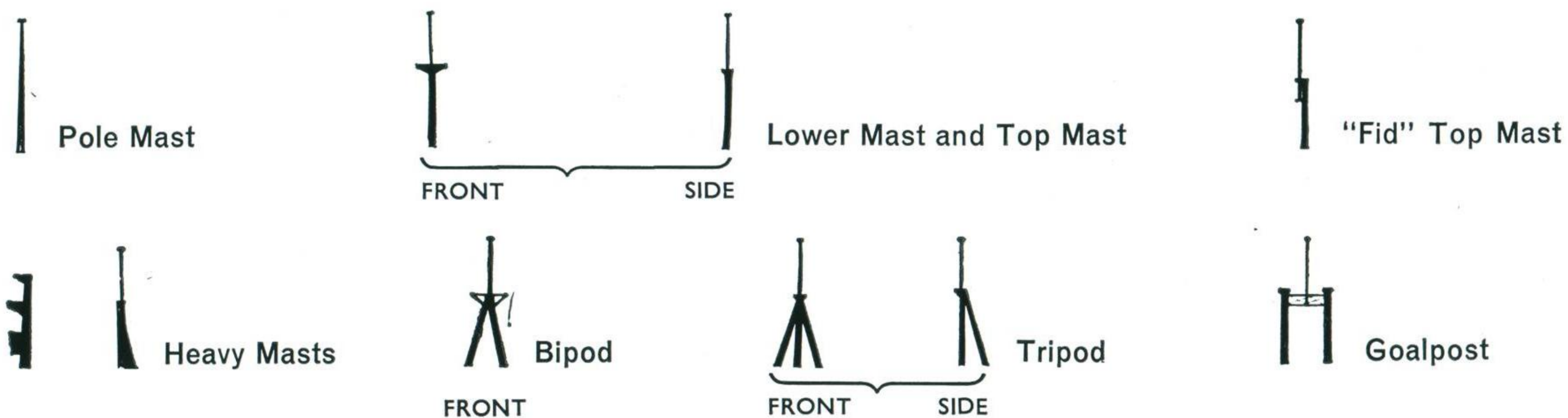
Reporting must be systematically and carefully carried out—as with recognition training procedure in other fields. A start is best made by using exercises such as those provided overleaf.

The procedure requires the student to report five features of a ship in a simple, standard descriptive form as follows:

**Sequence of Kingposts, Masts, Cranes and Funnels, Hull Form, Profile, Stem, Stern.** These are separately explained and illustrated below.

**SEQUENCE** (Kingposts, Masts, Deck Cranes and Funnels, reading from stem to stern).

### TYPES OF MASTS To be reported simply by the letter M



### TYPES OF KINGPOSTS (Derricks stowed vertically) To be reported simply by the letter K

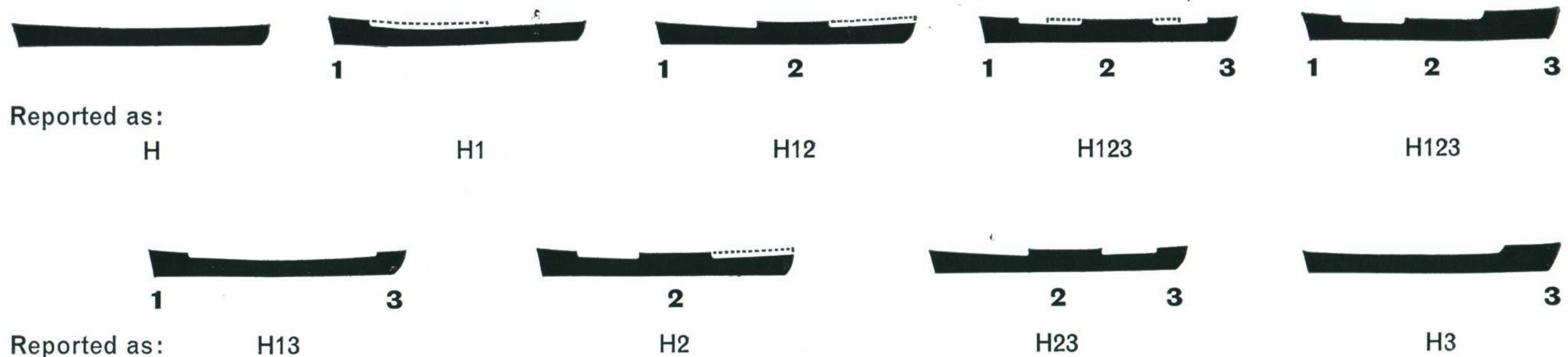


**Note:** Derricks can be stowed vertically, against the Kingpost (or Mast) as shown above, or parallel with the deck as shown below, or may be swinging. Kingposts abreast of masts or funnels are not coded. Cranes are reported as **C**.



The sequence for this ship is **KMKFKKMK**

### HULL FORMS



**Hull forms** need careful observing because superstructure may be built straight on to the upper deck and not on to an "island" or midcastle. Examples of both are shown in the photos opposite.



**Examples of Hull Forms**

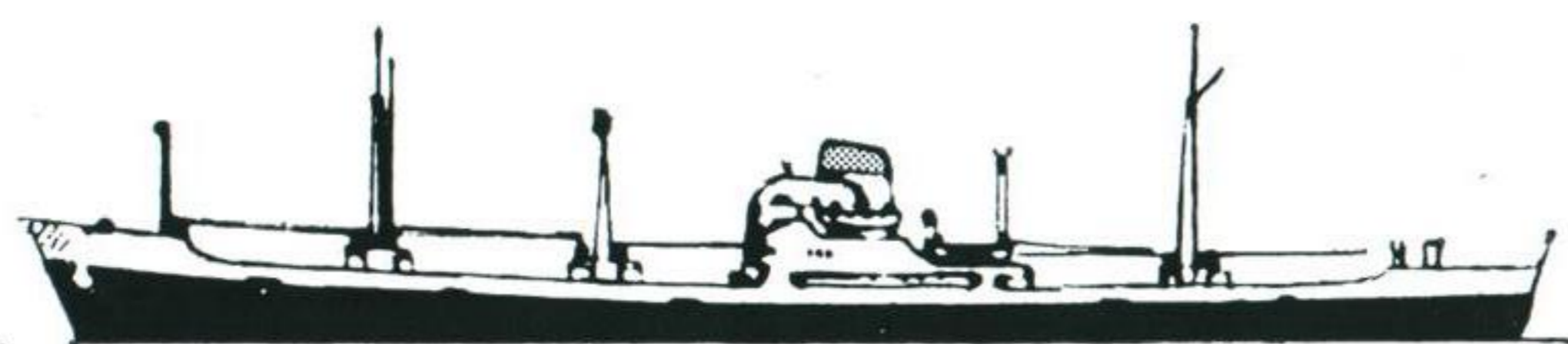
**Kazbek Class Tanker**  
Hull Form H123, i.e. raised  
Forecastle, Bridge Deck or  
Midcastle and Aftercastle.

(Photos by courtesy of Skyfotos)



**Archangelsk Class Freighters**  
Hull Form H (the low bulwark  
plating forward does not  
constitute a forecastle).  
The superstructure is built  
direct on to the upper deck  
and the deckhouse aft does  
not constitute a "castle"  
as it is very small, does not  
extend right aft and is not  
a part of the hull.

**Examples of different Hull forms that can confuse**



Hull H13



Hull H123

**PROFILES**



Split Superstructure  
(a space between bridge  
and superstructure)

Reported as: P1



Composite Superstructure  
(bridge, funnel and superstructure  
combined in one)

P2



Bridge Amidships  
(or thereabouts)  
(Funnel Aft vessels)

P3



Bridge Aft  
(integral with aftercastle)  
(Funnel Aft vessels)

P4

**STEMS**



Straight

B1



Raked



Raked

B2



Icebreaker or Maier

B3

Reported as:

**STERNS**



Counter or Cutaway

S1



Cruiser

S2

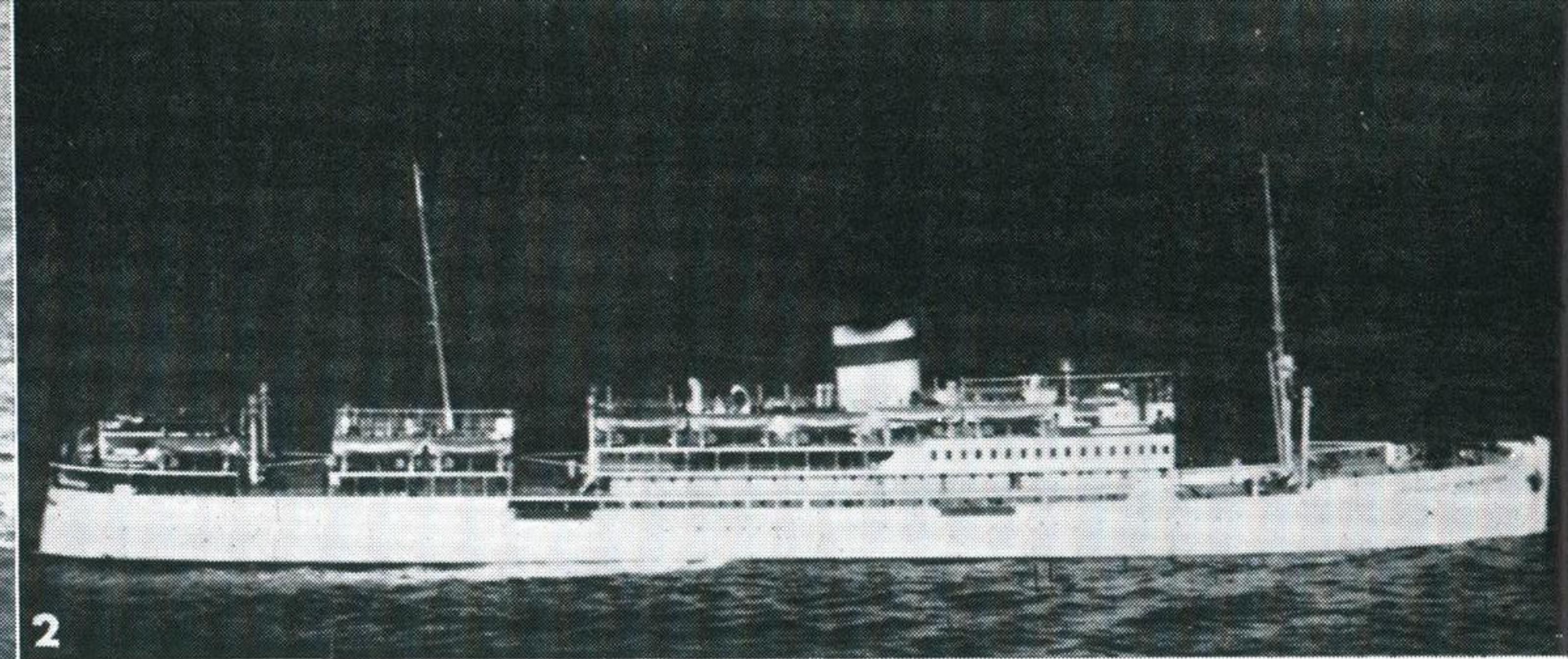


Spoon

S3

Reported as:

With the help of the foregoing information report the ships on the following pages in their correct sequences and descriptions (using the codings). A list of the solutions appears on the cover.

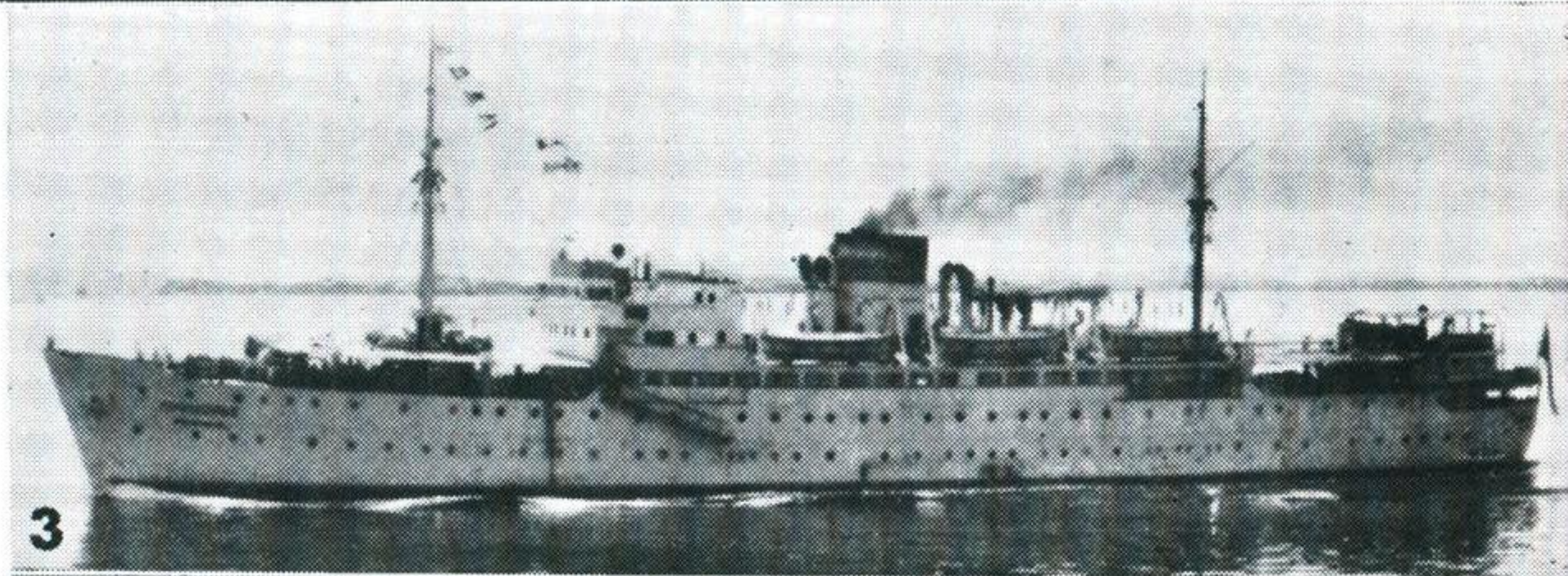


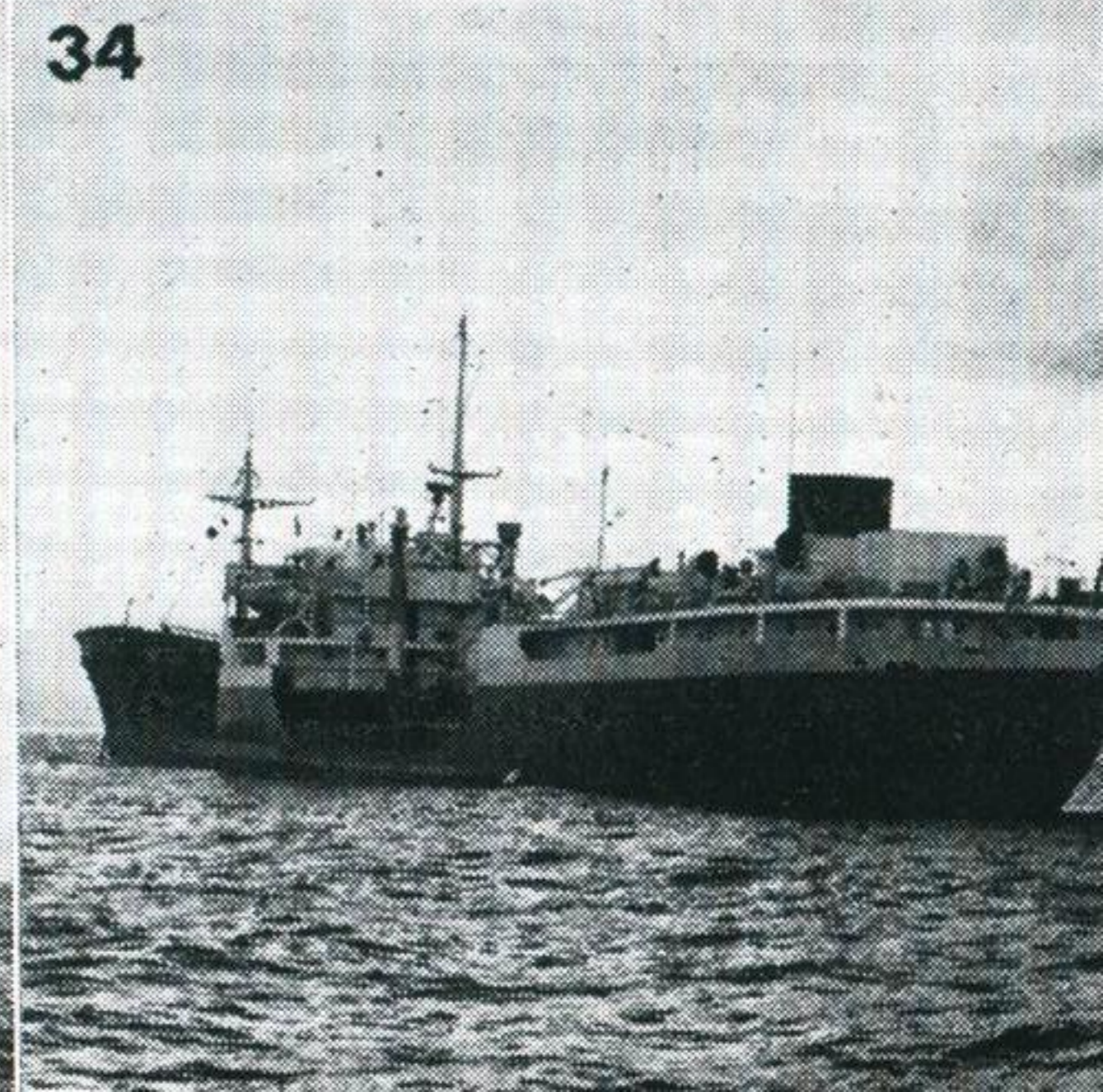
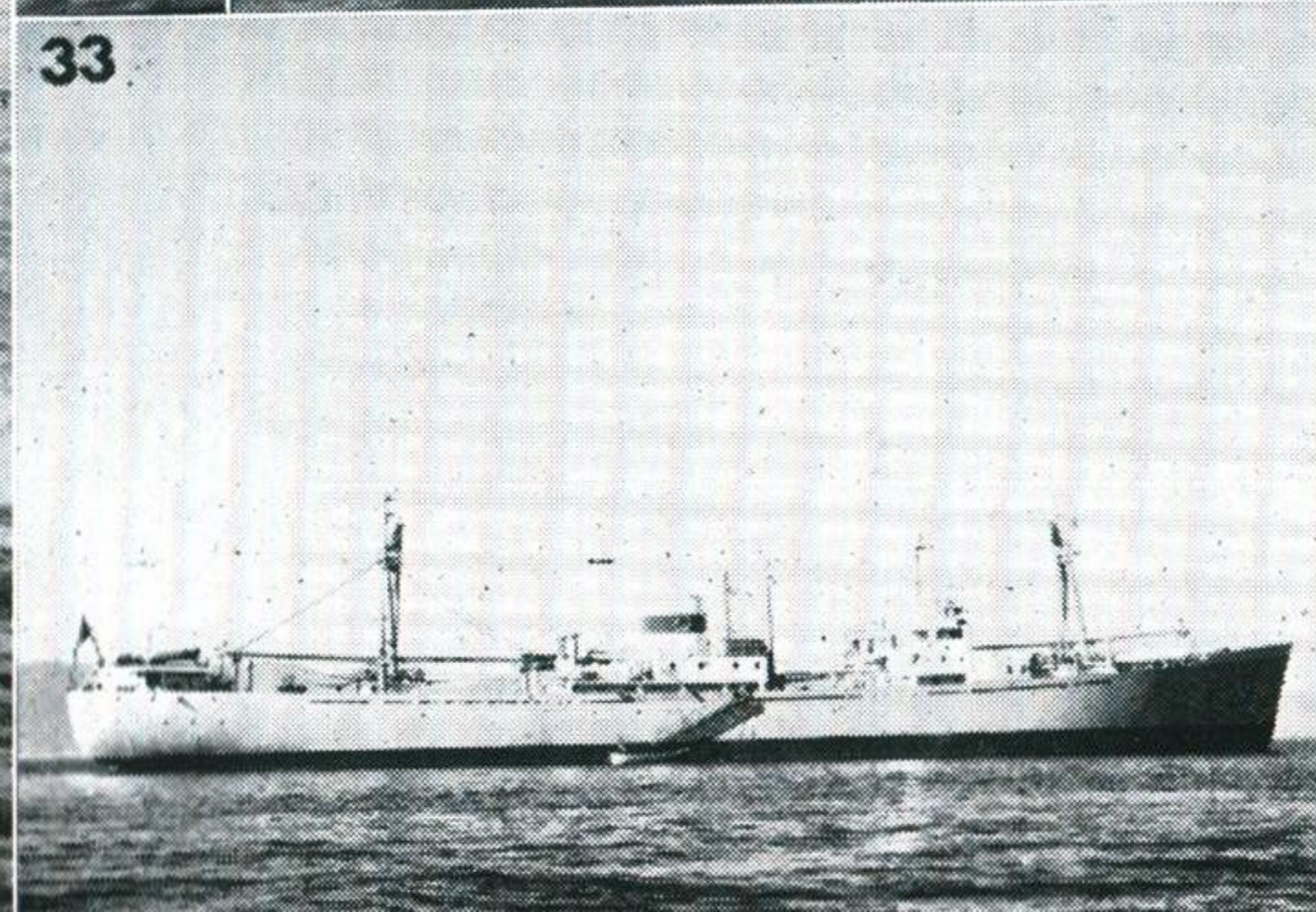
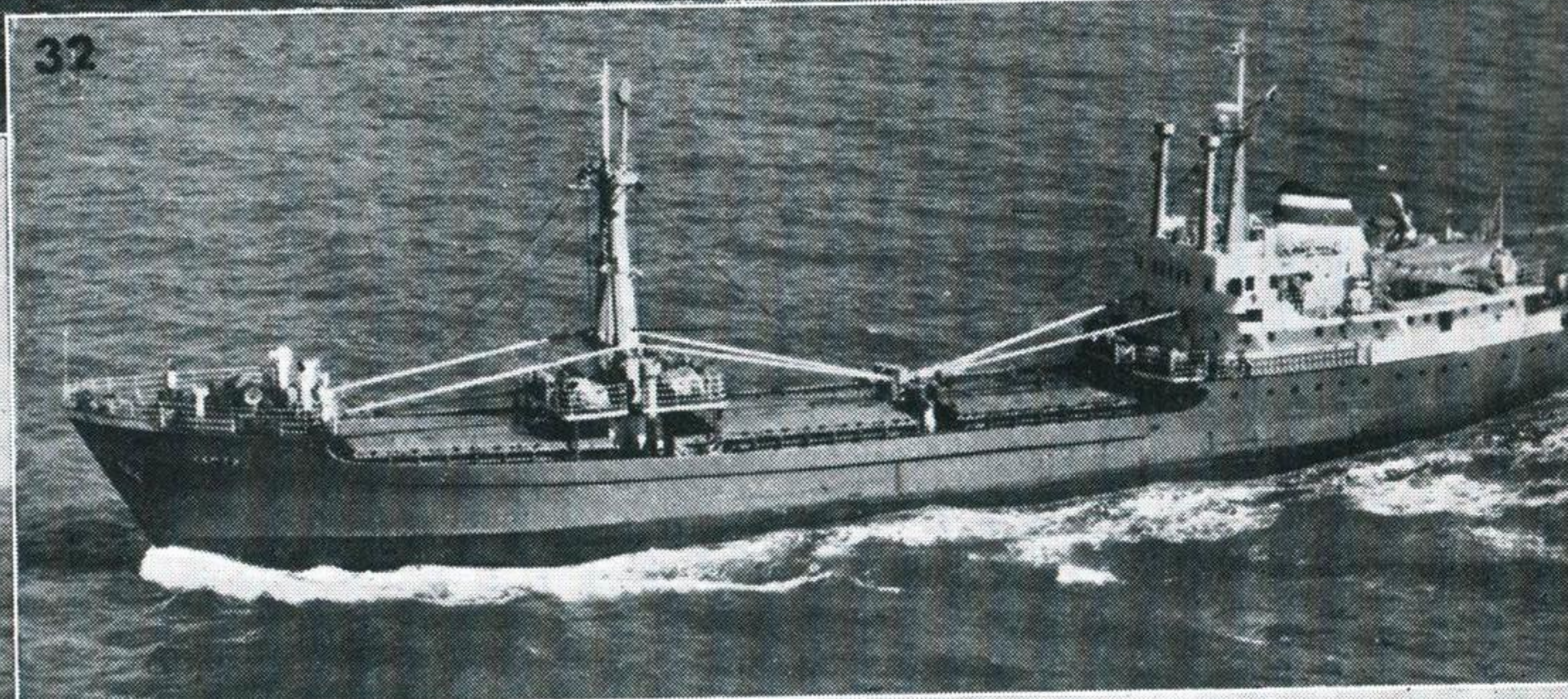
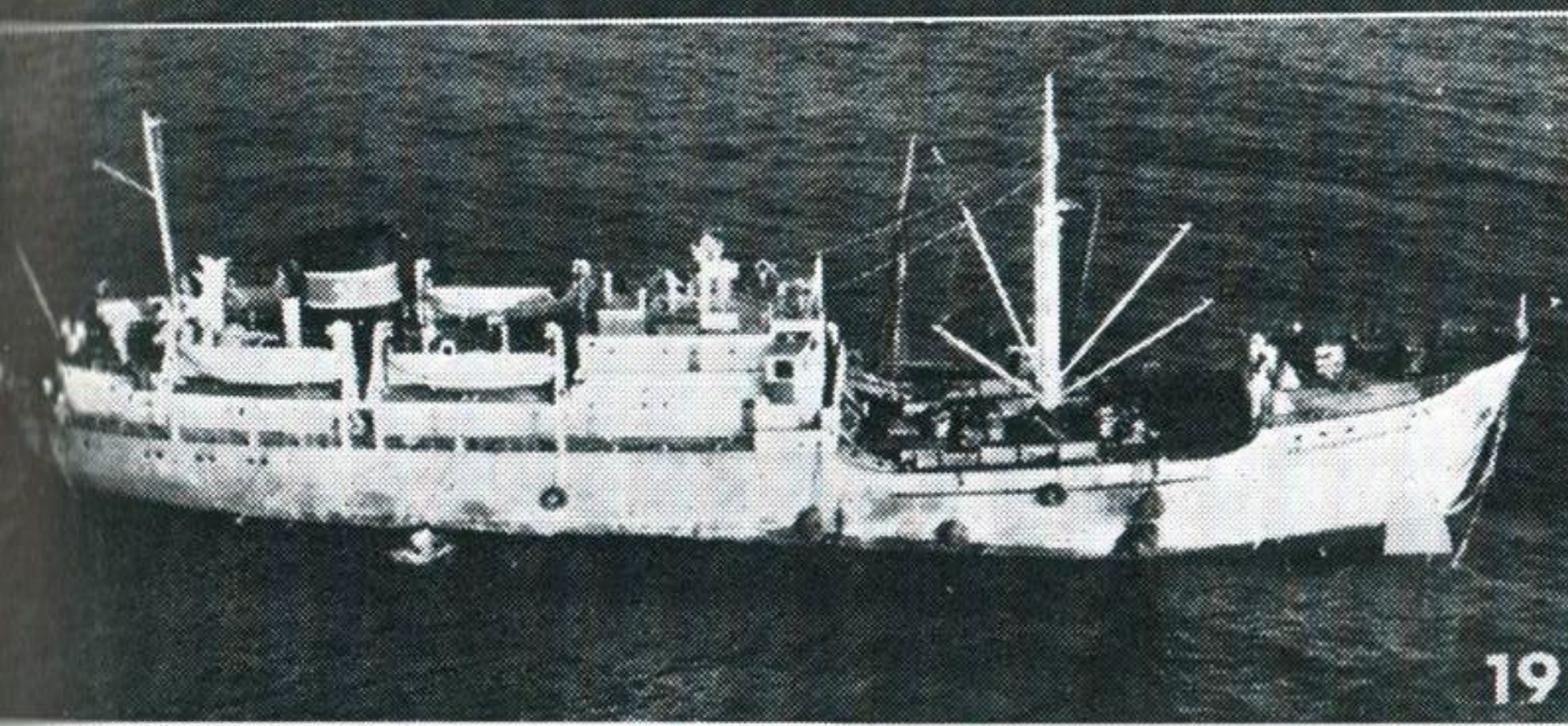
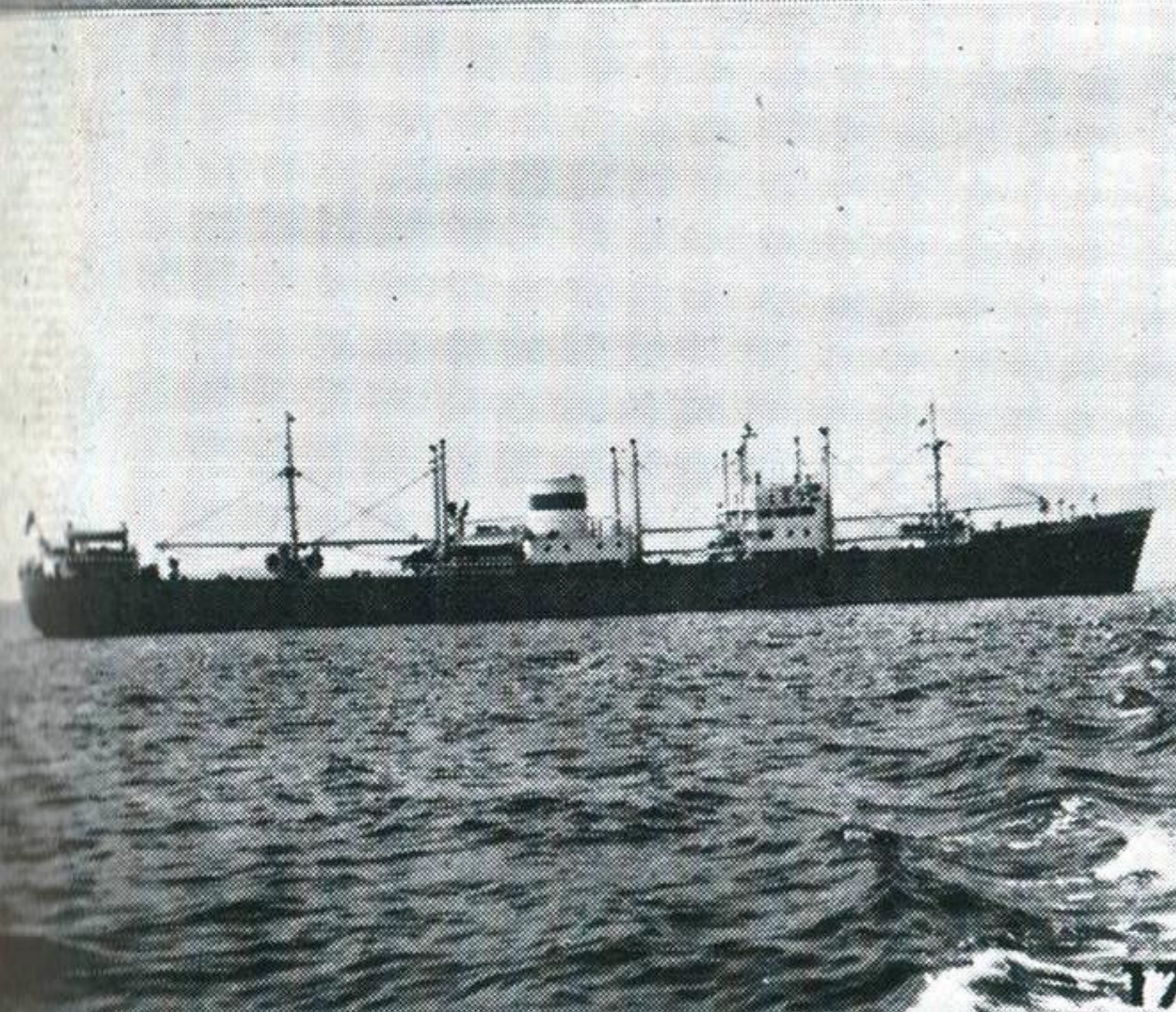
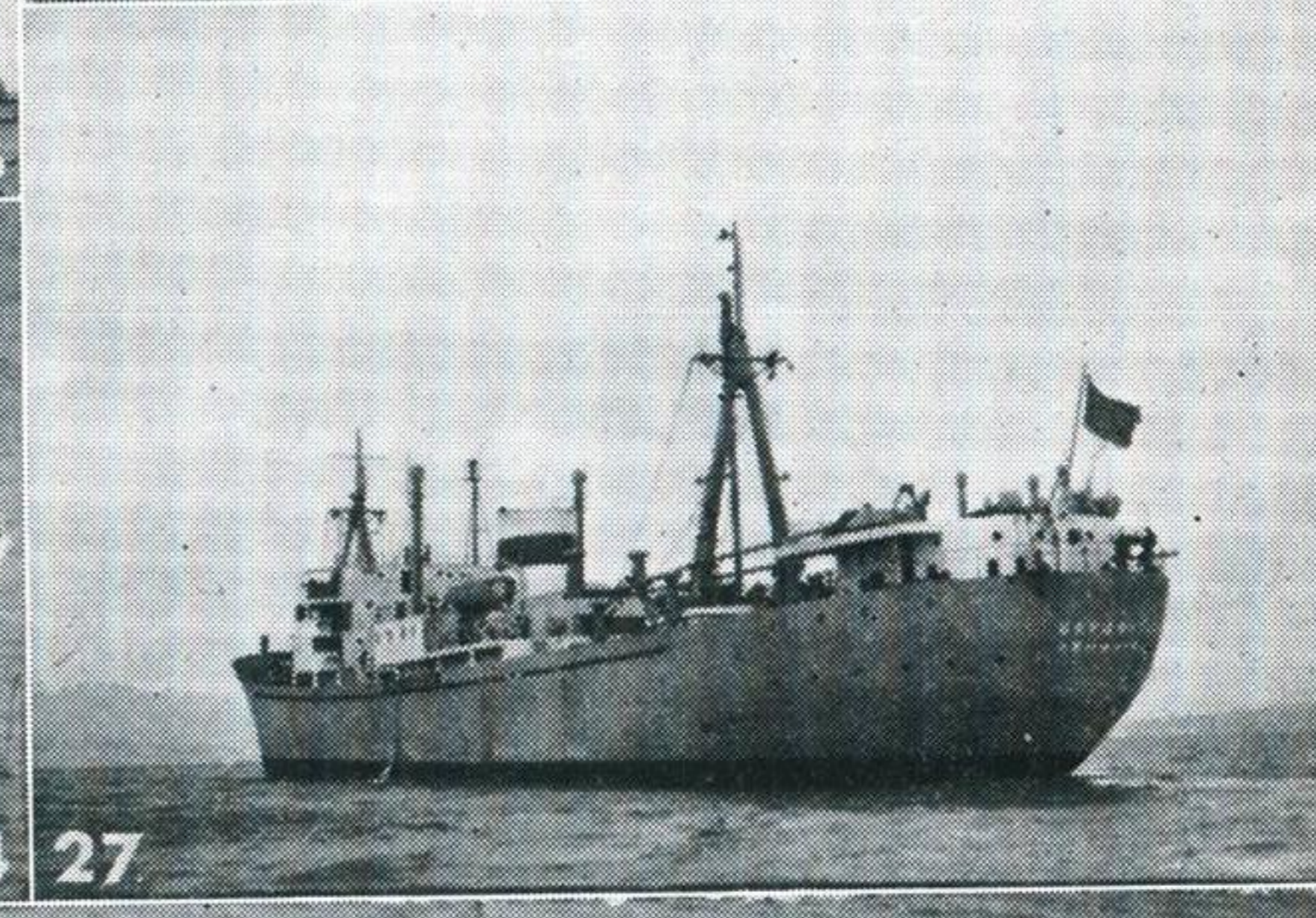
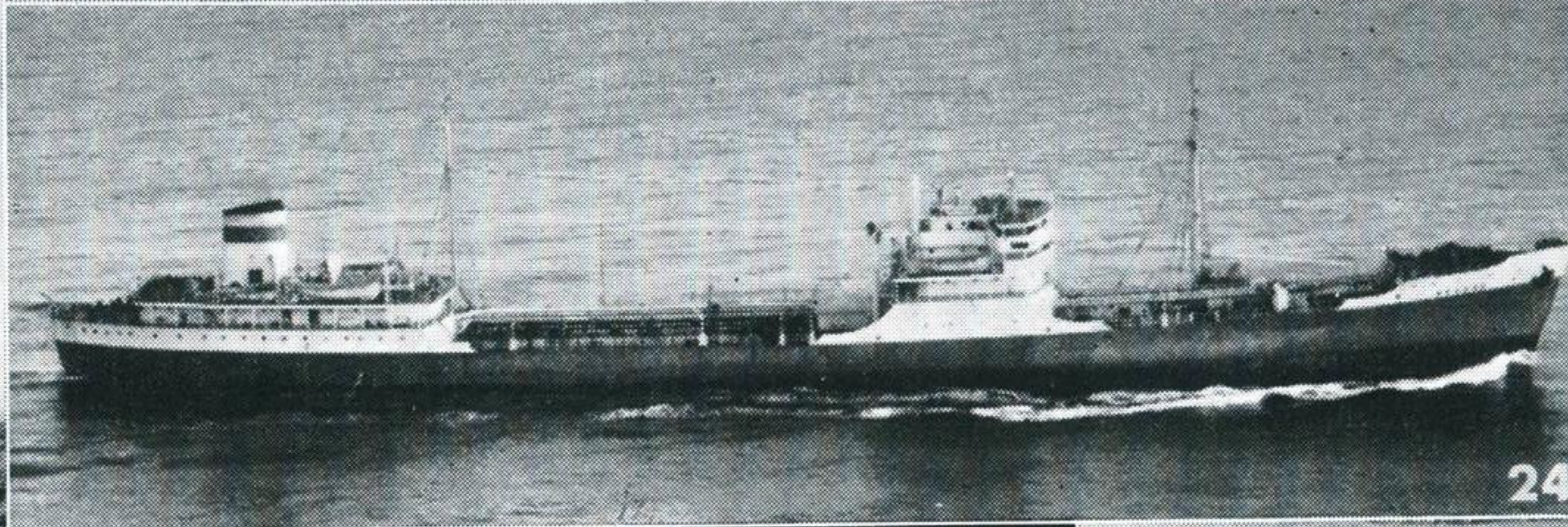
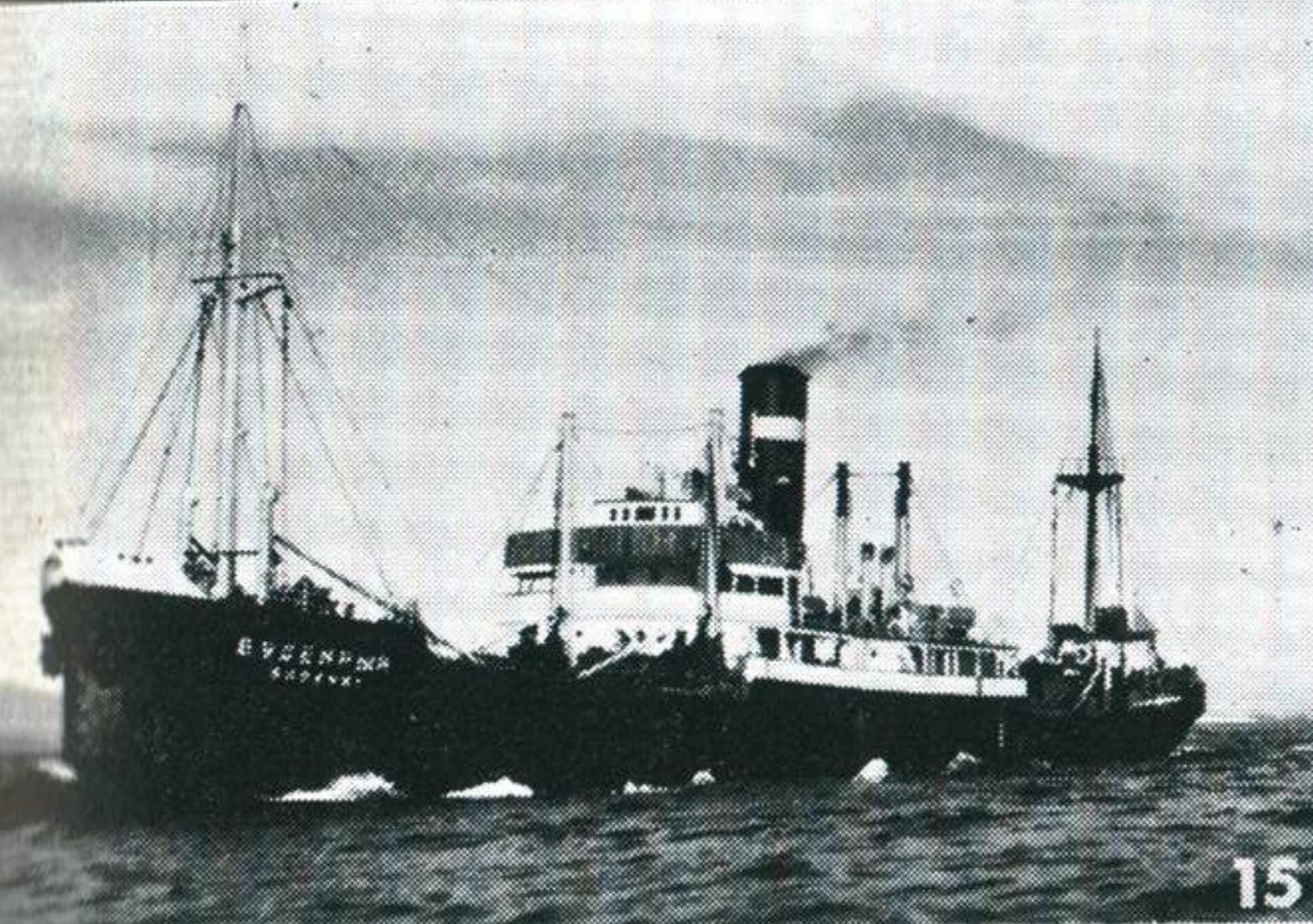
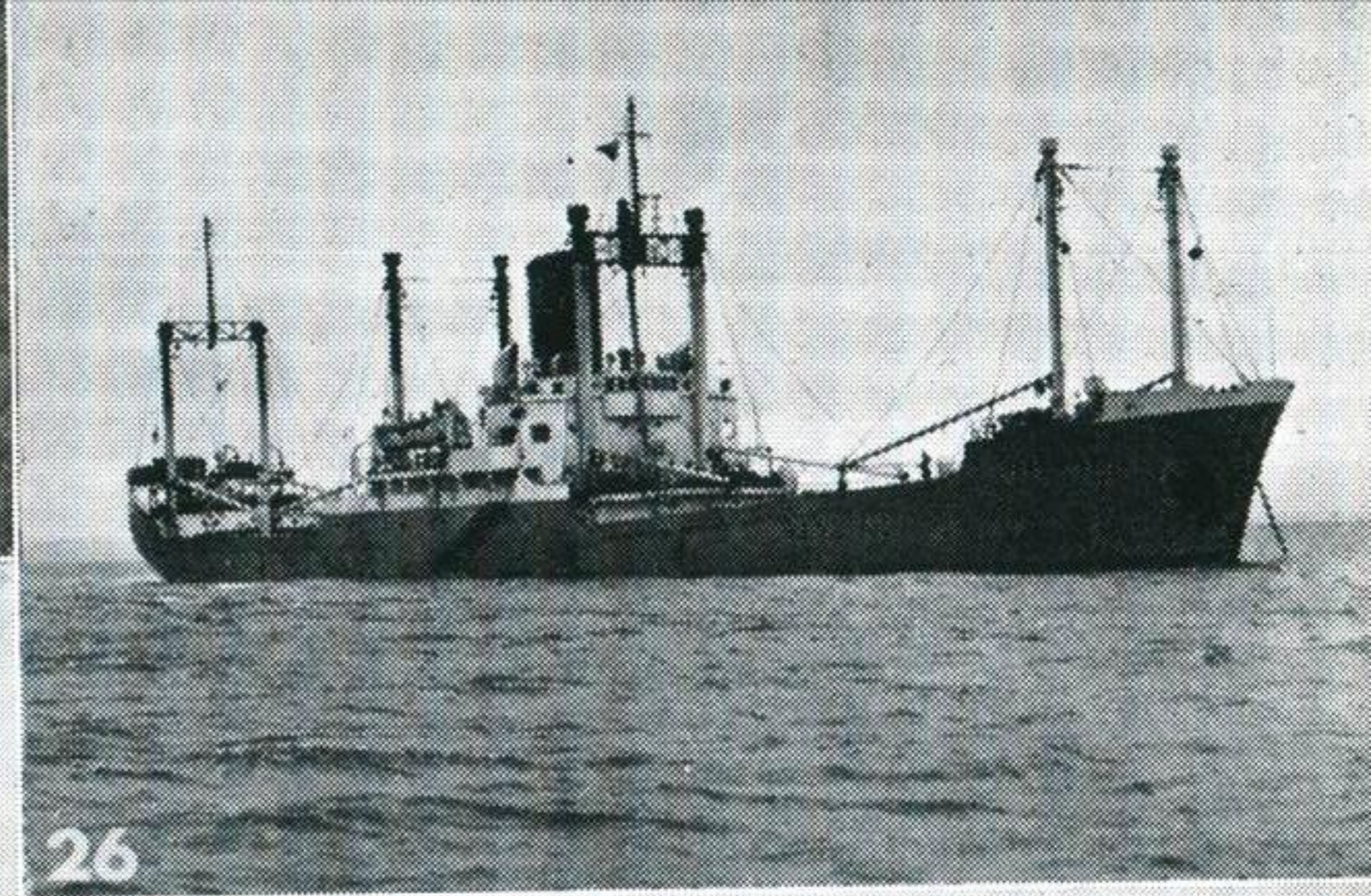
## Ship Recognition Initial Training System *(continued)*

Read the instructions on the preceding pages and report these Russian merchantmen in the following order as far as can be observed: Sequence (MFK etc.), Hull, Profile, Stem, Stern, Name or Class where known, Type (Freighter, Passenger, Tanker, Baltic Trader, etc.), Gross Registered Tonnage and Length in feet.

In certain weather conditions the appearance and size of merchantmen at sea can deceive even a skilled observer. The necessary skill at identification can be readily acquired from photographic exercises such as these because concentration can be made on particular types and the targets are in view for as long as required and ample opportunity is given for comparison. Sizing is a matter of experience in comparing features and assessing the unknown by standards such as the number of lifeboats. As a guide you are advised that the largest ship depicted is No. 20 of 14,772 g.r. tons, 493 feet in length and that No. 11 is the smallest ship of 700 g.r. tons, 250 feet in length.

Solutions, in the sequence advised above, are given on the cover. While precise figures are given for tonnage and length, it is not expected that estimates will be other than round figures.





# Merchantmen of the USSR—No. 12

**BALTA (LOKBATAN CLASS), DIMITRI DONSKOI (SINGLE SHIP), LEVANT AND SIMFEROPOL CLASSES**



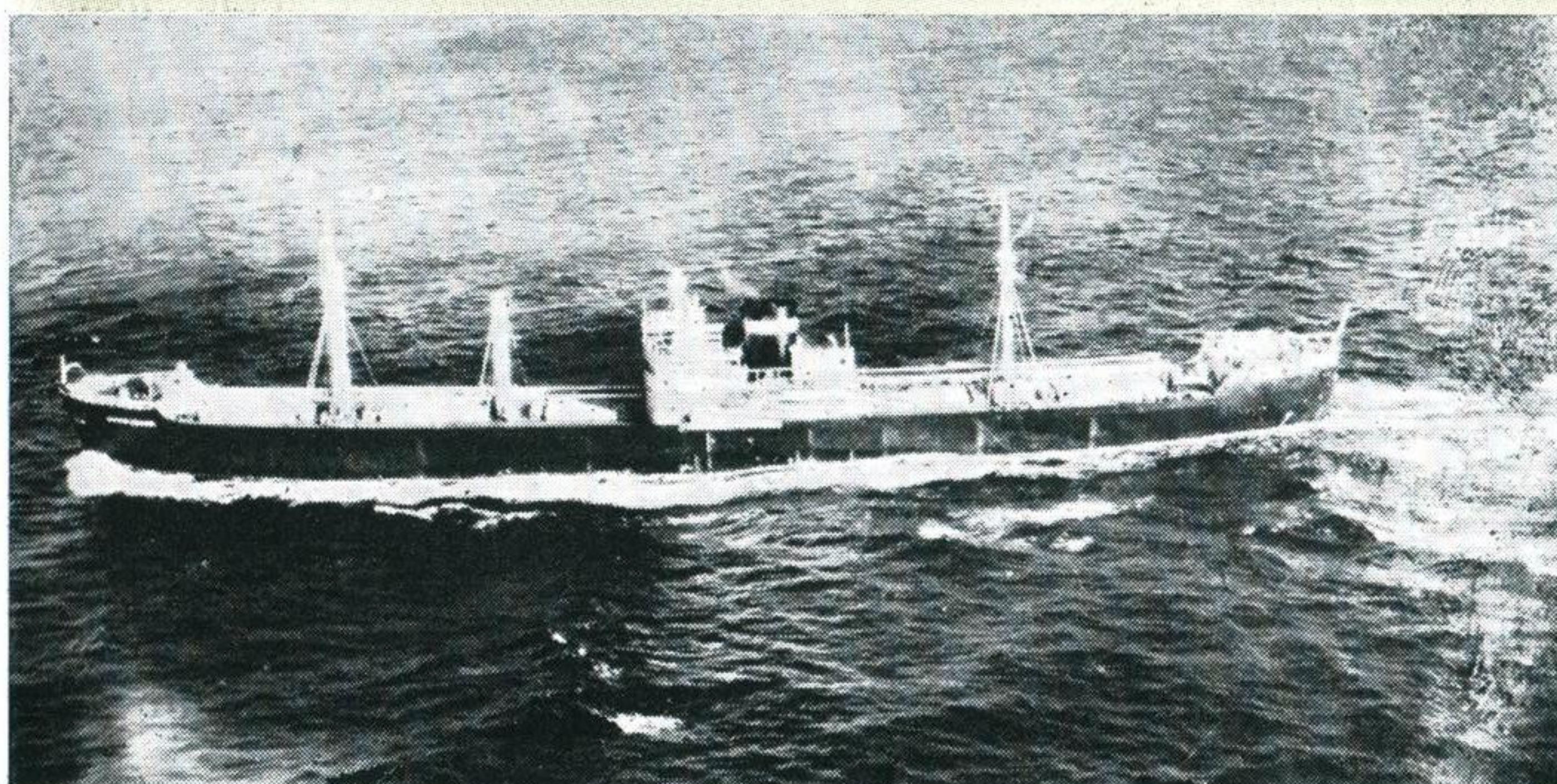
Lockbatan and Dmitriy Donskoy are alternative transliteration spellings to the first two ships—where possible the name given here is the form in which it appears on the actual ship although this may vary on bow, bridge and stern nameplates! Instructions on page 237 apply with the reservation that beginners should select one ship at a time for identification. Solutions on the cover.



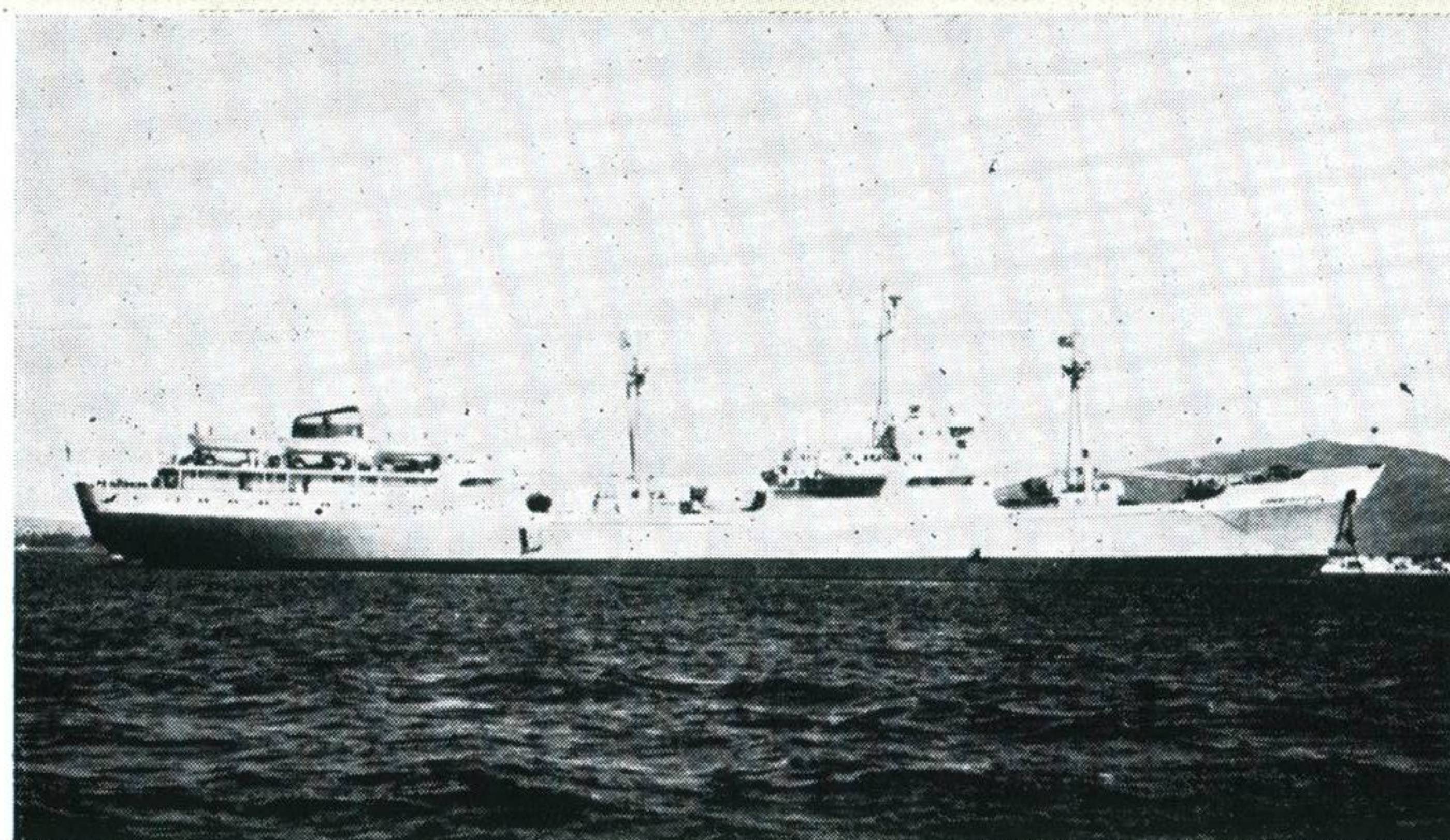
**BALTA** (Lokbatan Class) Tanker 3,300 g.r. tons 344 feet overall length



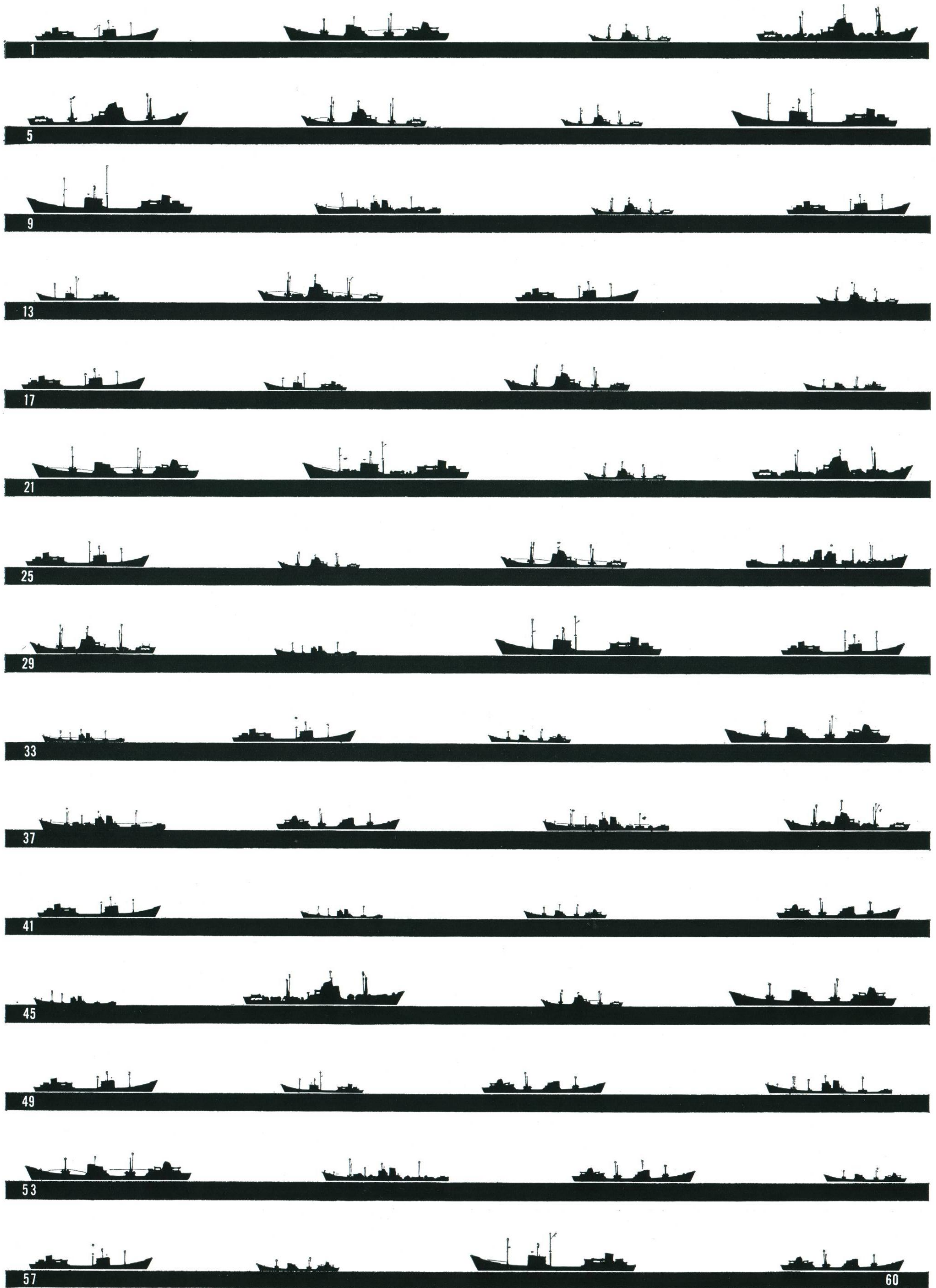
**LEVANT CLASS** Freighter 3,400 g.r. tons 347 feet overall length



**DIMITRI DONSKOI** Freighter 5,100 g.r. tons 439 feet overall length



**SIMFEROPOL CLASS** Freighter 5,500 g.r. tons 387 feet overall length



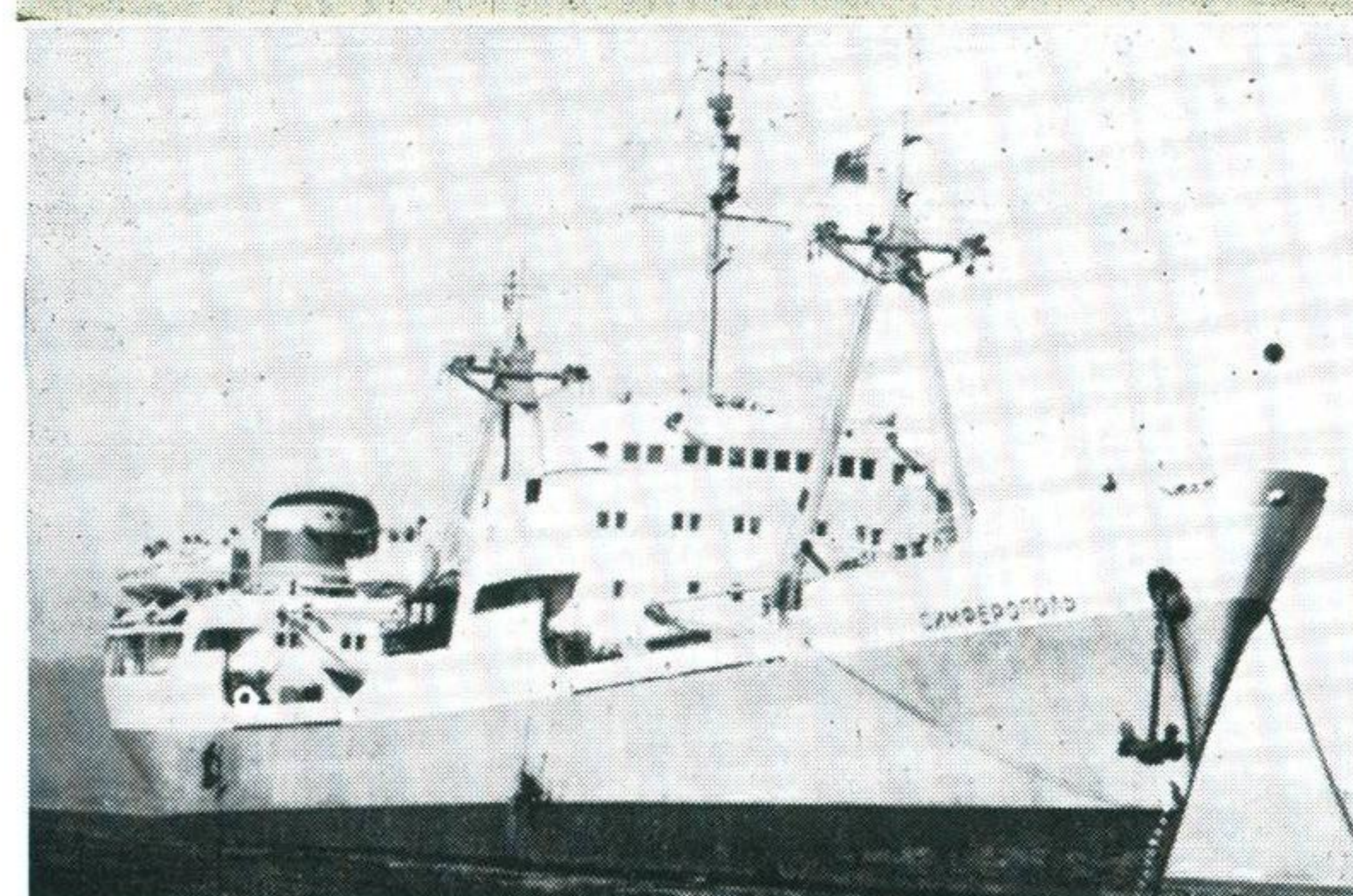
MERCHANTMEN OF THE USSR—No. 12



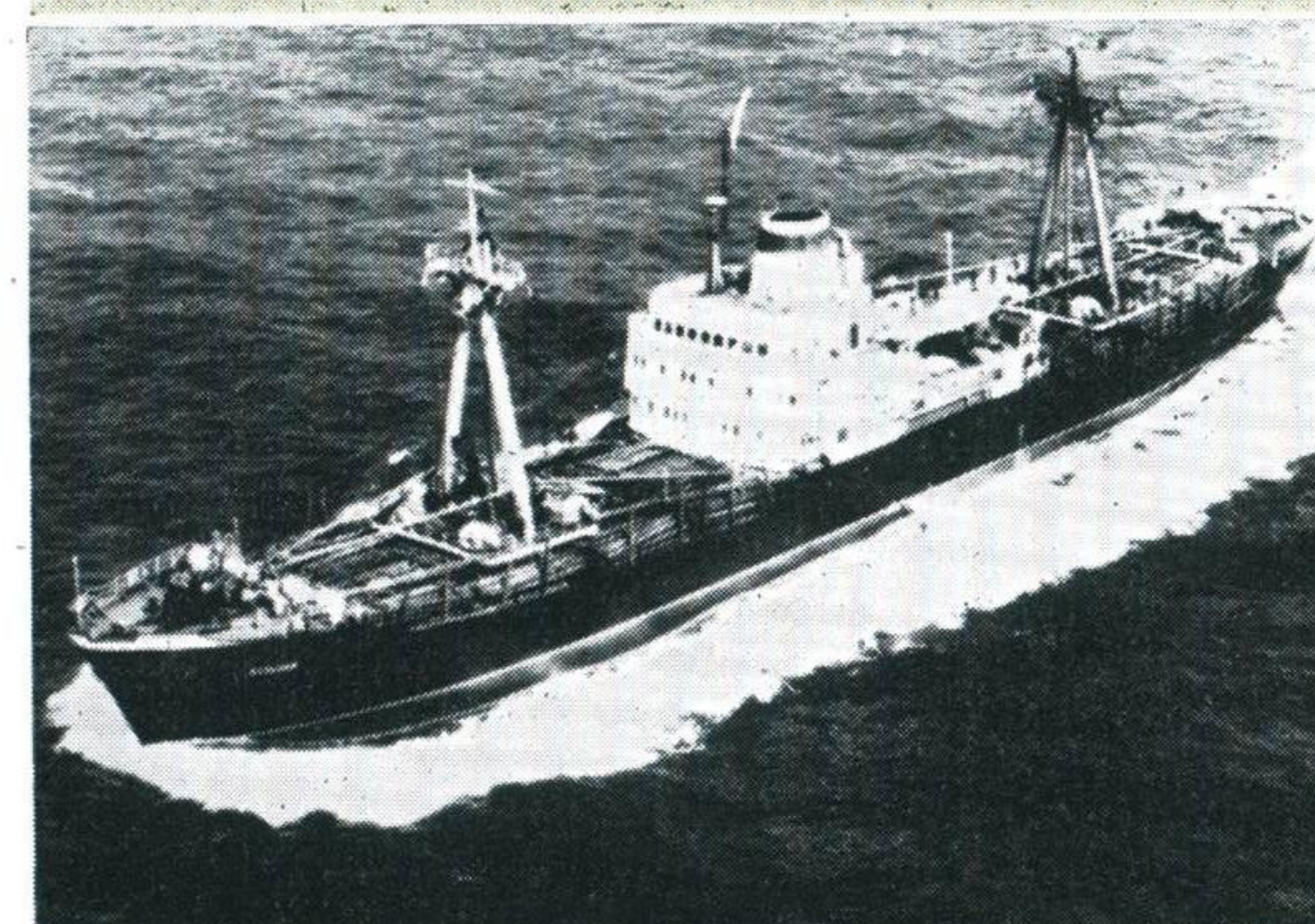
DIMITRI DONSKOI Freighter



BALTA (Lokbatan Class) Tanker



SIMFEROPOL CLASS Freighter

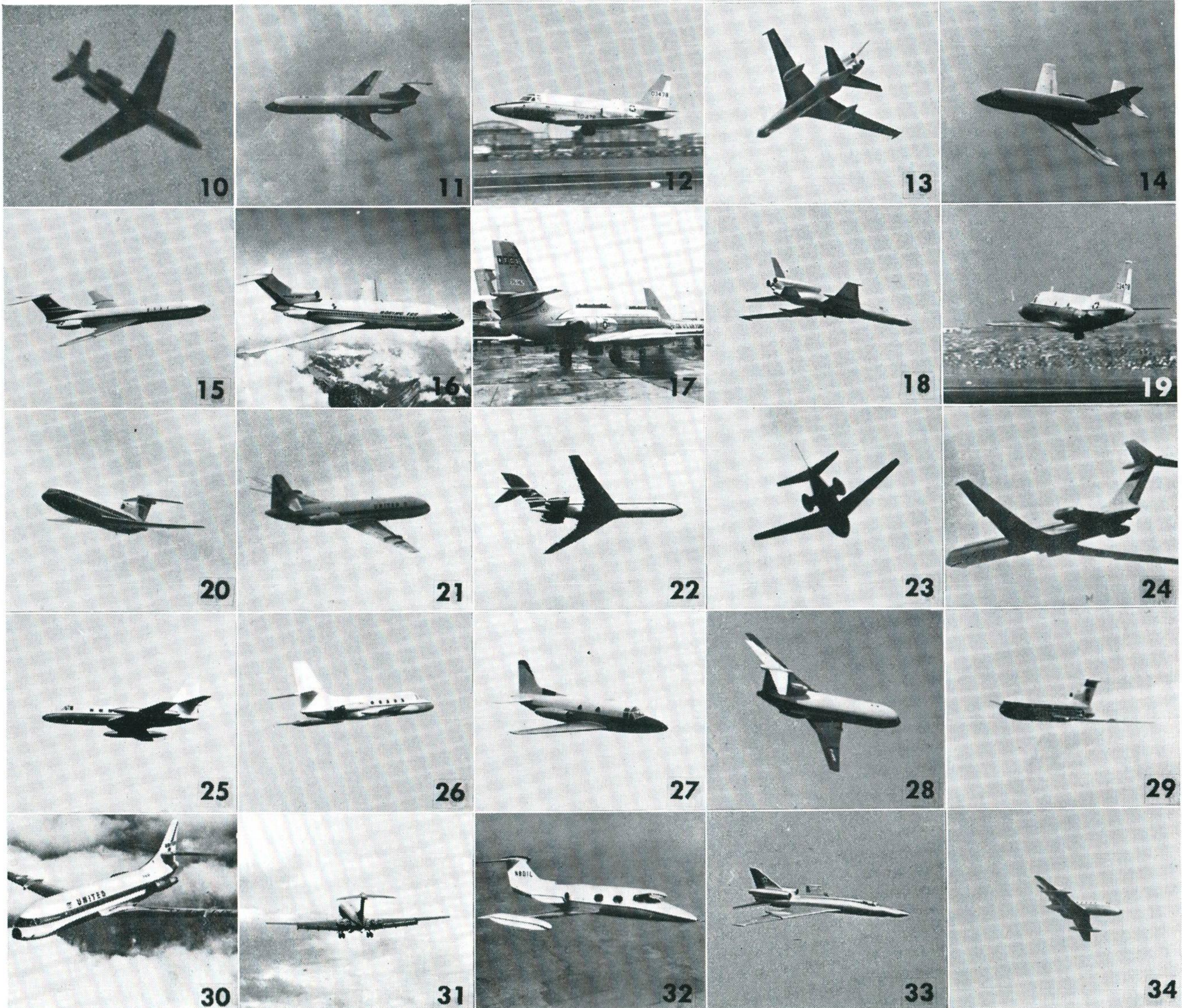
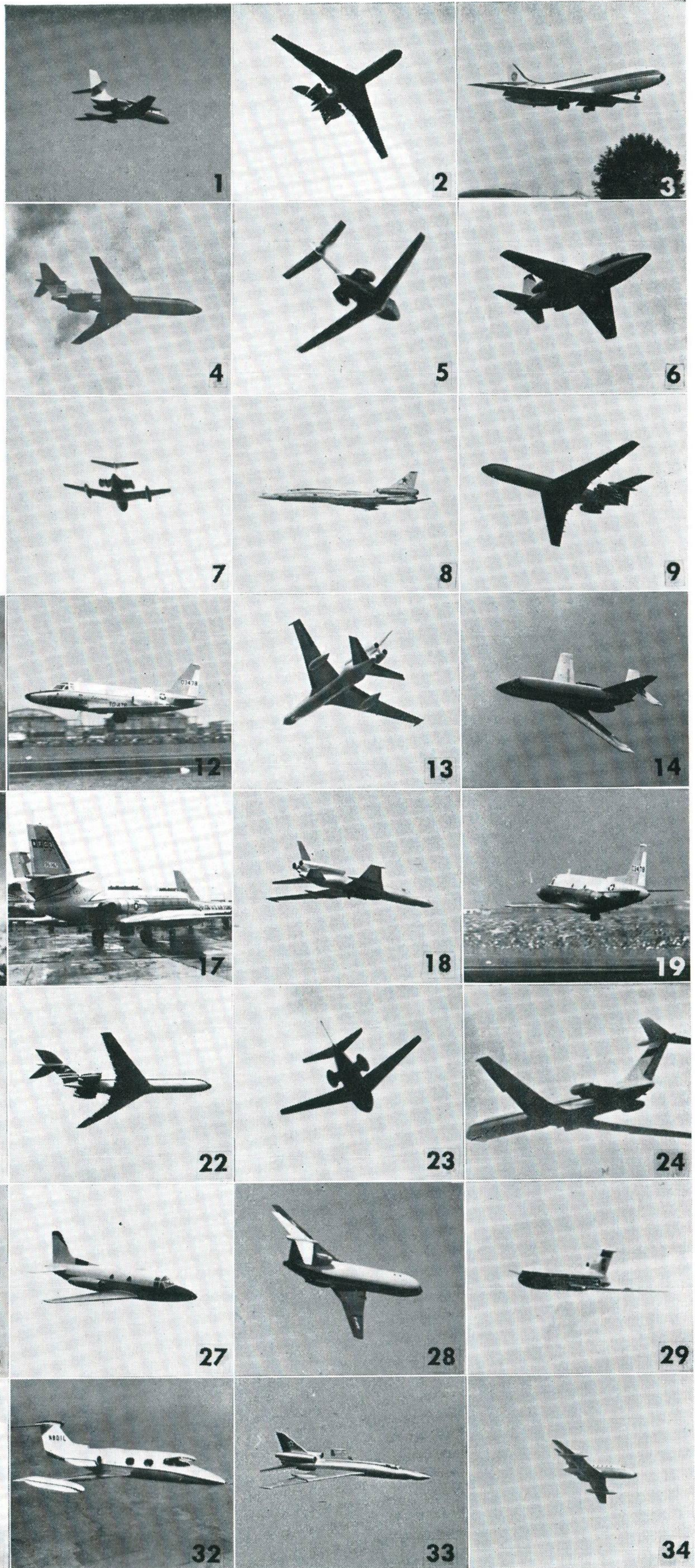


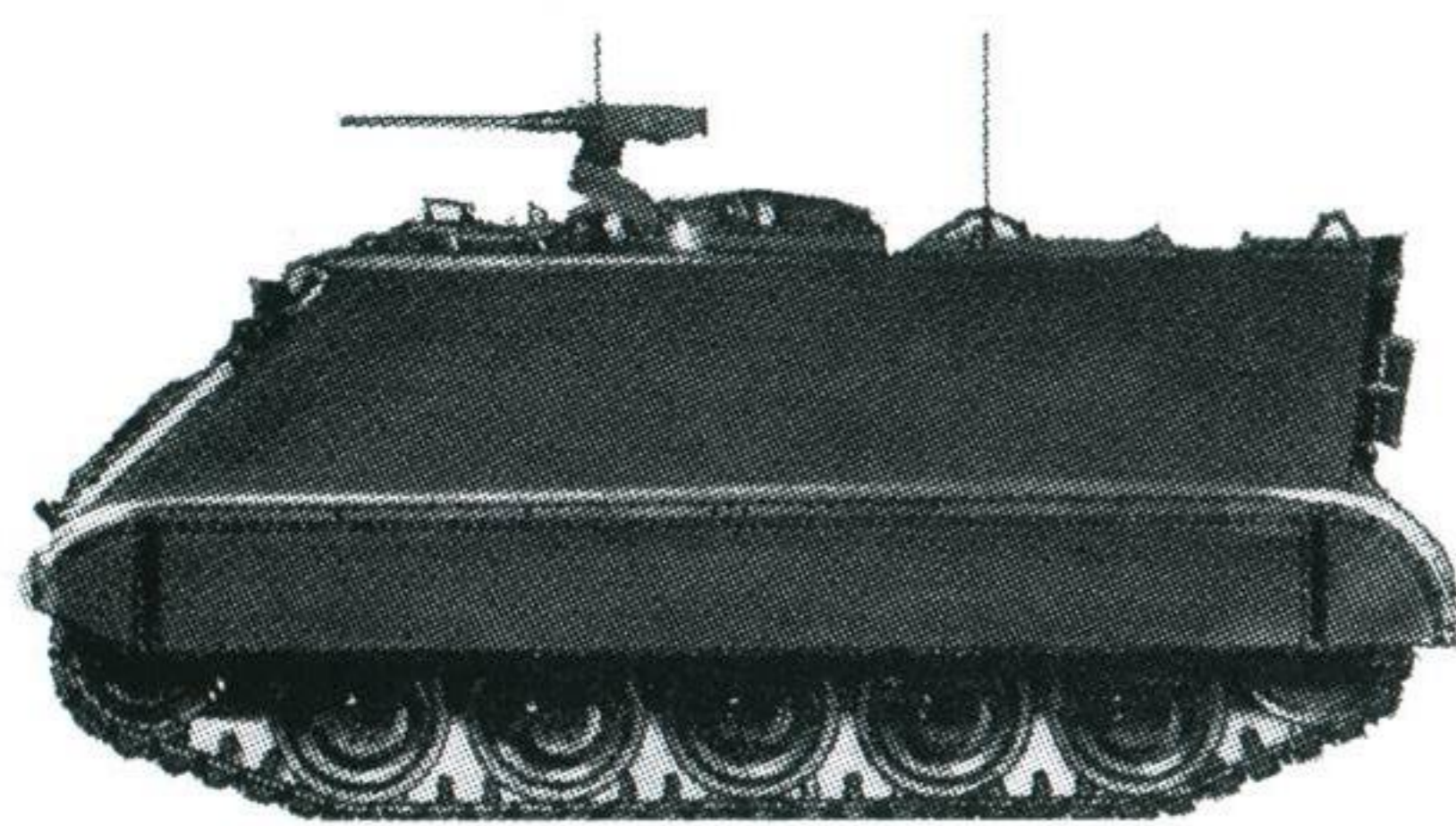
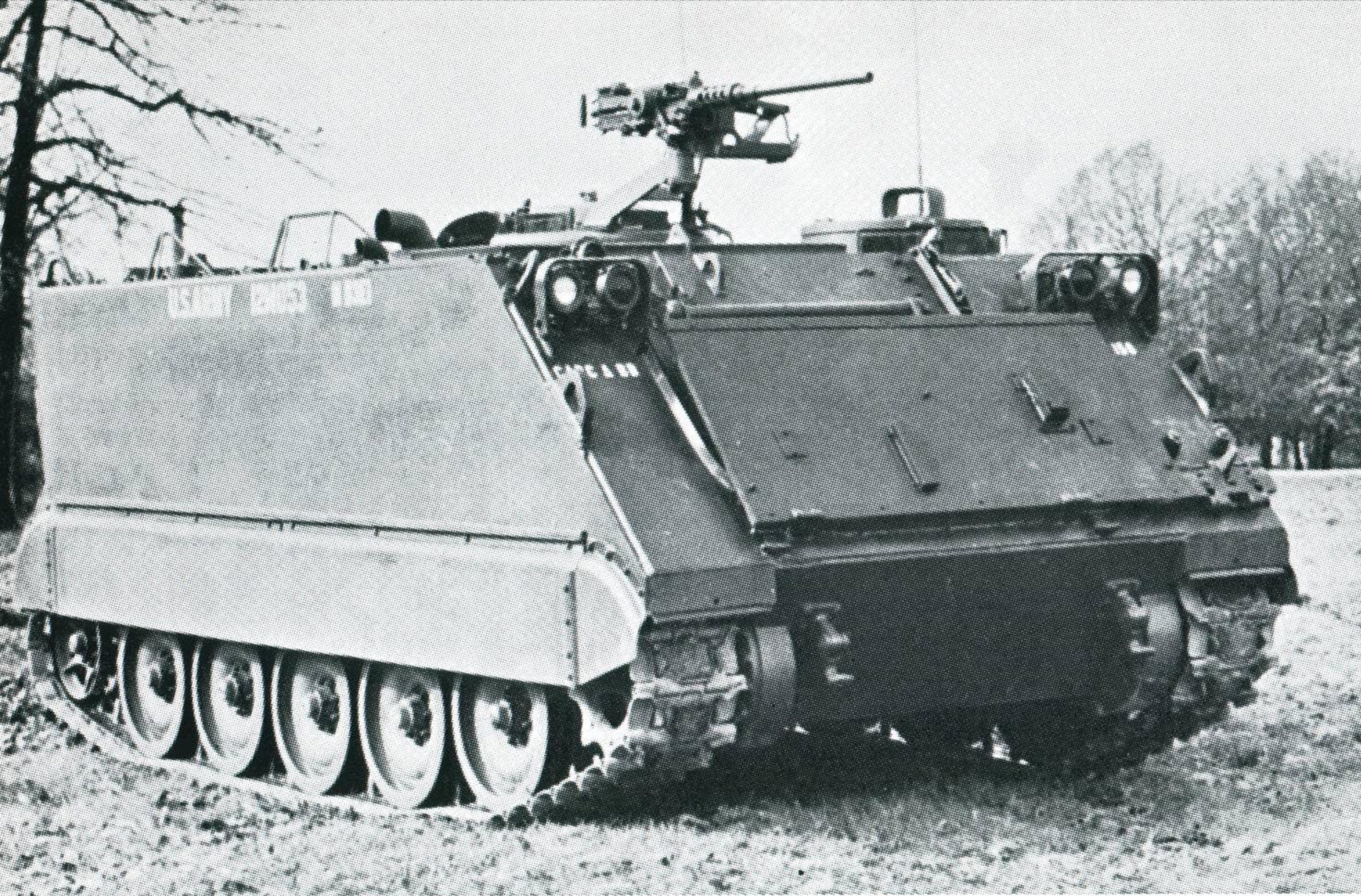
LEVANT CLASS Freighter



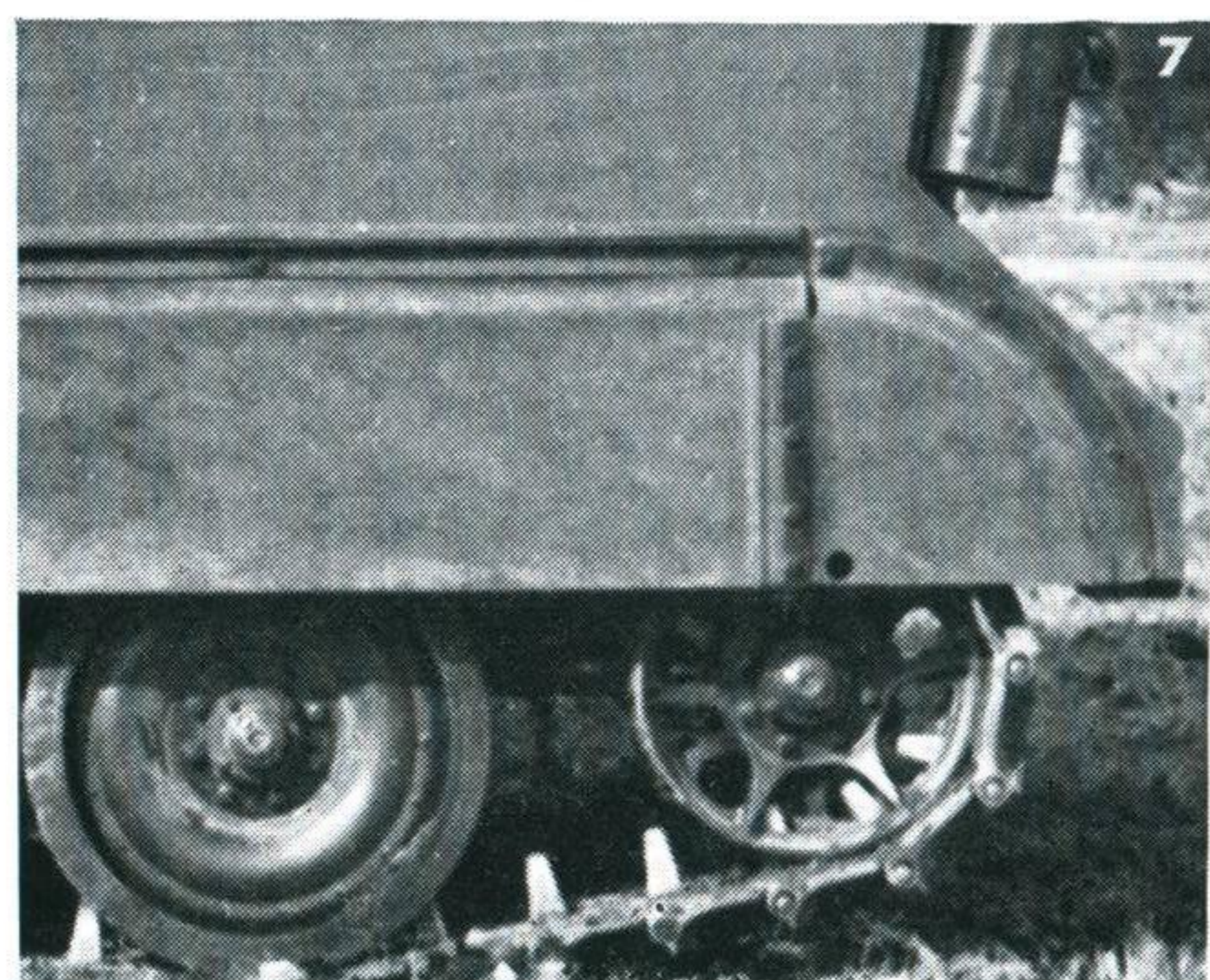
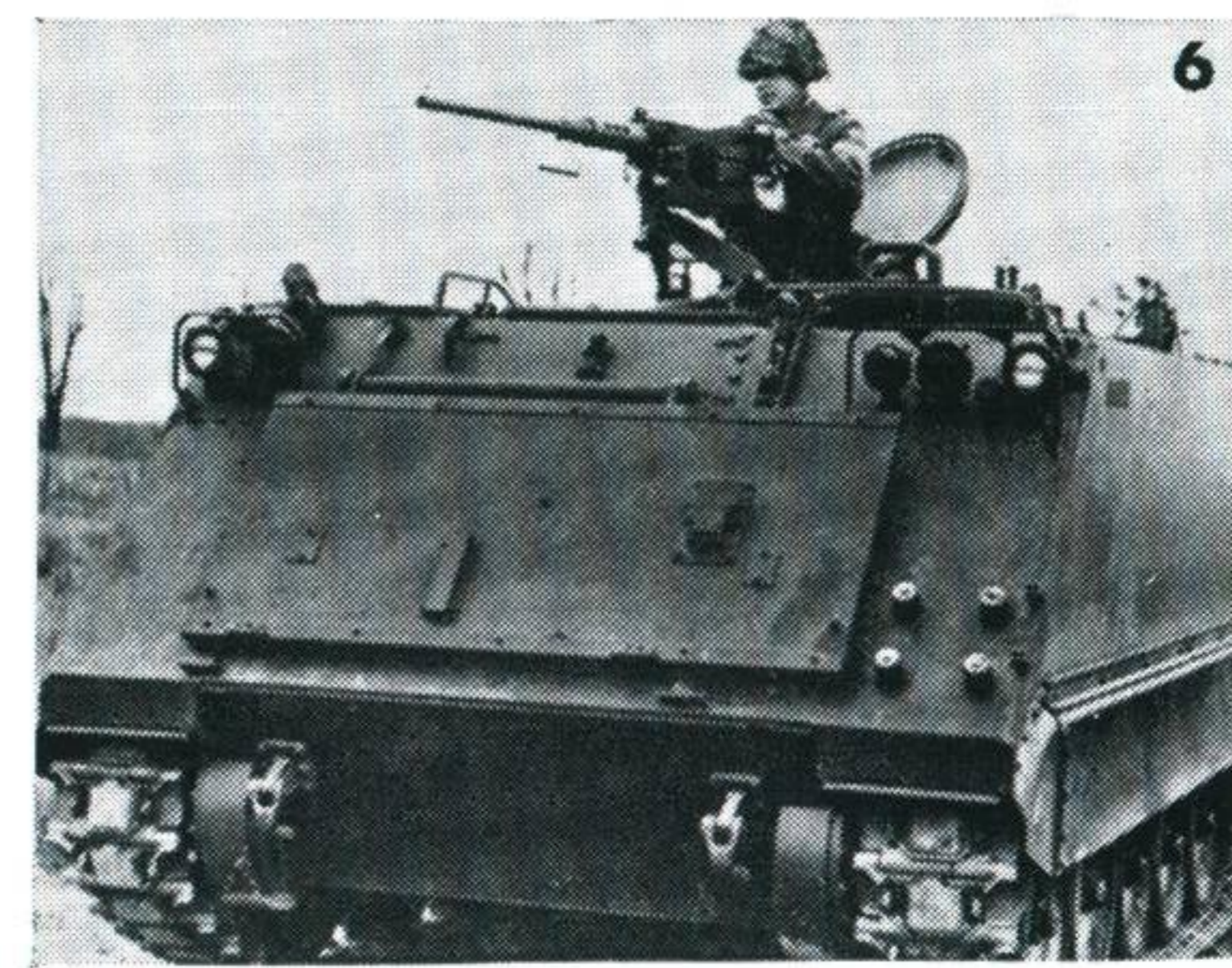
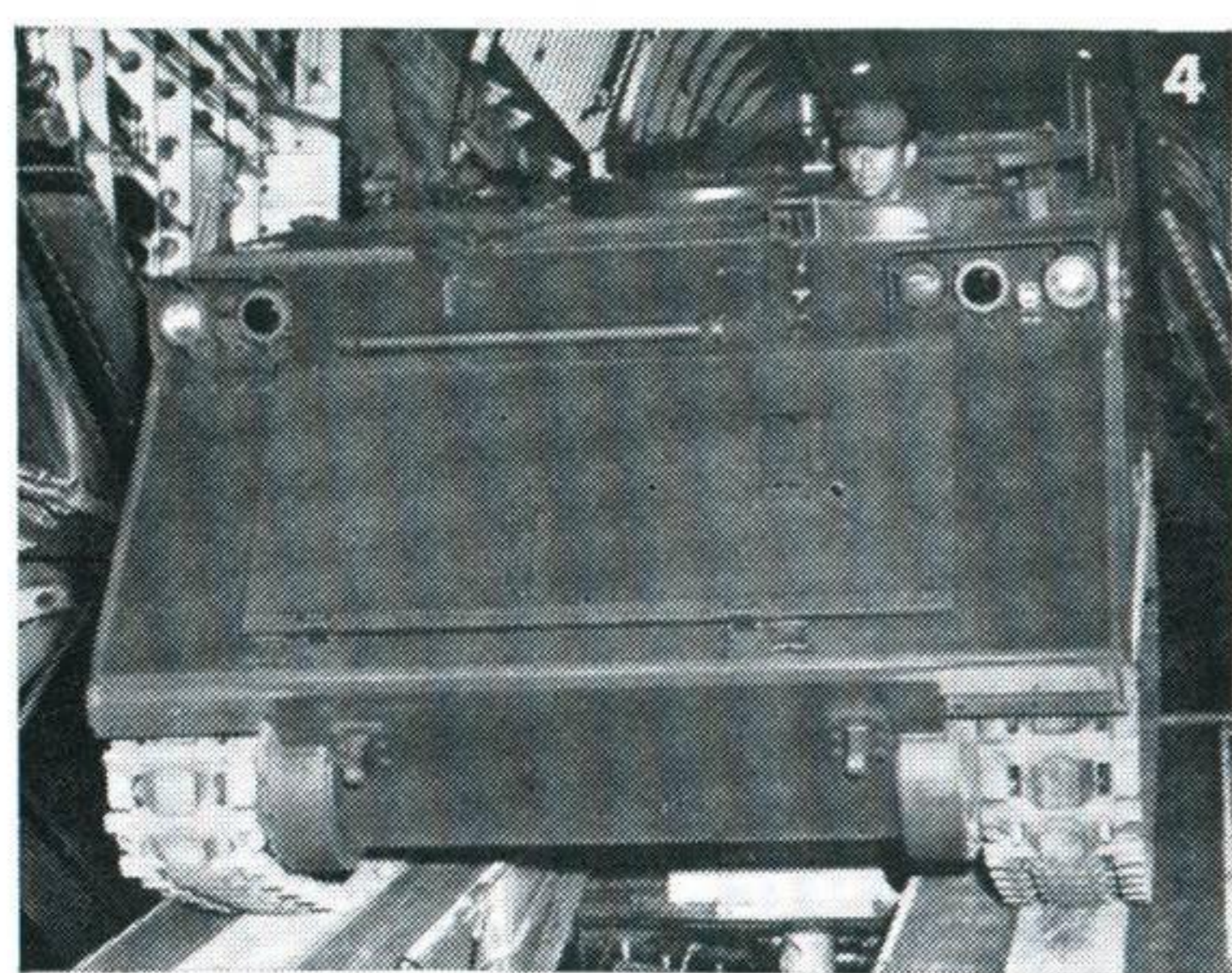
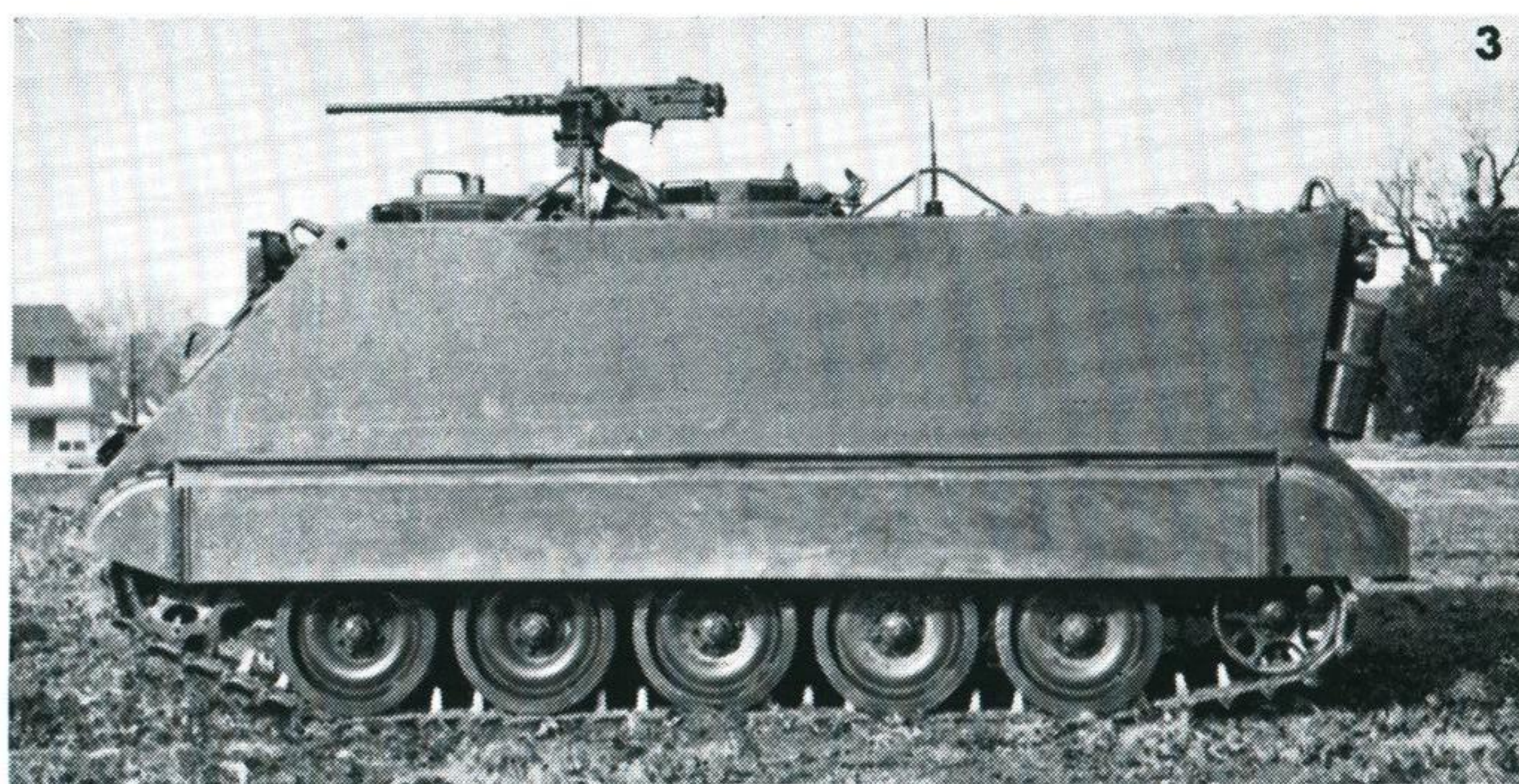
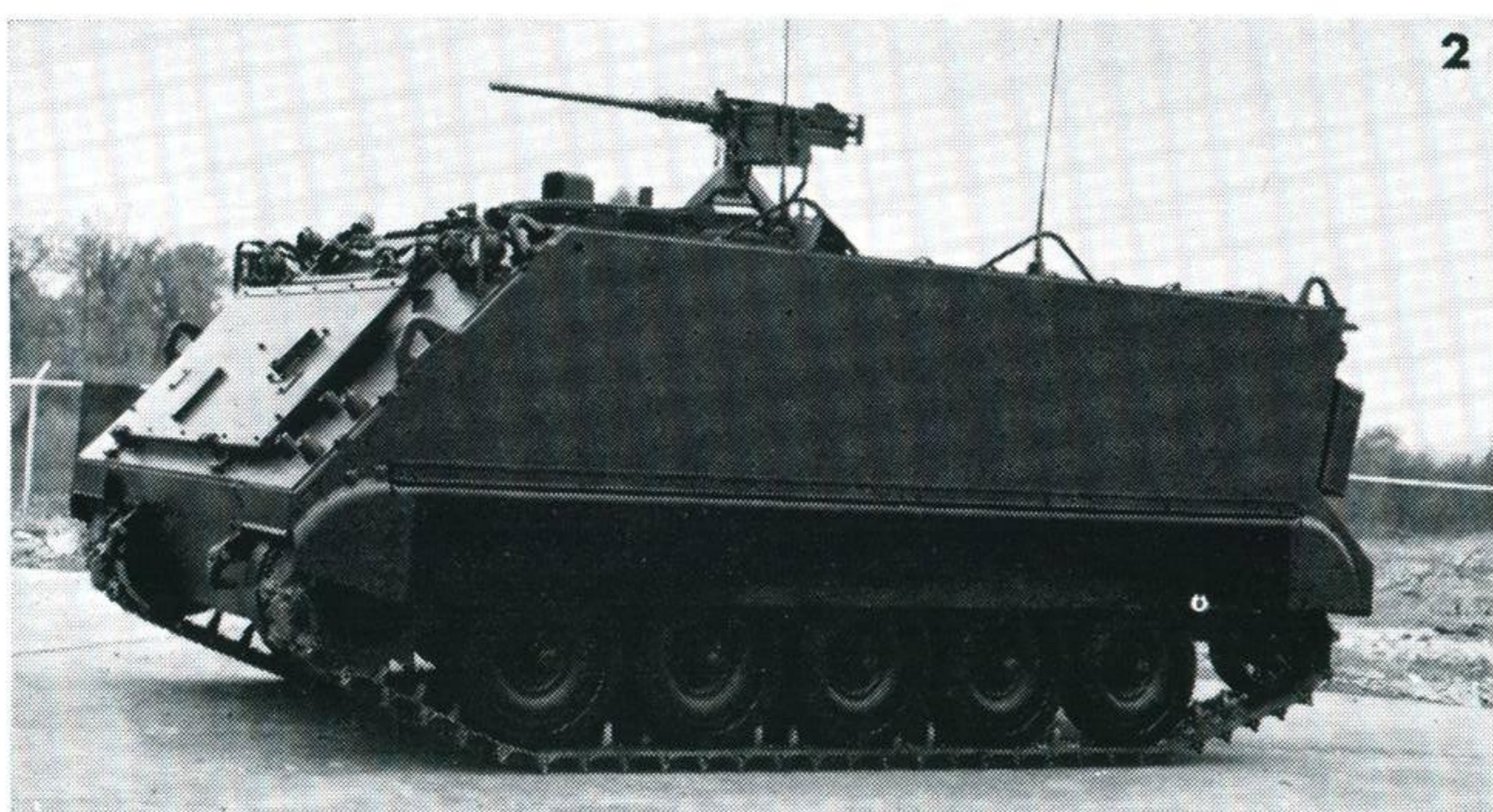
# Rear-jet Test

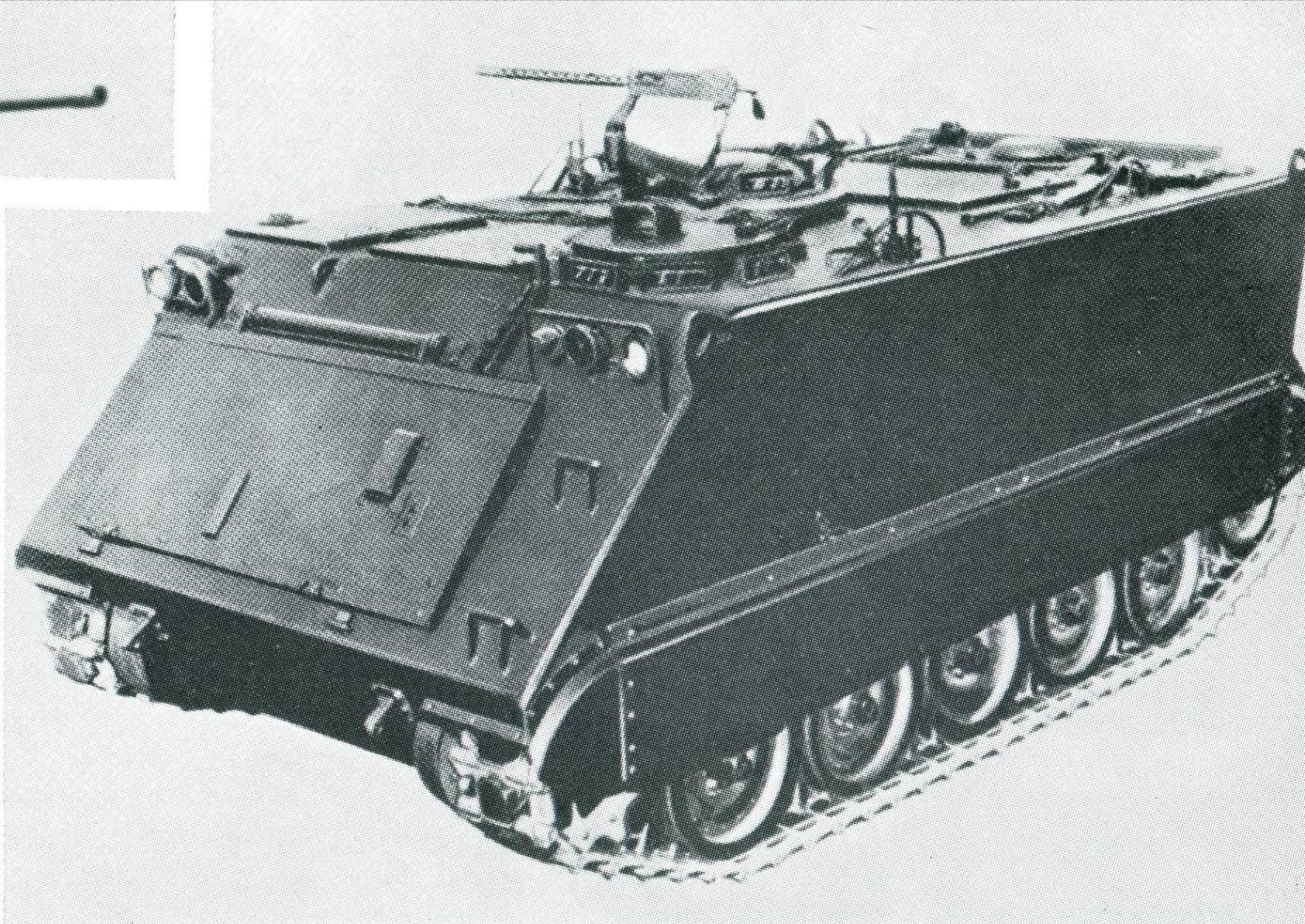
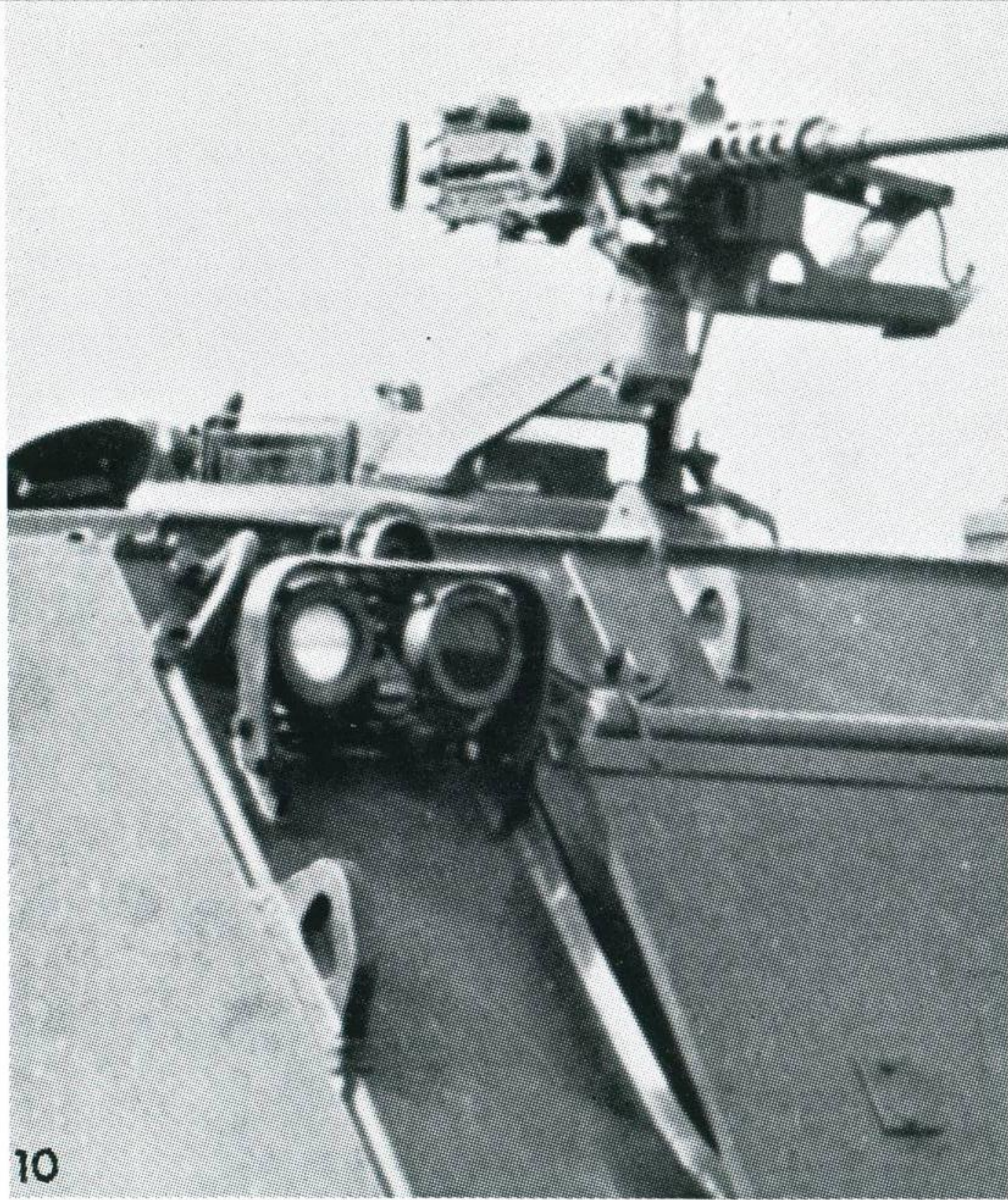
**The Caravelle**, once exclusive as the only rear-jet aircraft in general service, is now one among many. If, by a preliminary glance, you find that you are going to have difficulty with this lesson refer for assistance to earlier lessons on rear-jet aircraft as follows: Caravelle (November 1961), Blinder (February 1964), Jetstar (July 1963), Sabreliner (March 1962), Trident (February 1963) and Vickers VC10 (March 1963). There are, however, several other rear-jet types on which lessons will appear in due course.





UNITED STATES ARMoured  
PERSONNEL CARRIER **M113**



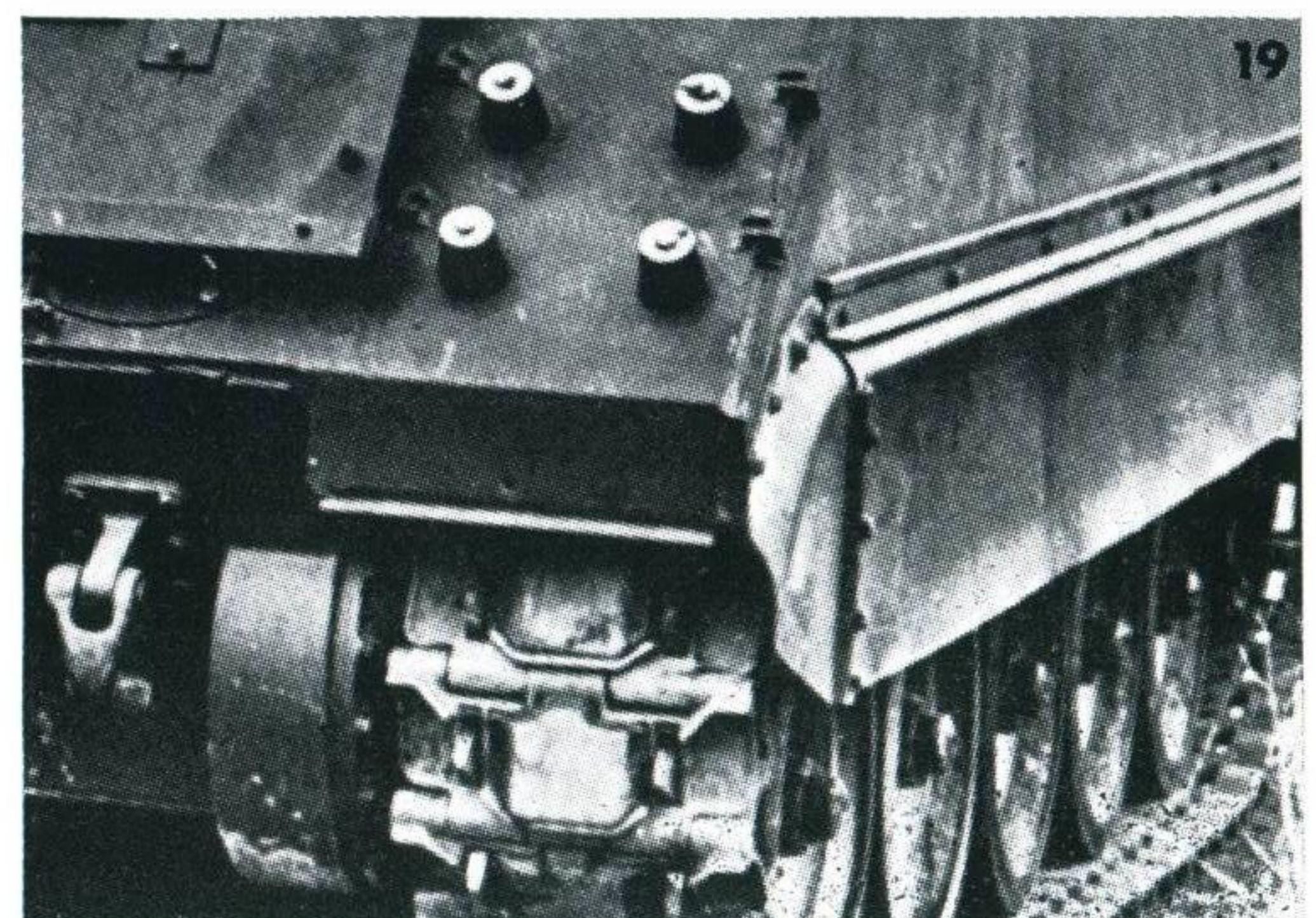
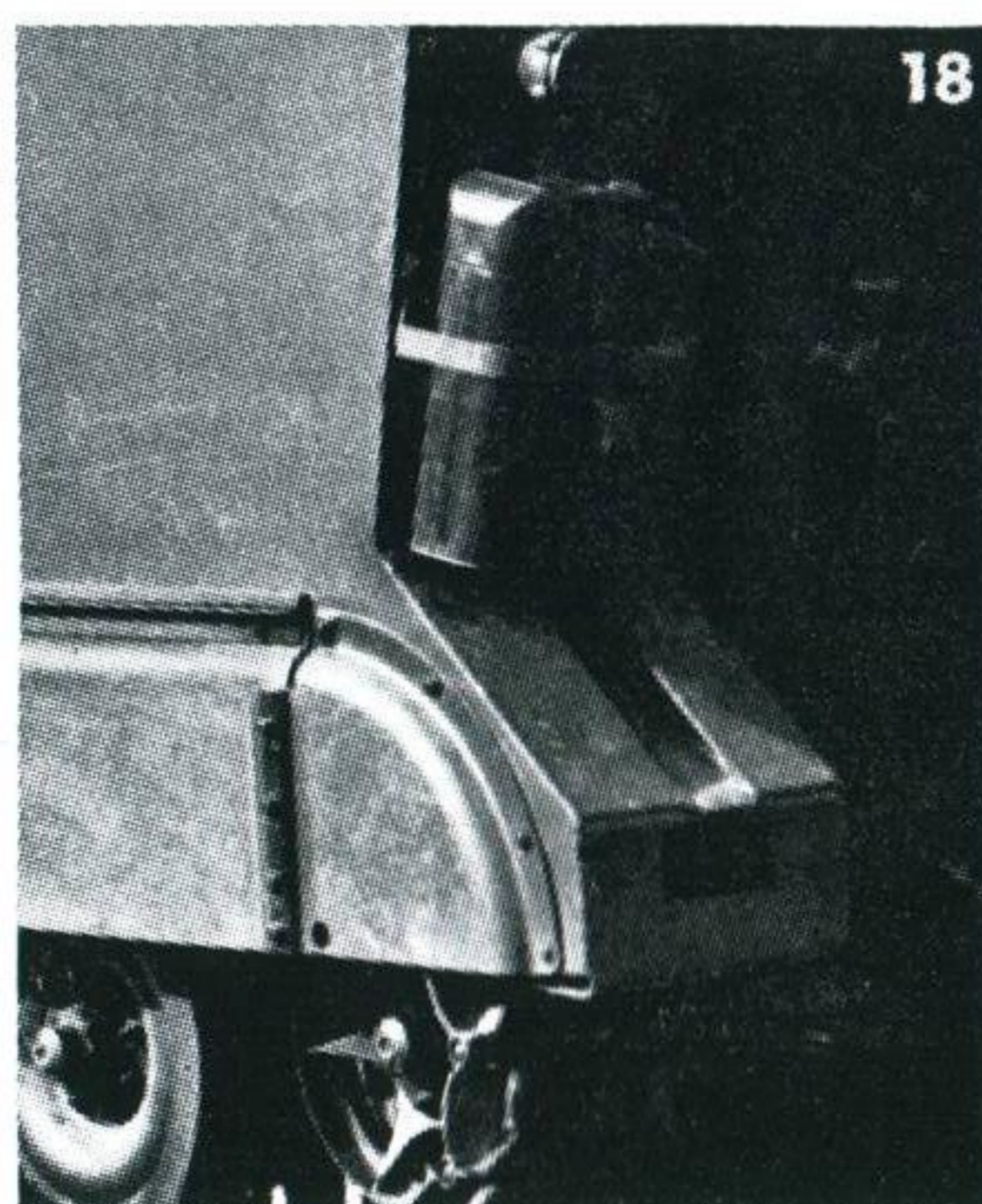
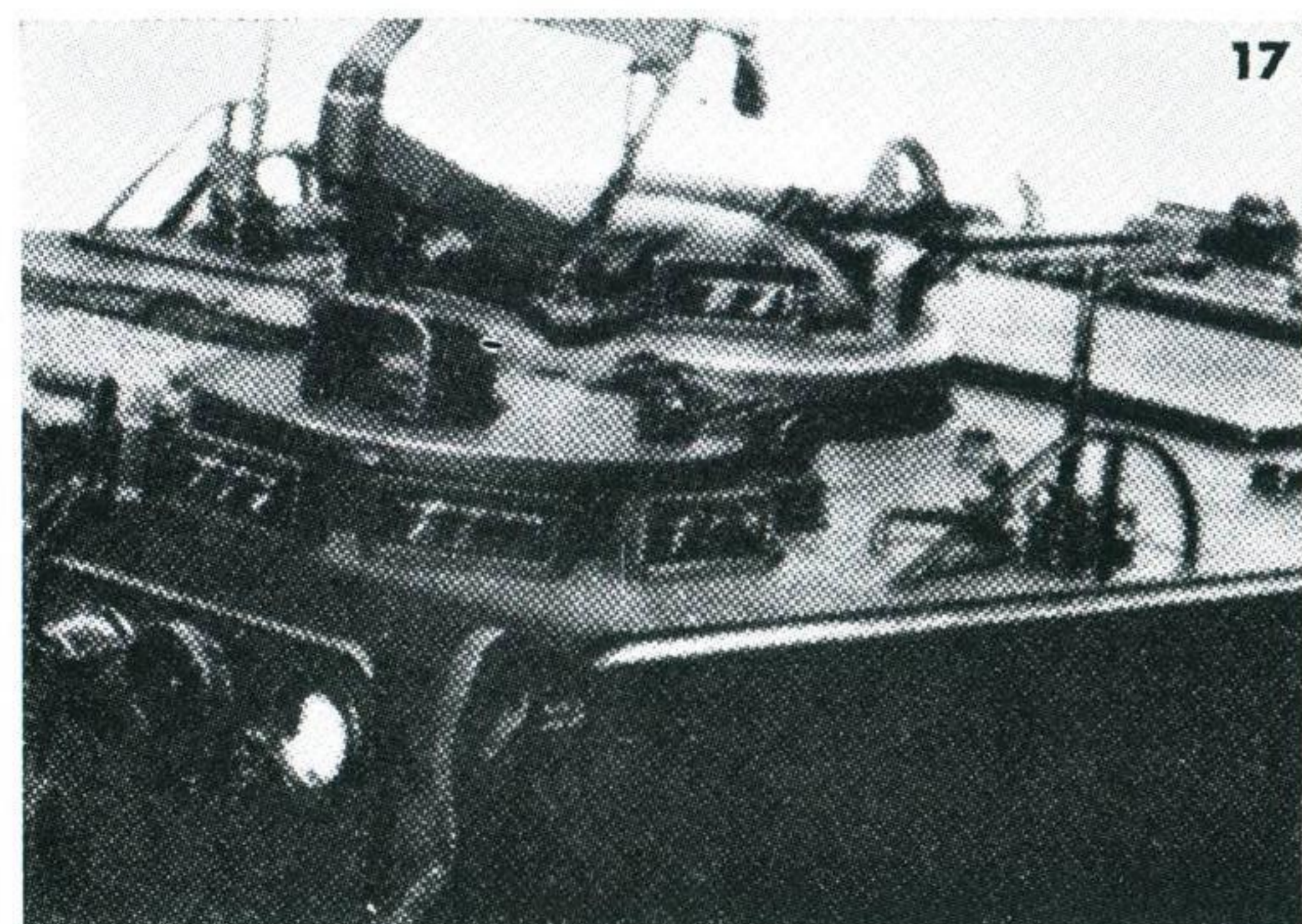
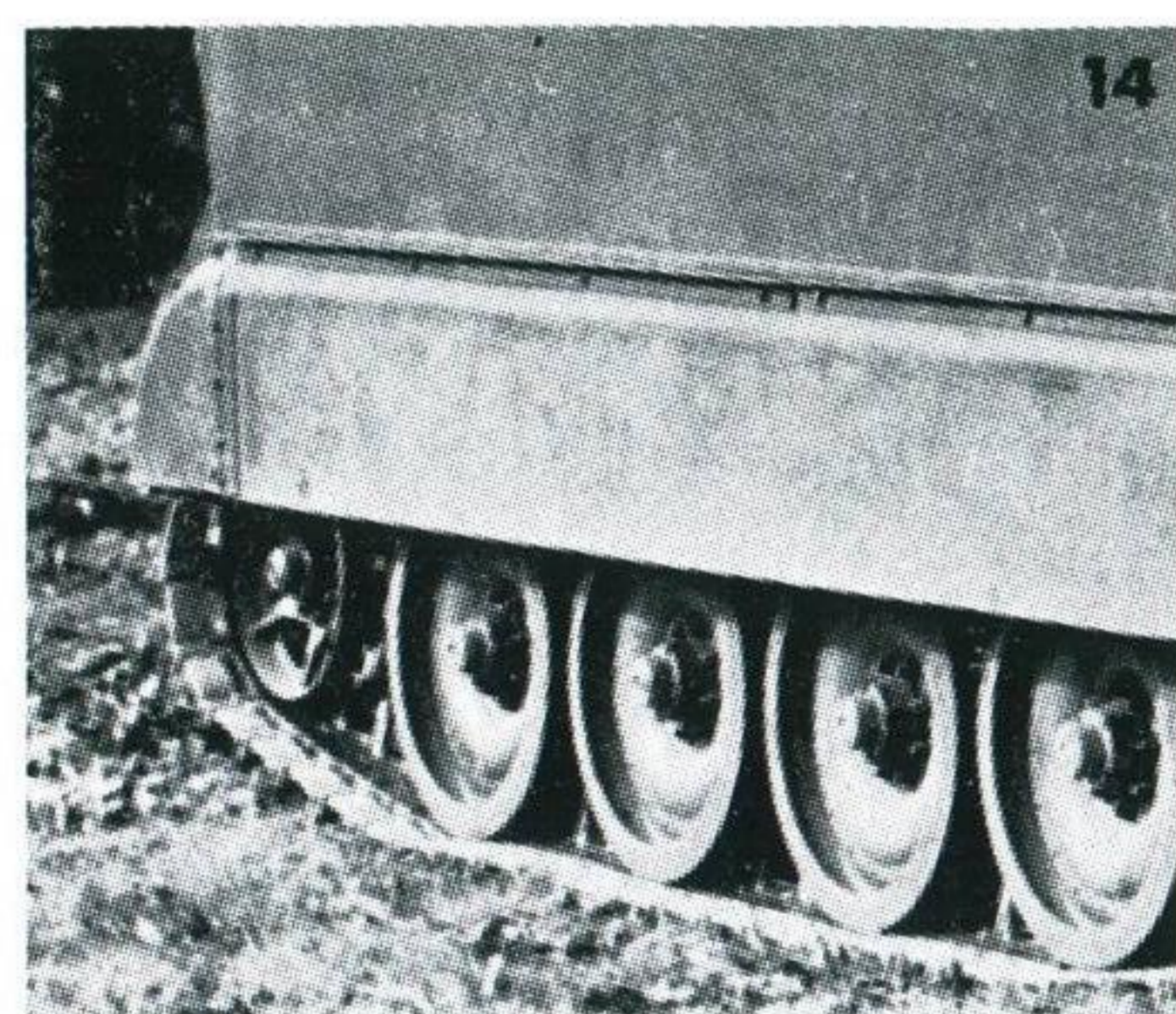
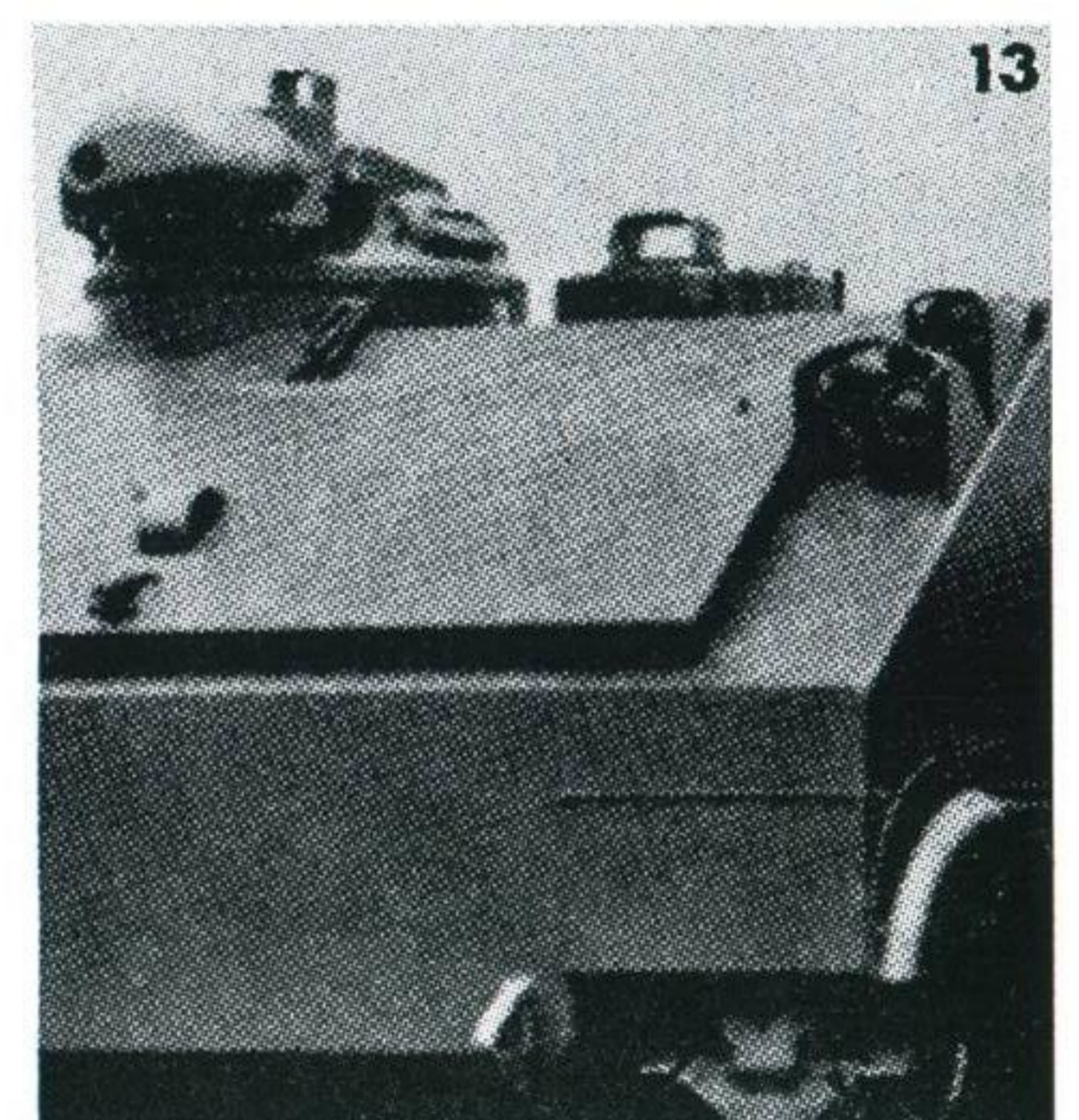
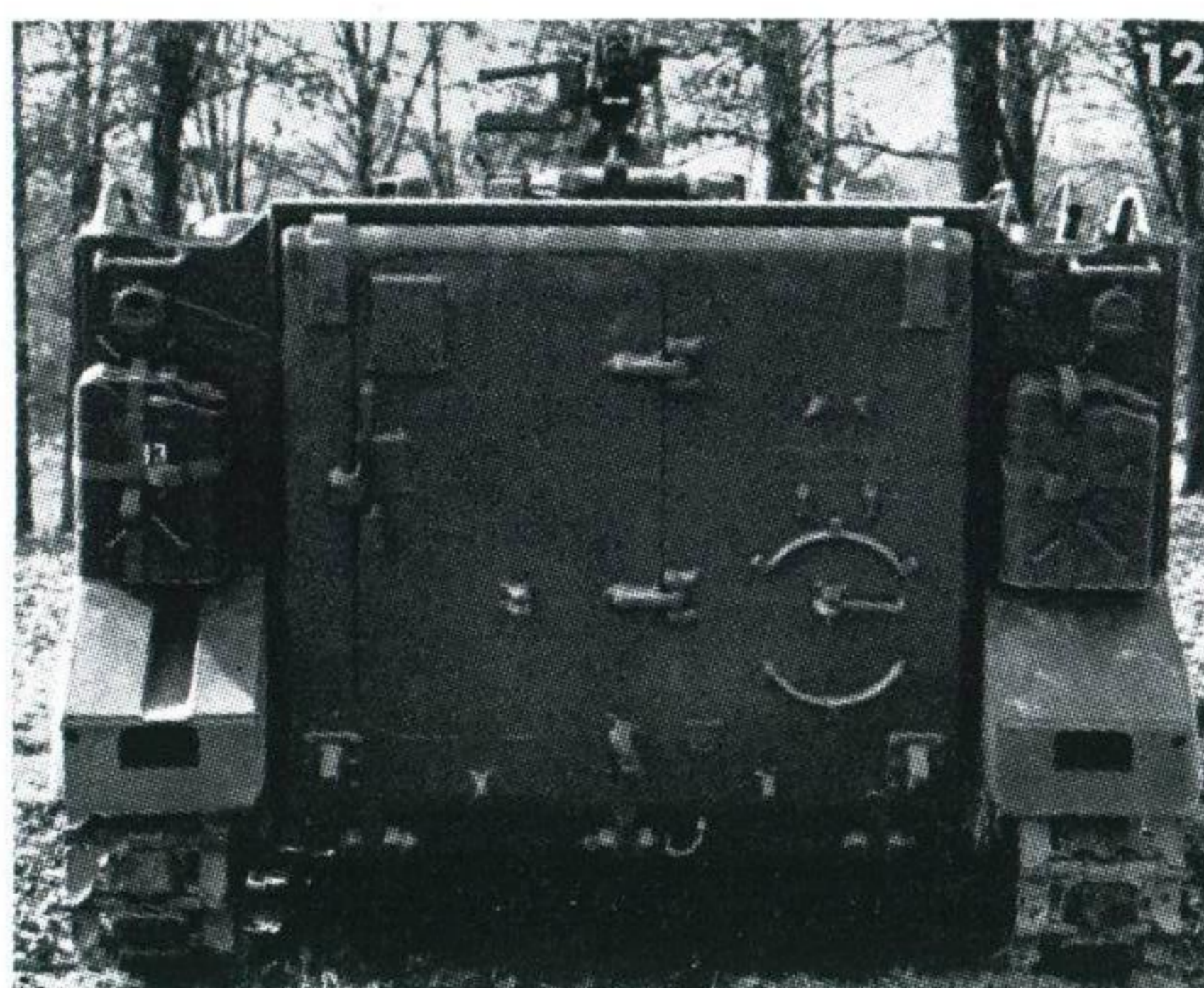
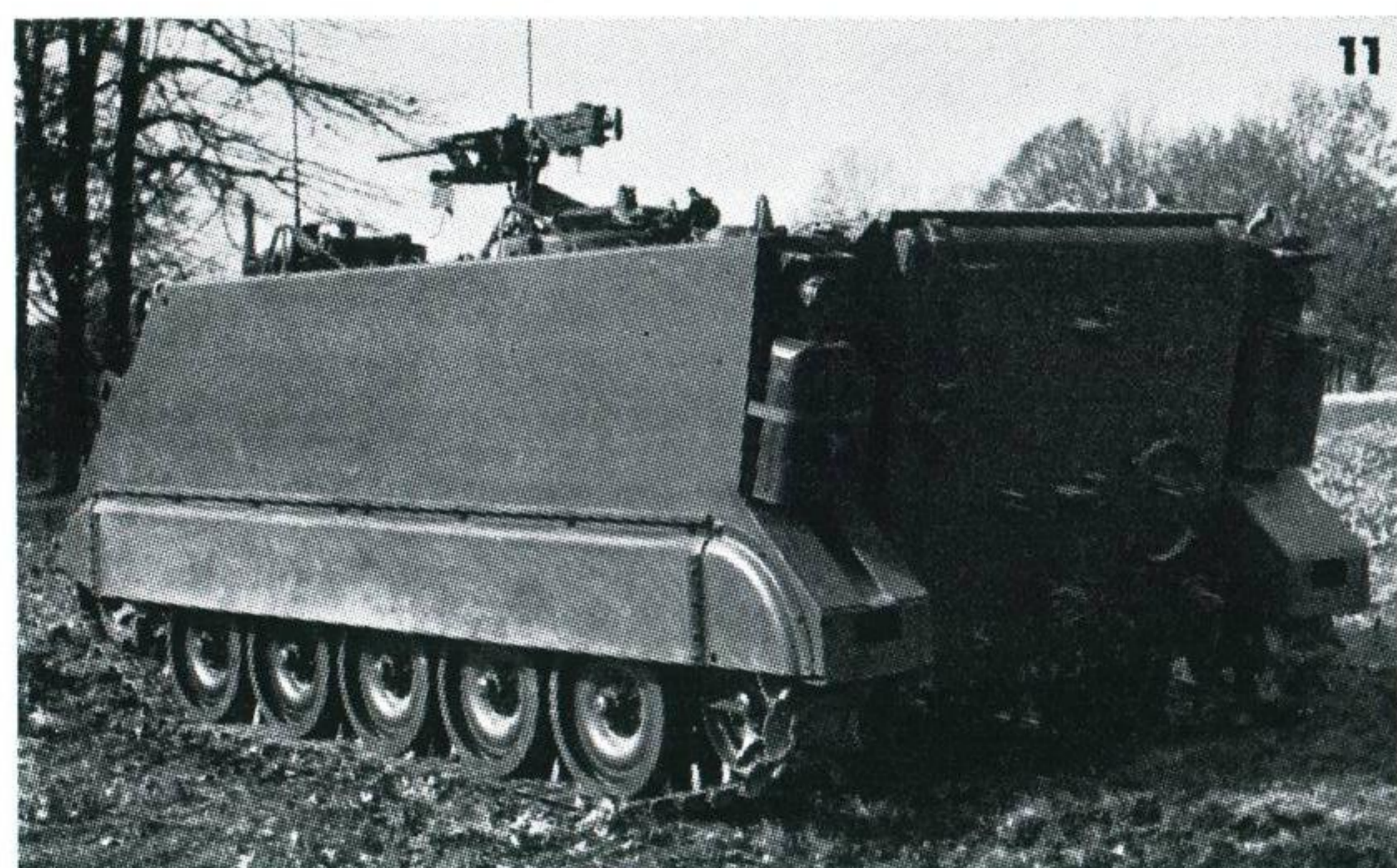


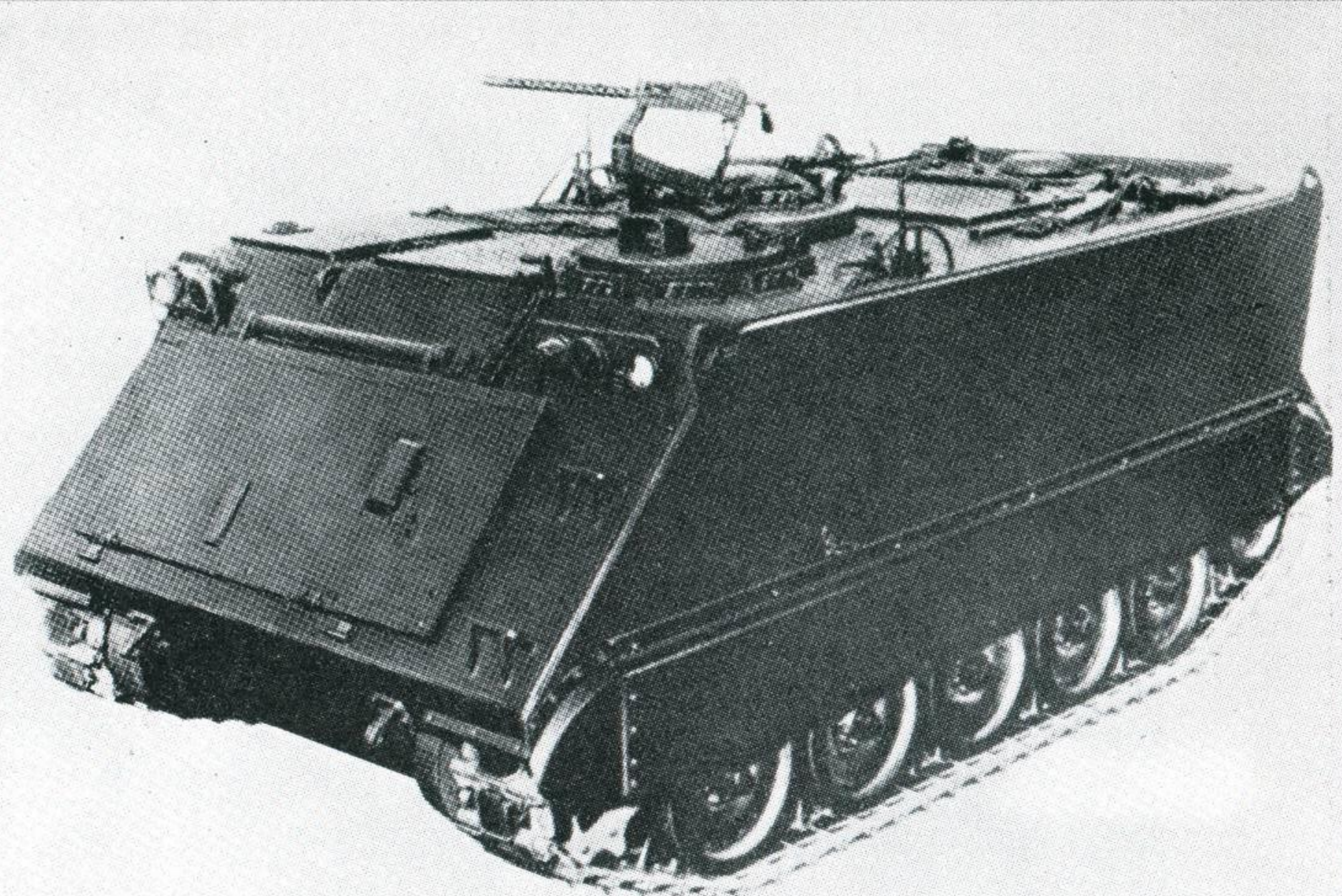
The M113 is the most recent of a long line of American armoured personnel carriers. In several respects it resembles its immediate predecessor, the M59 Armoured Personnel Carrier, which it is replacing. It has, for instance, a very similar box-like superstructure with vertical side walls and a sloping frontal plate. Considerably smaller and lighter, it can nevertheless carry one more man than the M59—13 men in all including the driver.

Like the M59, the M113 has sufficient buoyancy to float in calm inland waters and can, therefore, cross rivers without special

preparation. In common with the M59 and other amphibious vehicles, it has a trim vane which rests on the frontal plate when it moves on land but which is hinged forward for operation in water.

To improve performance in water the M113 has the top of the tracks covered by rubber shrouds, which hide the fact that it has no track return rollers. Even less obvious is the fact that the M113 has aluminium alloy armour, being the first vehicle ever to go into production with this form of protection instead of the more conventional steel armour.

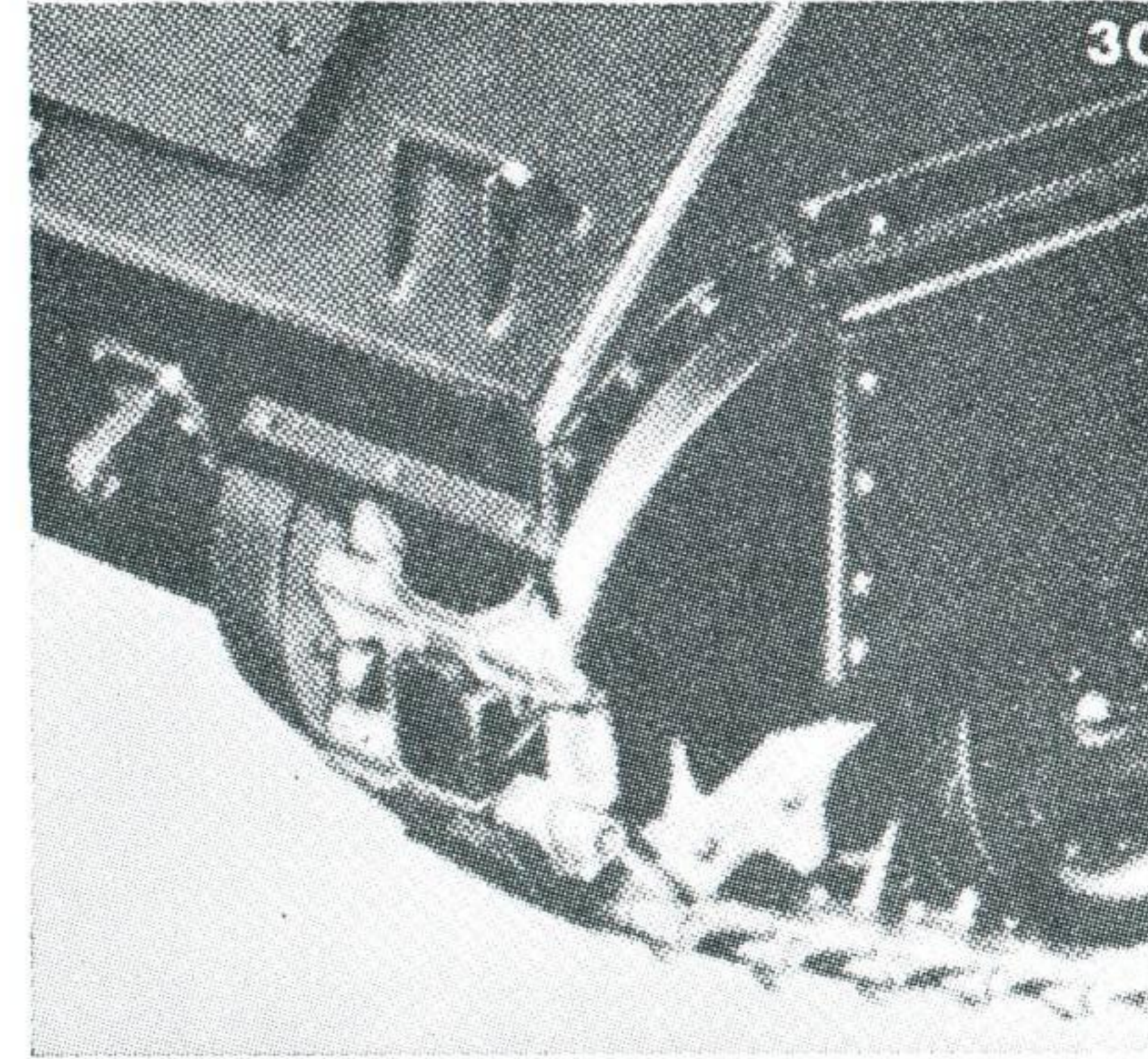
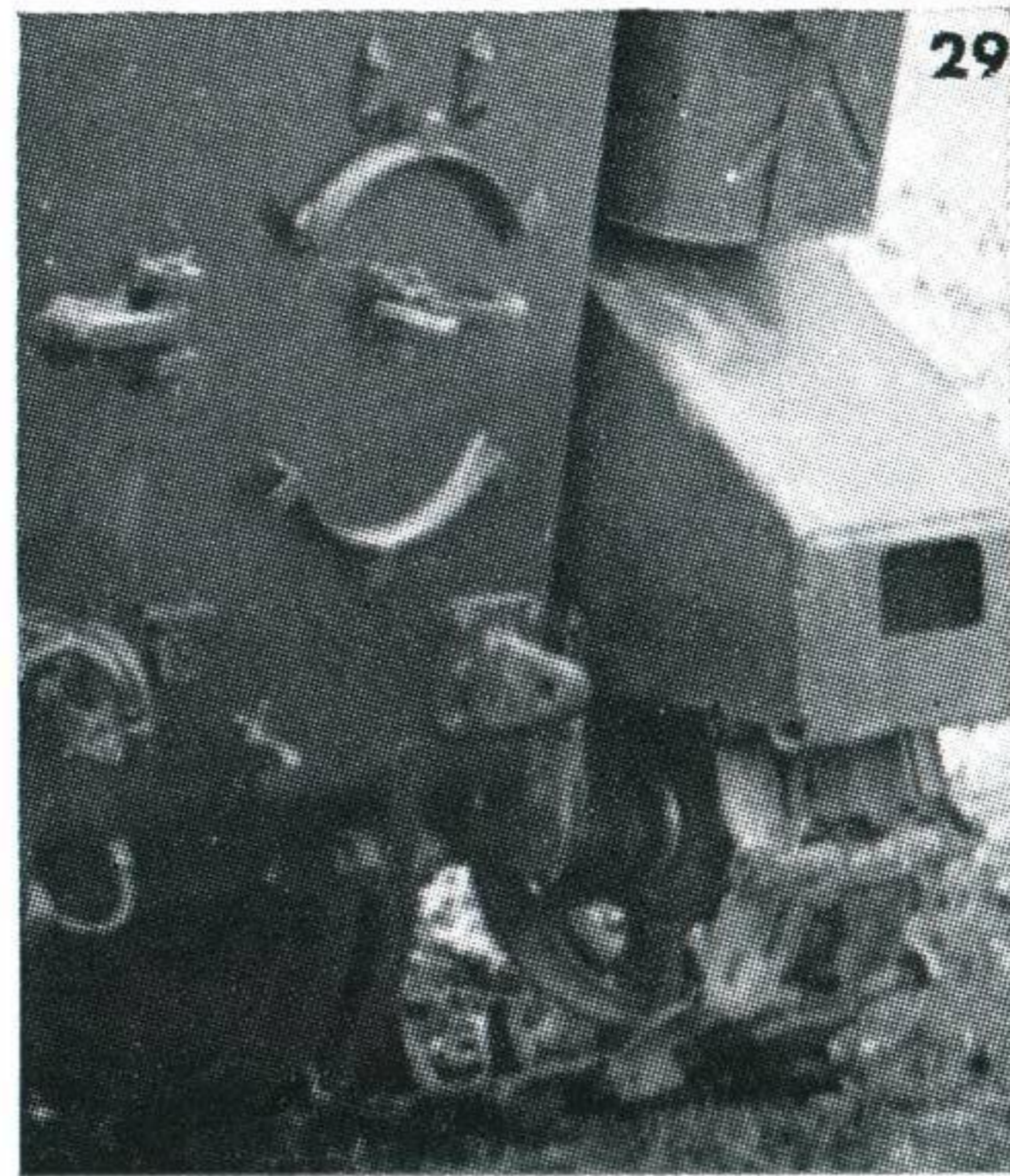
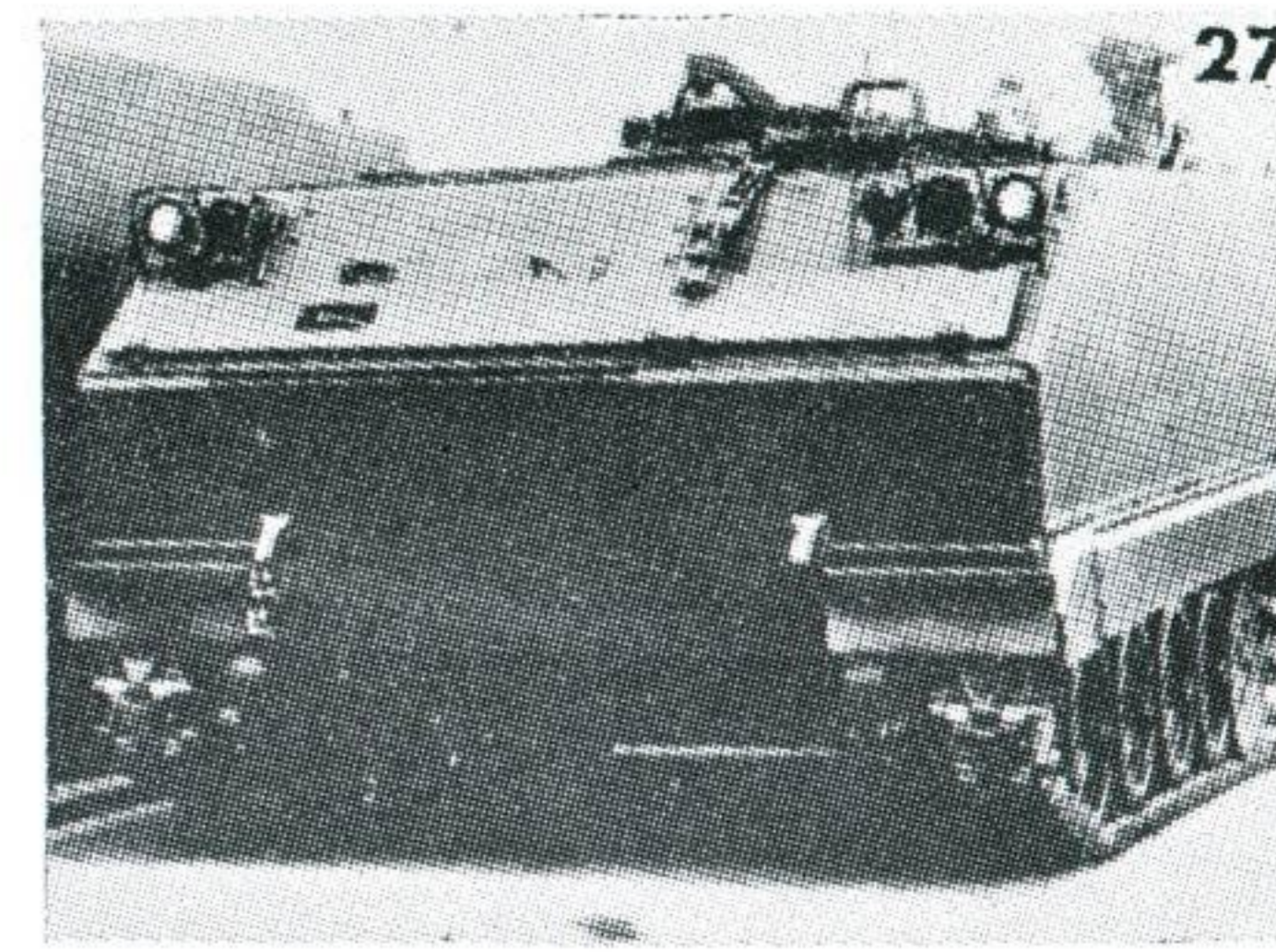
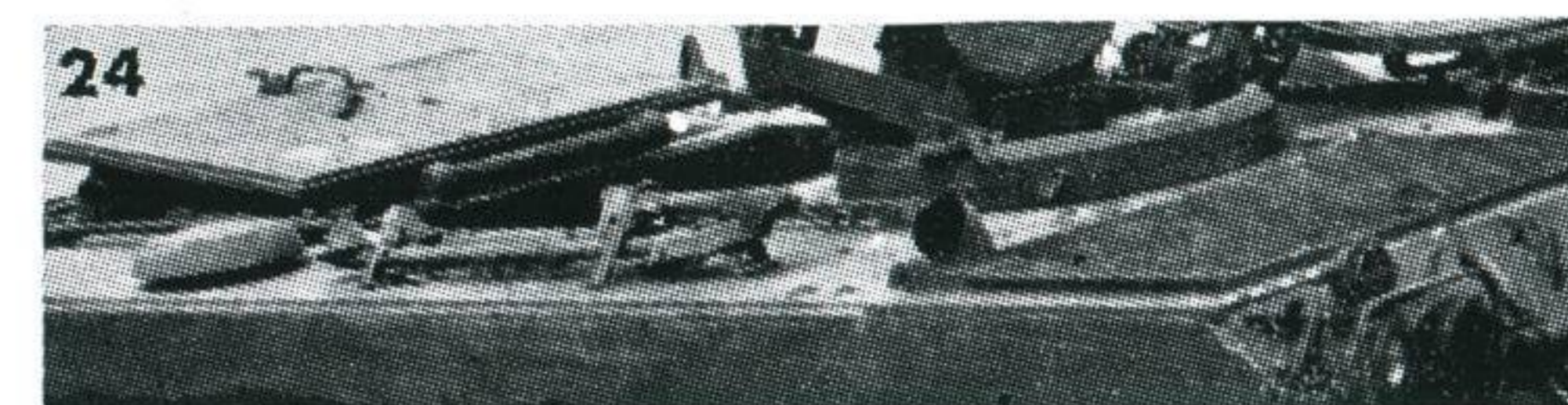
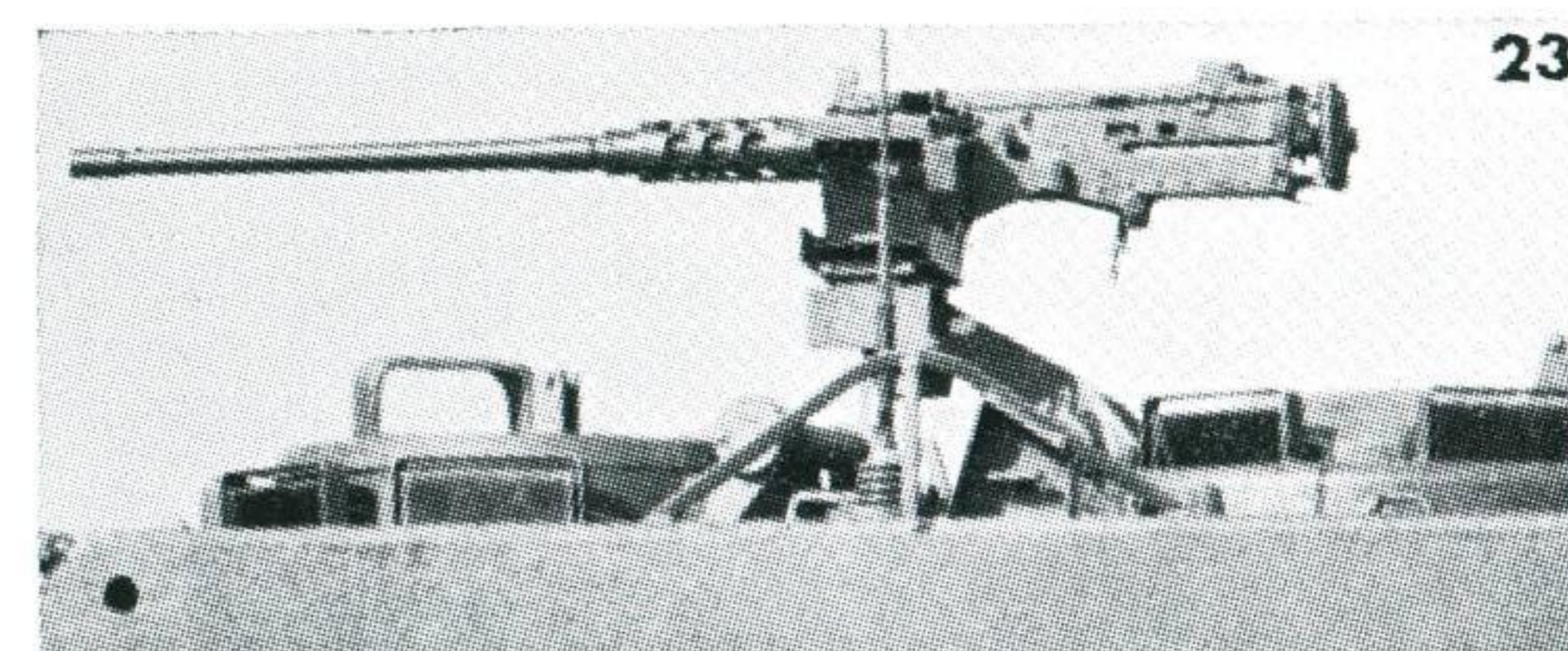
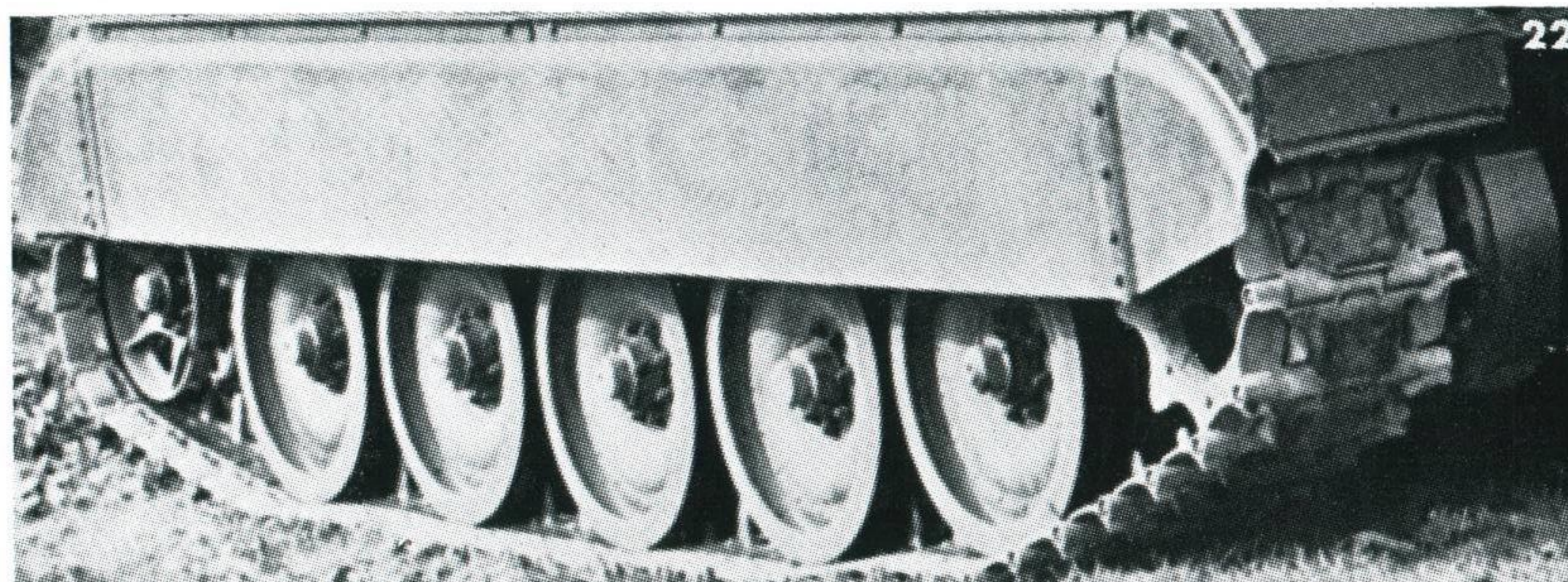
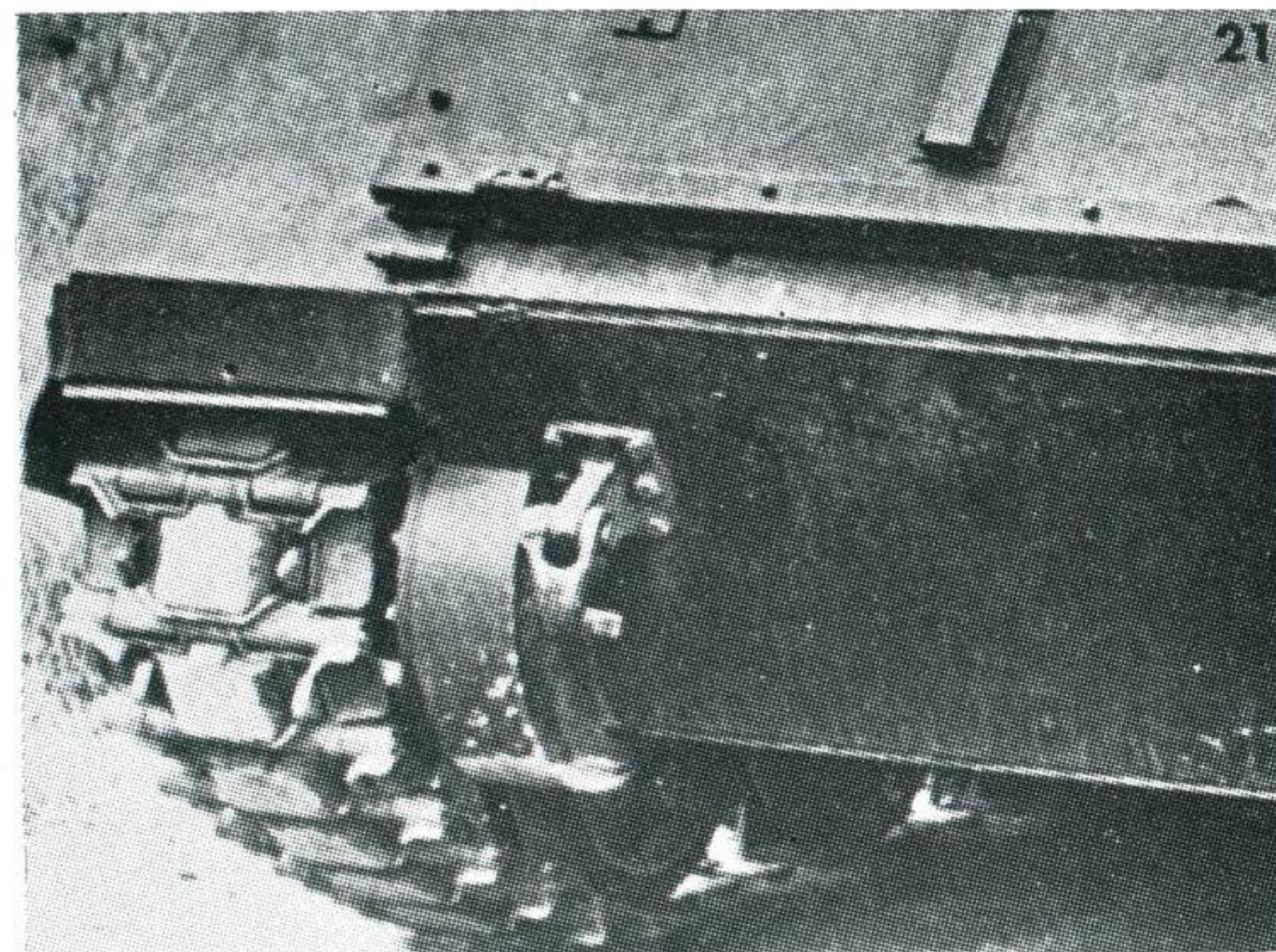
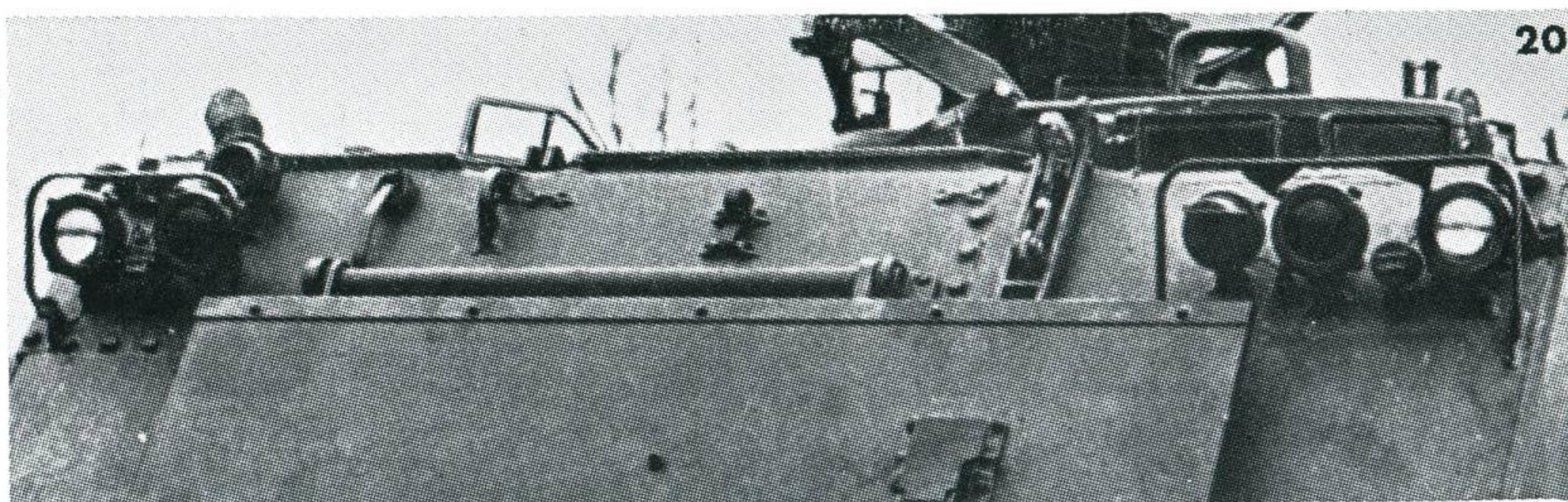




UNITED STATES ARMoured PERSONNEL CARRIER

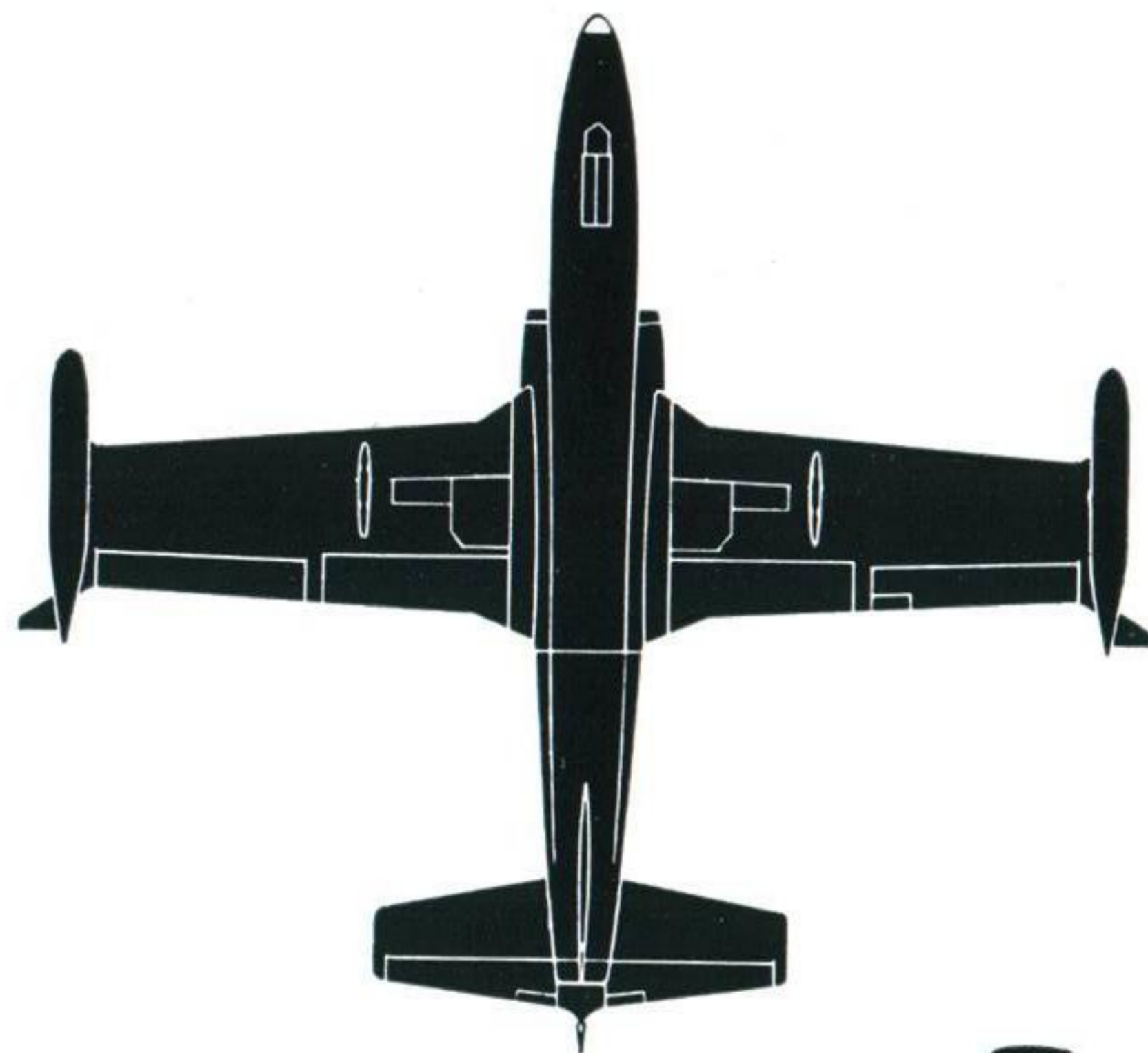
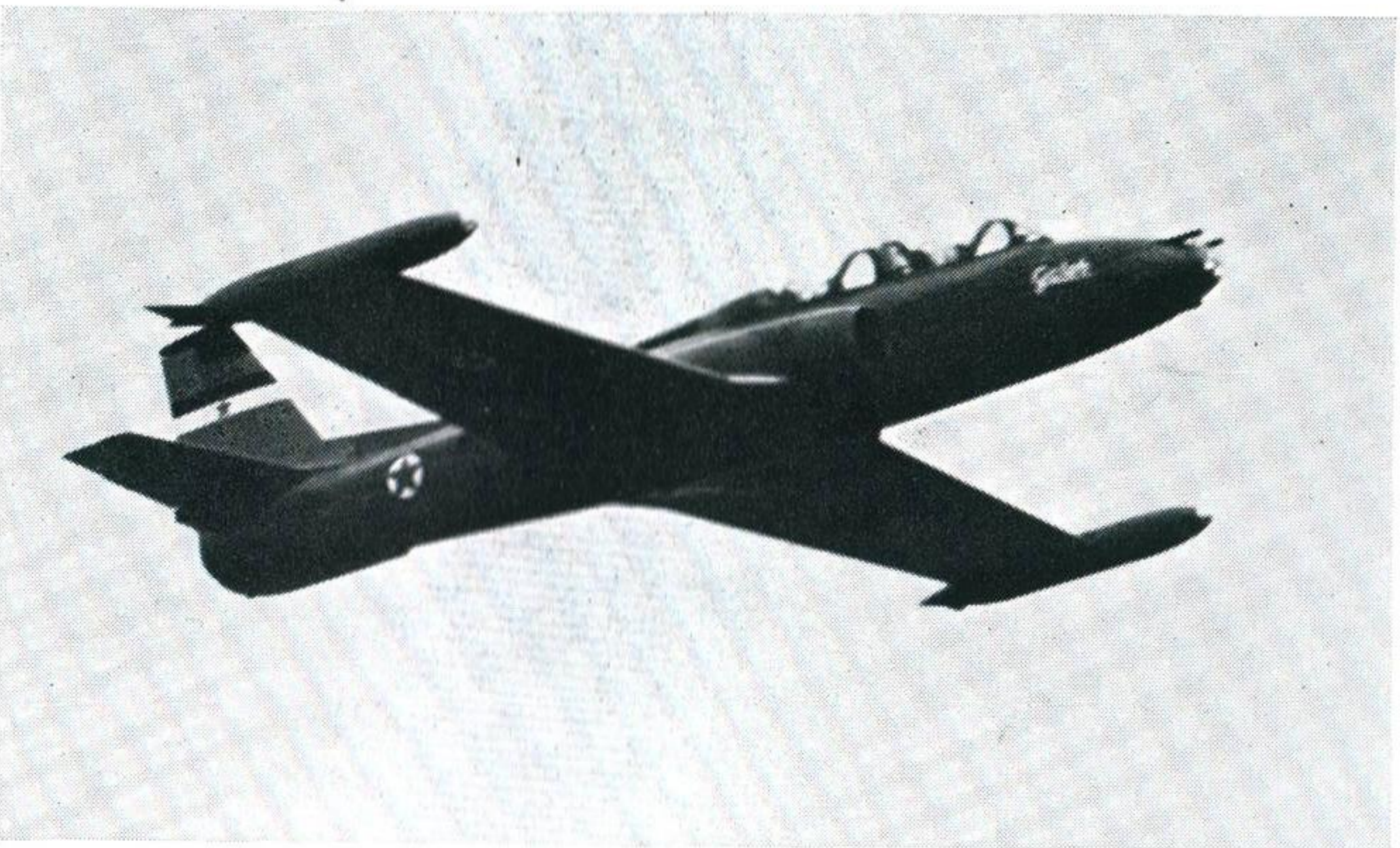
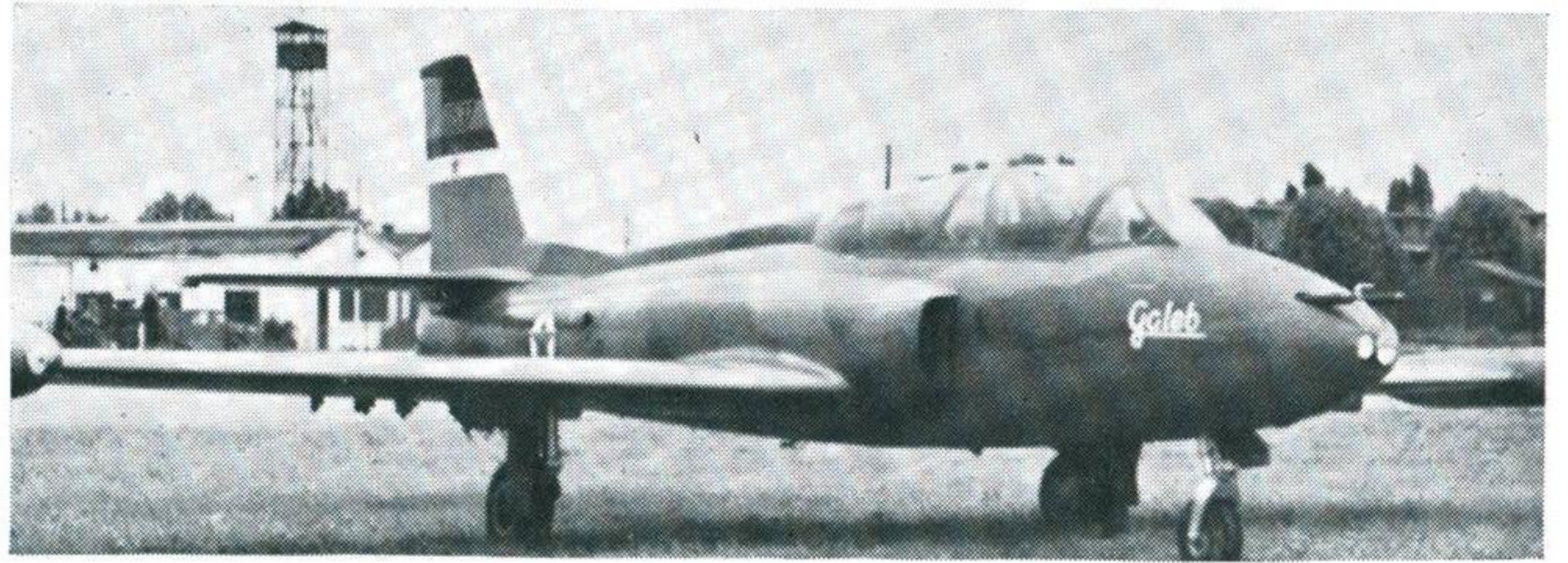


The M113 is used on a large scale by the U.S. Army and several hundred have also been ordered by the German and Swiss Armies. It is also being manufactured under licence in Italy and has been adopted by several other countries.

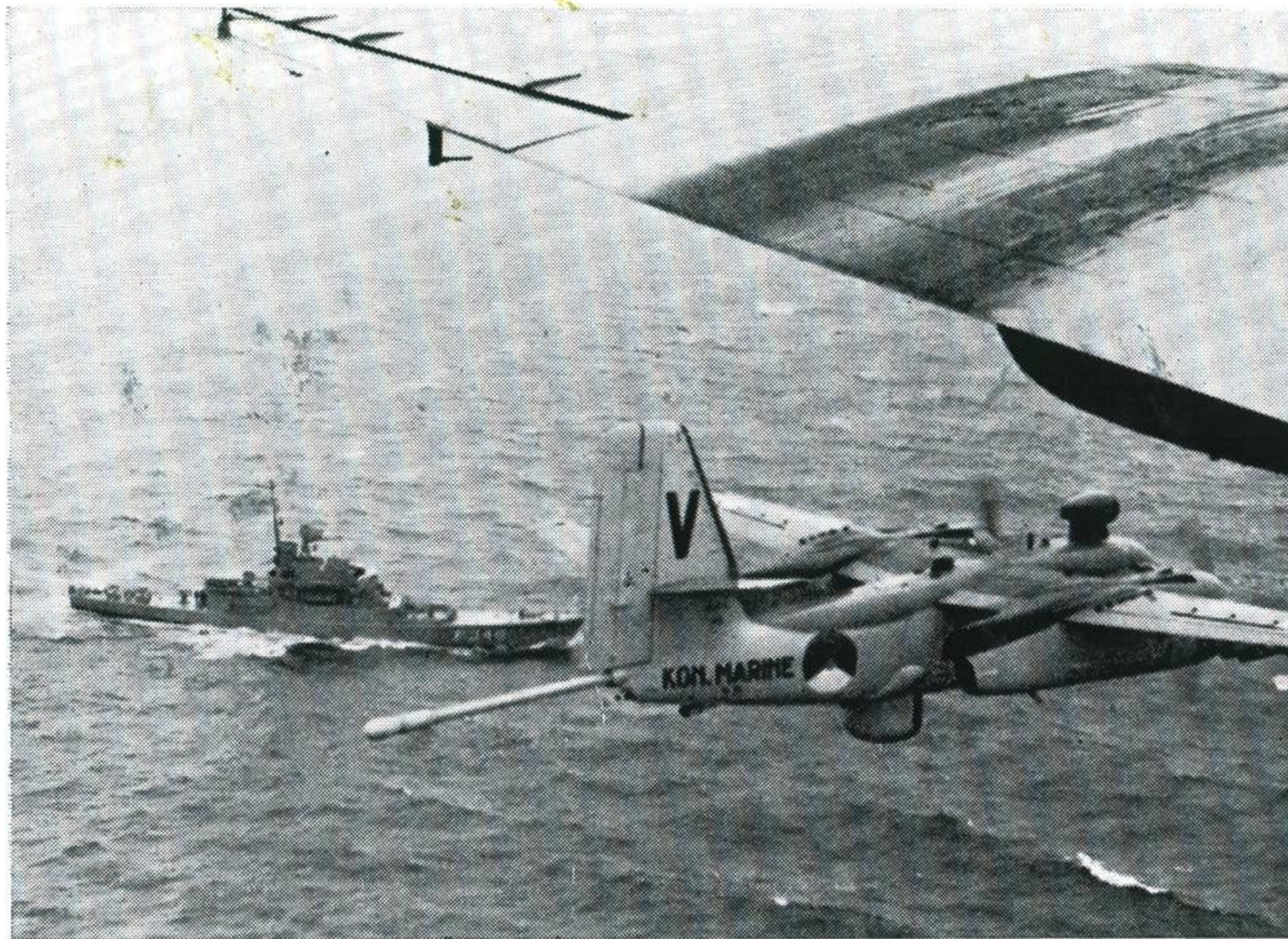


# GALEB

The prototype of a two-seat jet basic trainer, built in Yugoslavia by Preduzece Soko, has been named Galeb (Seagull). Two .5 machine guns are mounted in the nose and there is provision for carrying bombs and rockets under the wings. Its Bristol Siddeley Viper, power unit of our Jet Provost, gives it a top speed of 500 m.p.h.



Span 34-38 feet according to the fitting of tip-tanks



**Cover Photo:** N.A.T.O. exemplified. An American-built Tracker of the Royal Netherlands Naval Air Service flying over Flora, one of four Triton Class corvettes built in Italy for the Royal Danish Navy under United States Mutual Defense Assistance Program arrangements—photographed from a Shackleton of the R.A.F.

## SOLUTIONS TO TESTS AND EXERCISES

Page 228

### BEAR A & B

1 Bear B	11 Bear B	21 Bear A
2 Bear A	12 Bear B	22 Bear B
3 Bear A	13 Bear A	23 Bear A
4 Bear B	14 Bear A	24 Bear B
5 Bear A	15 Bear A	25 Bear A
6 Bear B	16 Bear A	26 Bear B
7 Bear B	17 Bear A	27 Bear B
8 Bear A	18 Bear B	28 Bear B
9 Bear B	19 Cleat	29 Bear A or B
10 Bear A	20 Bear A	

Page 230

### MYSTÈRE

All targets are of **Mystères** except Nos. 15 and 52 which are **Super Mystères** and No. 42 which is a **Fresco**.

Page 247

### REAR-JET TEST

1 Jetstar	12 Sabreliner	24 Classic
2 Vickers VC10	13 Blinder	25 Jetstar
3 Caravelle	14 Mystère 20	26 Jetstar
4 Trident	15 Vickers VC10	27 Sabreliner
5 Dominie (HS125)	16 Boeing 727	28 Trident
6 Sabreliner	17 Jetstar	29 Trident
7 Jetstar	18 Blinder	30 Caravelle
8 Blinder	19 Sabreliner	31 Vickers VC10
9 Vickers VC10	20 Trident	32 Learjet
10 Caravelle	21 Caravelle	33 Blinder
11 Trident	22 Vickers VC10	34 Jetstar
	23 Sabreliner	

### CHIEFTAIN BATTLE TANK—AUGUST 1964 EDITION

Target No. 5 of the **Chieftain Battle Tank** identification lesson was a **Conqueror** tank and thereby a "joker" additional to those notified. The solutions on the rear cover of the August 1964 edition should therefore be amended as follows:

For "No. 27 **Conqueror**".  
Read "Nos. 5 and 27 **Conquerors**".

Page 240

### SHIP RECOGNITION—INITIAL TRAINING SYSTEM

No.	Sequence	Hull	Profile	Stem	Stern	Class and Name	Type	G.R. Tons	Length in feet
1	MFM	H123	P2	B2	S3	Levant Class—Andishan	Freighter	3,400	347
2	MFKMK	H13	P2	B1	S2	Alexander Mozhaikij	Passenger	9,900	481
3	MFM	H	P2	B2	S2	Primorje	Passenger	3,160	300
4	KMFKM	H123	P2	B2	S2	Donbass Class—Chaplygin	Baltic Trader	3,863	355
5	KMFKM	H123	P2	B2	S2	Donbass Class—Chaplygin	Baltic Trader	3,863	355
6	CMFMC	H	P2	B2	S2	Michail Kalinin Class—Maria Ulyanova	Passenger	4,700	400
7	CMFMC	H	P2	B2	S2	Michail Kalinin Class Ship	Passenger	4,700	400
8	MMMF	H123	P3	B2	S3	Dneproges Class—Kramatorsk	Freighter	5,217	387
9	MKFM	H1	P2	B2	S2	Gruzia	Passenger	11,000	512
10	MMF	H123	P3	B2	S2	Lokbatan Class—Balta	Tanker	3,300	345
11	MMF	H13	P4	B2	S2	Chaina Class	Coastal Tanker	700	250
12	MKFM	H13	P2	B2	S2	Dimitri Donskoi	Freighter	5,064	439
13	MMF	H123	P3	B2	S2	Lokbatan Class—Neftegorsk	Tanker	3,300	345
14	MKFKM	H123	P2	B2	S2	Armavir & Eljton Classes—Voroshilovgrad	Baltic Trader	2,491	279
15	MKFKM	H123	P2	B1	S1	Budenni	Baltic Trader	2,482	295
16	MKFKM	H1	P2	B3	S3	Lena Class—Ob	Freighter	7,544	427
17	MKKKFKM	H	P1	B2	S2	Archangelsk Class	Freighter	5,700	457
18	CMFMC	H	P2	B2	S2	Michail Kalinin Class	Passenger	4,700	400
19	MFM	H12	P4	B2	S2	Refrigerator No. 9	Fish Carrier	1,600	210
20	KMKKMF	H	P3	B2	S2	Slava	Whale Oil Factory	14,772	493
21	CCMCCMFC	H13	P4	B2	S3	Poltava Class	Freighter	9,500	510
22	MCCMFCC	H1	P2	B2	S2	Akademik Krilov Class—Professor Popov	Freighter	5,487	425
23	MMMF	H123	P3	B2	S3	Kramatorsk	Freighter	5,217	387
24	MKKMF	H123	P3	B2	S2	Kazbek Class—Frunze	Tanker	8,229	490
25	MMF	H123	P3	B2	S2	Enakievo Class	Coaster	1,944	286
26	MKFKM	H123	P2	B2	S2	Donbass Class—Penzlino	Baltic Trader	3,816	355
27	MKFM	H	P1	B2	S2	Dolinsk Class—Berdjansk	Freighter	5,436	458
28	MKKMF	H123	P3	B2	S2	Kazbek Class—Kostroma	Tanker	8,229	490
29	MMF	H1	P4	B2	S2	Pervomajsk	Fish Carrier	3,321	311
30	MKFKM	H123	P2	B2	S2	Donbass Class—Chaussy	Baltic Trader	3,863	355
31	MMF	H	P2	B2	S3	Kirghizstan Class—Moldavia	Passenger	3,200	333
32	MKMF	H13	P4	B2	S2	Hiuma Class—Tartu	Coaster	1,310	250
33	MKFM	H	P1	B2	S2	Dolinsk Class	Freighter	5,419	458
34	MMF	H123	P3	B2	S3	Lokbatan Class—Viljuisk	Tanker	3,300	345

Page 248 **M113—UNITED STATES ARMoured PERSONNEL CARRIER**  
All targets are of the **M113 Armoured Personnel Carrier** except for No. 13 which is an **M59** and No. 27 which is a **T113**.

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### WARSHIP SPOTTING TEST NO. 3

Class	Name (if known)	Type	Nationality
1 Don	—	Escort Ship	U.S.S.R.
2 Sverdlov	—	Light Cruiser	U.S.S.R.
3 Blackwood	H.M.S. Keppel	Anti-submarine Frigate	U.K.
4 Kotlin	—	Destroyer	U.S.S.R.
5 Tribal	H.M.S. Tartar	General Purpose Frigate	U.K.
6 Modified Centaur	H.M.S. Bulwark	Commando Carrier	U.K.
7 Riga	—	Frigate	U.S.S.R.
8 Gromki	—	Destroyer	U.S.S.R.
9 County	H.M.S. Hampshire	Guided Missile Destroyer	U.K.
10 Sverdlov	—	Light Cruiser	U.S.S.R.
11 Blackwood	H.M.S. Dundas	Anti-submarine Frigate	U.K.
12 County	H.M.S. Hampshire	Guided Missile Destroyer	U.K.
13 Sverdlov	—	Light Cruiser	U.S.S.R.
14 Surcouf	—	Anti-aircraft Destroyer	France
15 "F"	—	Attack Submarine	U.S.S.R.
16 County	H.M.S. Devonshire	Guided Missile Destroyer	U.K.
17 Ton	—	Coastal Minesweeper	U.K.
18 Sverdlov	—	Light Cruiser	U.S.S.R.
19 YMS Type	—	Coastal Minesweeper	France ex-U.S.
20 Tribal	H.M.S. Tartar	General Purpose Frigate	U.K.
21 Surcouf	Surcouf	Anti-aircraft Destroyer	France
22 Sverdlov	—	Light Cruiser	U.S.S.R.
23 Ton	H.M.S. Bildeston	Coastal Minesweeper	U.K.
24 Blackwood	H.M.S. Dundas	Anti-submarine Frigate	U.K.
25 Blackwood	—	Anti-submarine Frigate	U.K.
26 Ton	—	Coastal Minesweeper	U.K.
27 Kotlin	—	Destroyer	U.S.S.R.
28 County	H.M.S. Hampshire	Guided Missile Destroyer	U.K.
29 Riga	—	Frigate	U.S.S.R.
30 Surcouf	—	Anti-aircraft Destroyer	France
31 Ton	—	Coastal Minesweeper	U.K.
32 Gromki	—	Destroyer	U.S.S.R.
33 Essex	U.S.S. Antietam	Support Aircraft Carrier	U.S.A.

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### MERCHANTMEN OF THE U.S.S.R.—NO. 12

1 Lokbatan Class (Balta), Simferopol Class, Levant Class, Levant Class
5 Levant Class, Levant Class, Levant Class, Lokbatan Class (Balta)
9 Lokbatan Class (Balta), Dimitri Donskoi, Levant Class, Lokbatan Class (Balta)
13 Lokbatan Class (Balta), Levant Class, Lokbatan Class (Balta), Levant Class
17 Lokbatan Class (Balta), Lokbatan Class (Balta), Levant Class, Simferopol Class
21 Simferopol Class, Lokbatan Class (Balta), Levant Class, Levant Class
25 Lokbatan Class (Balta), Levant Class, Levant Class, Dimitri Donskoi
29 Levant Class, Dimitri Donskoi, Lokbatan Class (Balta), Lokbatan Class (Balta)
33 Dimitri Donskoi, Lokbatan Class (Balta), Simferopol Class, Simferopol Class
37 Dimitri Donskoi, Simferopol Class, Dimitri Donskoi, Levant Class
41 Lokbatan Class (Balta), Dimitri Donskoi, Simferopol Class, Simferopol Class
45 Dimitri Donskoi, Levant Class, Levant Class, Simferopol Class
49 Lokbatan Class (Balta), Lokbatan Class (Balta), Simferopol Class, Dimitri Donskoi
53 Simferopol Class, Dimitri Donskoi, Simferopol Class, Simferopol Class
57 Lokbatan Class (Balta), Simferopol Class, Lokbatan Class (Balta), Simferopol Class
61 Levant Class, Dimitri Donskoi, Lokbatan Class (Balta)
64 Lokbatan Class (Balta), Simferopol Class, Dimitri Donskoi
67 Levant Class, Simferopol Class, Lokbatan Class (Balta)
70 Levant Class, Simferopol Class, Lokbatan Class (Balta)
73 Lokbatan Class (Balta), Simferopol Class, Levant Class
76 Lokbatan Class (Balta), Dimitri Donskoi, Levant Class
79 Lokbatan Class, Levant Class, Dimitri Donskoi
82 Dimitri Donskoi, Lokbatan Class (Balta), Simferopol Class
85 Levant Class, Dimitri Donskoi, Lokbatan Class (Balta)
88 Simferopol Class, Levant Class, Lokbatan Class (Balta)
91 Dimitri Donskoi, Lokbatan Class (Balta), Simferopol Class
94 Lokbatan Class (Balta), Lokbatan Class (Balta), Simferopol Class
97 Levant Class, Simferopol Class, Lokbatan Class (Balta)
100 Levant Class, Lokbatan Class (Balta), Dimitri Donskoi
103 Dimitri Donskoi, Levant Class, Lokbatan Class (Balta), Dimitri Donskoi, Lokbatan Class (Balta)