

JOINT



SERVICES

RECOGNITION

Journal





Photograph by courtesy of Skyfotos.

PRACTICAL SHIP RECOGNITION

From time to time we publish details of the tragic consequences of the wartime failure of someone to identify aircraft: there were equally tragic occurrences to ships in World War II. These too, resulted from a lack of proper training.

The prospect of training to identify merchant ships seems somehow to daunt many people, particularly when they realise there are some 40,000 merchant ships at sea. Yet, in many ways, merchant ship identification is easier to learn than aircraft identification.



JOINT SERVICES

RECOGNITION JOURNAL

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CONTENTS

Feature	Page
Phantom II (cover)	225
Practical Ship Recognition (editorial)	226
* Coot	228
* Fiddler	230
* Stratojet... ..	232
Light Types	234
Vtol Briefs	236
In Passing	237
Warships of the U.S.S.R. (centrespread)	238
* Merchantmen of the U.S.S.R.—5	240
Merchant Ship Type Test—22	244
News from France	246
* Tribal Class Frigates	248
Solutions to Tests and Exercises	252

* Identification Lessons

Metallurg Kurakow, a Russian freighter, homeward bound from Cuba. One of a large class of such ships, she has an overall length of 557 feet (12,016 g.r. tons). Deck cranes replace the kingposts—a feature becoming more and more common in freighters, particularly Russian ones. The reporting sequence is MKKMFKKM (cranes being considered as kingposts).

Fortunately for the trainee—and for those who organise training—the World's merchant fleets can be broken down into classes of not more than about 20 different types of vessel and that number can be substantially reduced for practical training purposes.

In these days it is not difficult to train to identify 20 different objects if the problem is tackled properly: by that we mean positive identity training, not haphazard picture gazing, or tests unbacked by training.

The two main operational requirements in regard to merchant ships are to classify them by type and to estimate their size and almost all this training can be done "on paper" by means of reproductions and a set technique.

The importance of the technique i.e. the procedure for "feeding" the right material to students at the right pace and in the right order cannot be over-emphasised. At the same time the need to avoid making impossible demands on them by asking them consciously to memorise facts and figures about ships must be stressed. "Turning ships into words"—verbalising—means boredom: boredom means inefficiency. Modern training calls for a minimum of "guff" and a maximum of "doing".

Generally speaking, the *Journal's* self-contained and self-teaching lessons provide the material; the instructor feeds it to the pupils according to individual needs, selecting lessons according to their experience. Those training work out the lessons at their own pace as emphasised in the lesson instructions with each issue.

In merchant ship lessons one engages in a variety of different activities. Most of these activities—such as gauging length by various other of the ship's structures which are of more or less standard size—are not practical on operations but they are of great training value and designed only for that purpose. They lead to an understanding of and a feeling for the nature of ships and their sizes, and implant an ability automatically to respond to the stimulus of sighting one; the eye and mind unconsciously roving over the vessel seen, observing, discriminating, assessing, sizing up and generally "hoisting in" all that is necessary.

None of this kind of exercise is beyond the capacity of anyone even if he has the opposite of an affinity for ships, because the carrying out of procedure trains unconsciously—one might almost say painlessly. Nevertheless this does not do away with the need for *systematic* training by procedures which can be found in every *Journal* and not far from any lesson.

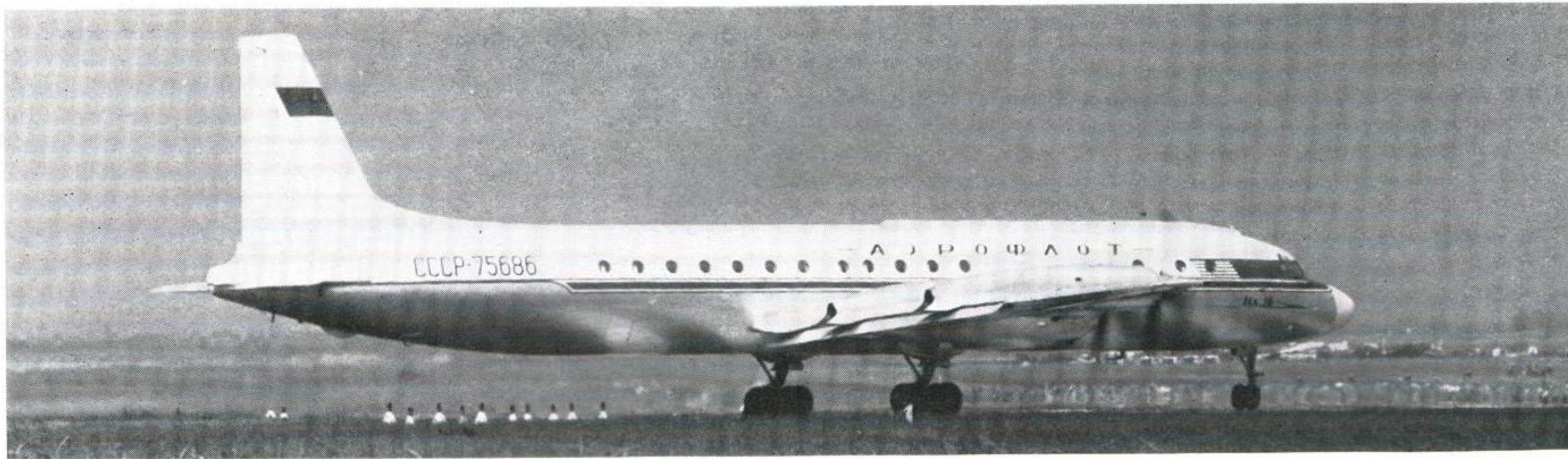
A final point. We must get away from the idea that identity training (of any kind) can be done by simply gazing at pictures. Work must be done and the work must be identifying work.

Note: An initial trainer for beginners in Merchant Ship Recognition will appear in the *Journal* shortly.



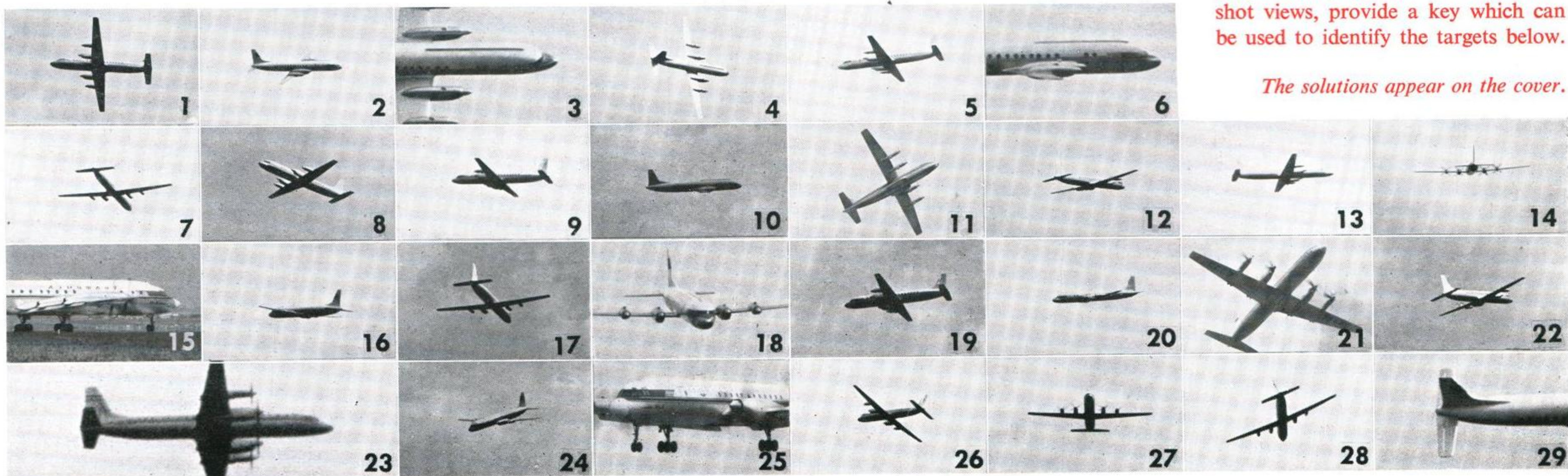
COOT

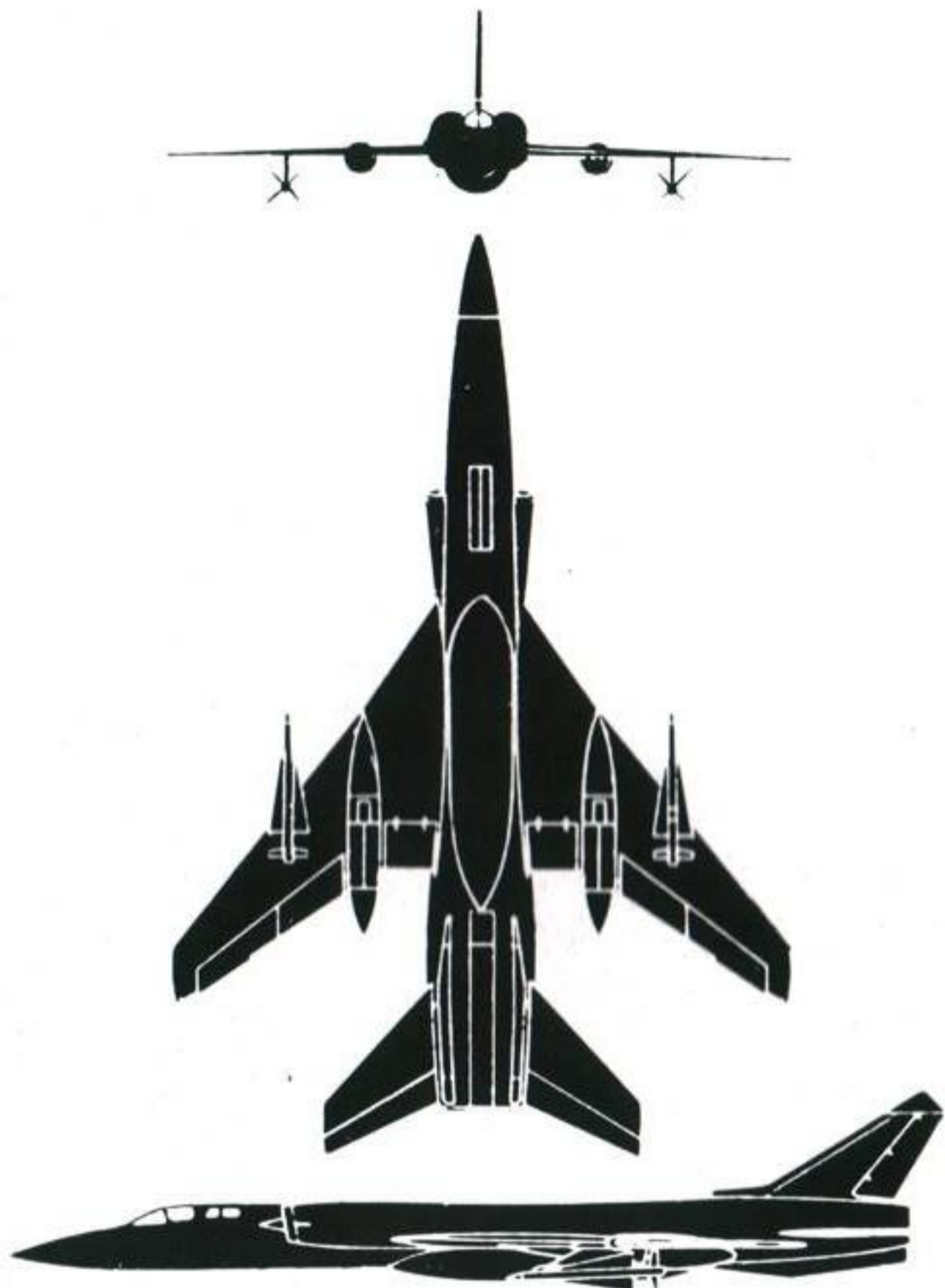
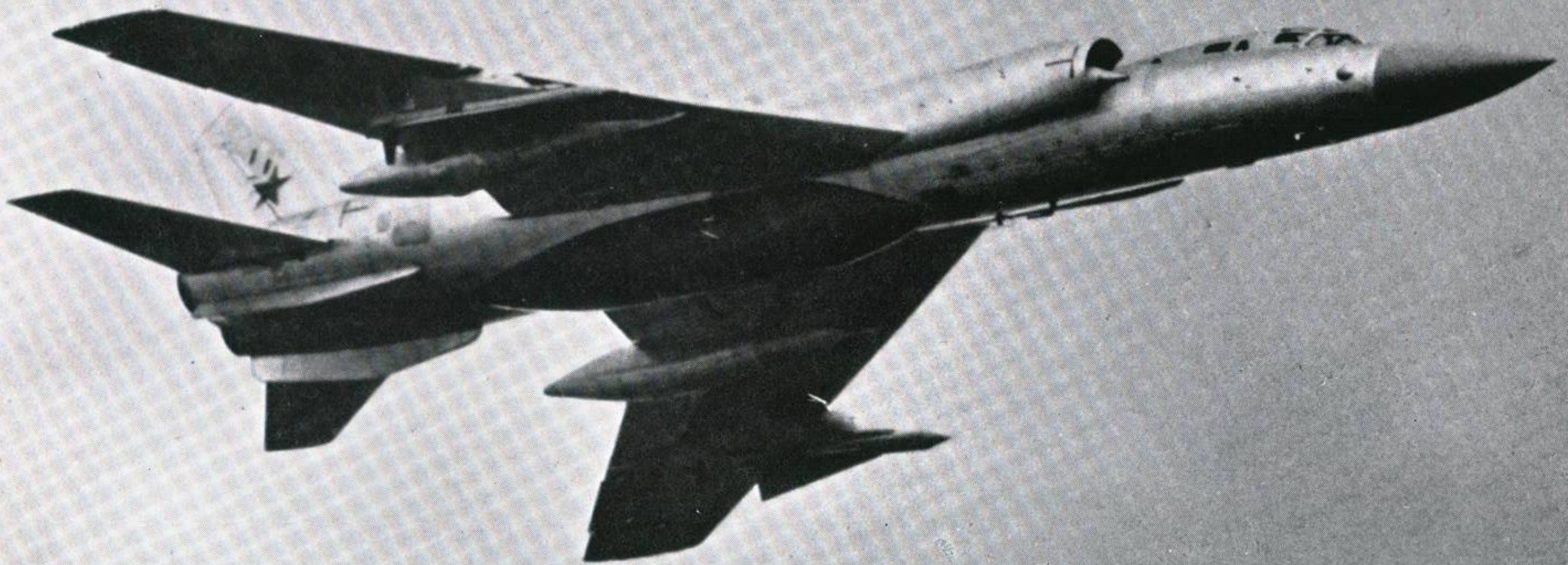




The Soviet turbo-prop airliner Coot has been in service with Aeroflot since 1959 and is now used by some eight other airlines of countries both within and without the Communist Bloc. A modified version of the Il-18 Coot, the Il-181, was illustrated in our January 1963 edition, but since the outline differs only by a small bulge beneath the fuselage, the large photograph above, together with the multi-shot views, provide a key which can be used to identify the targets below.

The solutions appear on the cover.

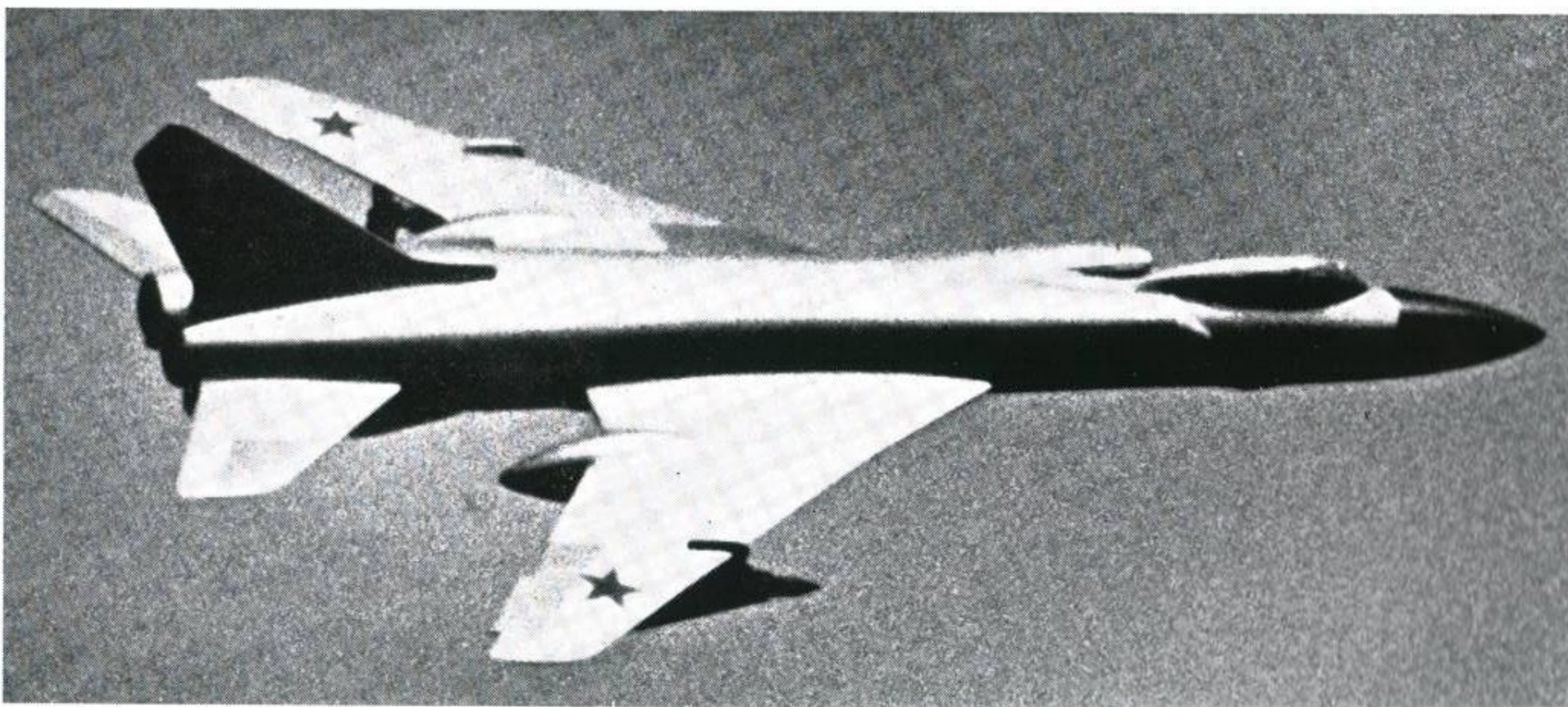




FIDDLER

Fiddler is yet another of the new Russian aircraft that made its debut at the 1961 Soviet Air Day display at Tushino. A fleeting glimpse of Flipper appeared first in our November 1961 issue, to be followed by a less blurred image in our January 1962 edition. Last April an excellent impression of Flipper, by Frank Wootton, was featured as a centrespread to which, if a copy is handy, you are recommended to refer. Now comes the initial lesson on this supersonic twin-jet fighter.

Using the key views above and below and the adjacent silhouette in accordance with instructions on page 237, you are required to identify the 28 targets displayed. *Solutions appear on the cover.*



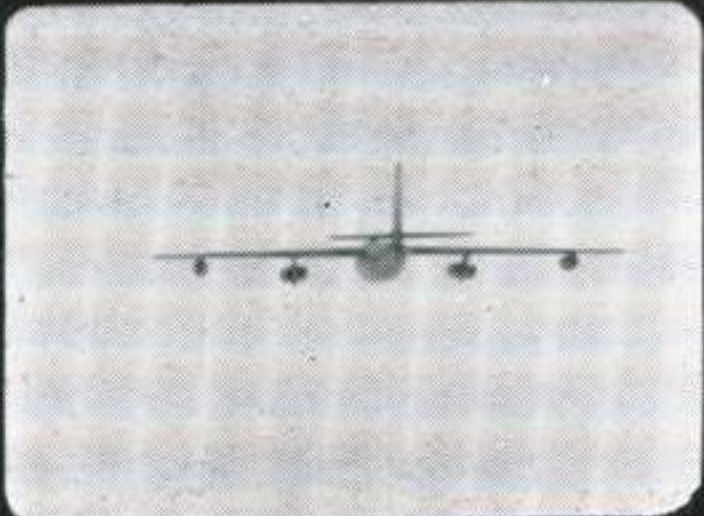




STRATOJET

The B-47 Stratojet, although being phased out of the Strategic Air Command of the U.S.A.F., has still some time to run as a first-line operational aircraft.

Span 123 feet





By November 1954 production of B-47's had reached the 1,000 mark by Boeing, the design firm, and it was also being produced by Douglas and Lockheed under licence. Not until 1958 did production finally cease and it remains in service in a dozen different versions in strategic bombing (B-47), photo (RB-47), electronic (EB-47) and weather reconnaissance (WB-47) roles.

Using the B-47E key views (above and left) as guides, identify the targets below to the instructions on page 237. Note that the fuel tanks are detachable—compare silhouette with target 3.

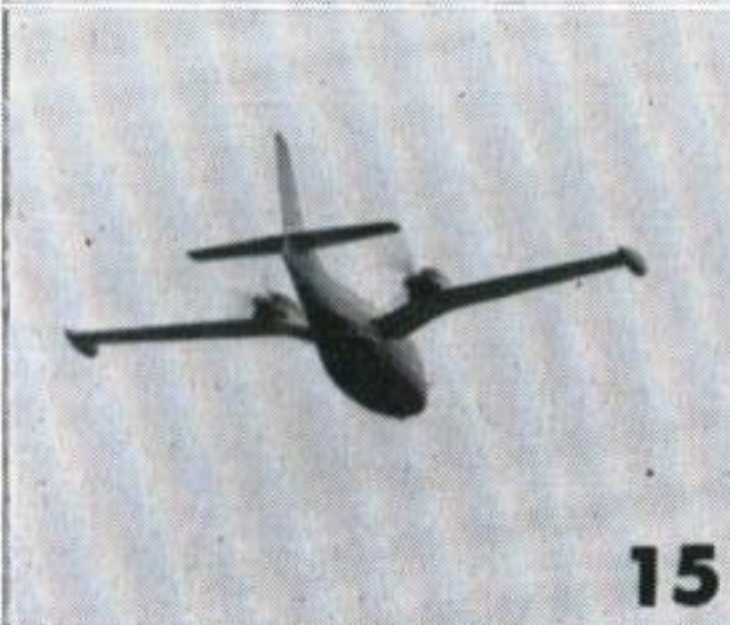
Solutions on the cover.

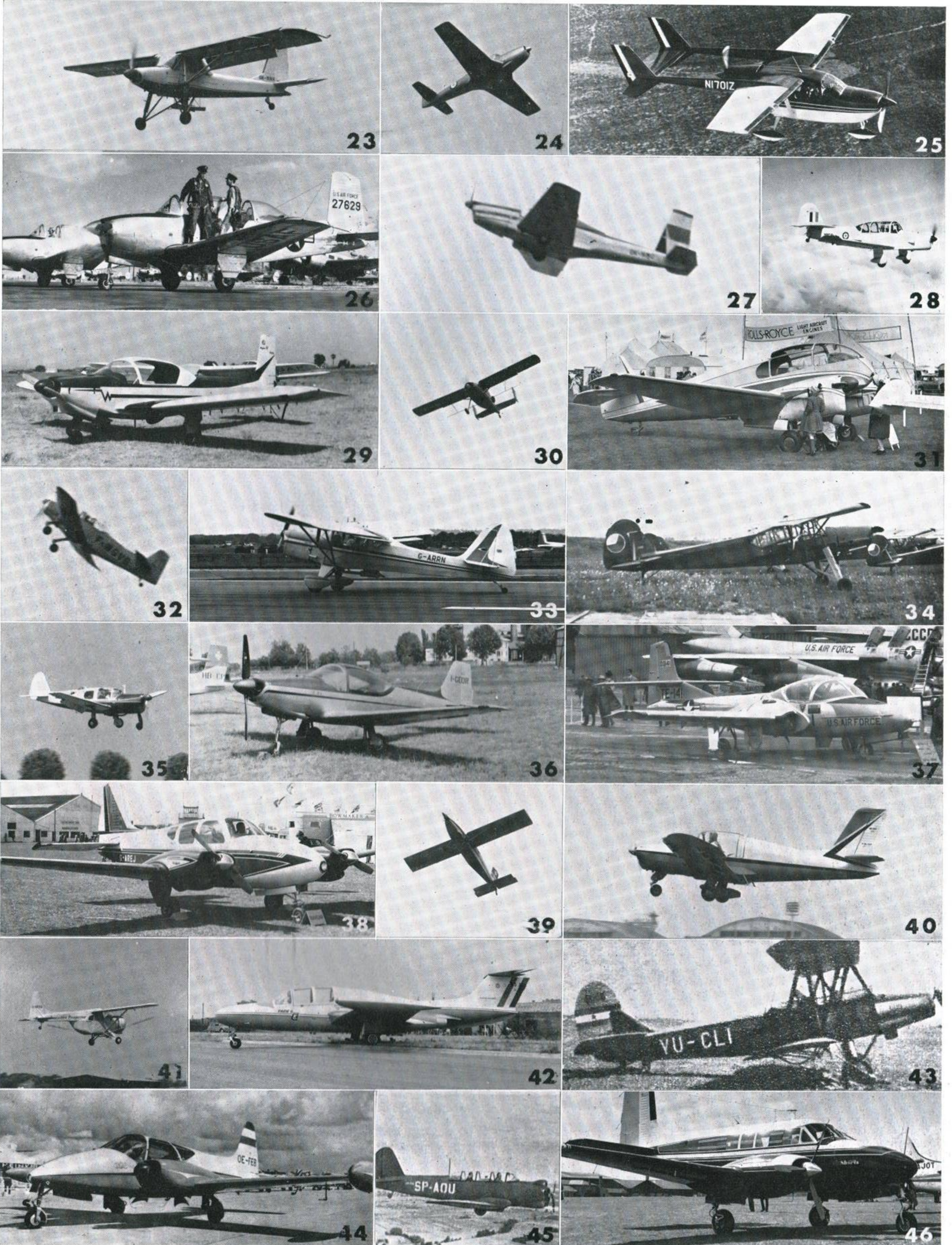


LIGHT TYPES

This is not an easy test and a 100% result is not expected. About half of the aircraft already have military applications and it is certain that almost all could be pressed into military service in spotting liaison and other roles. Front line troops certainly need to know them.

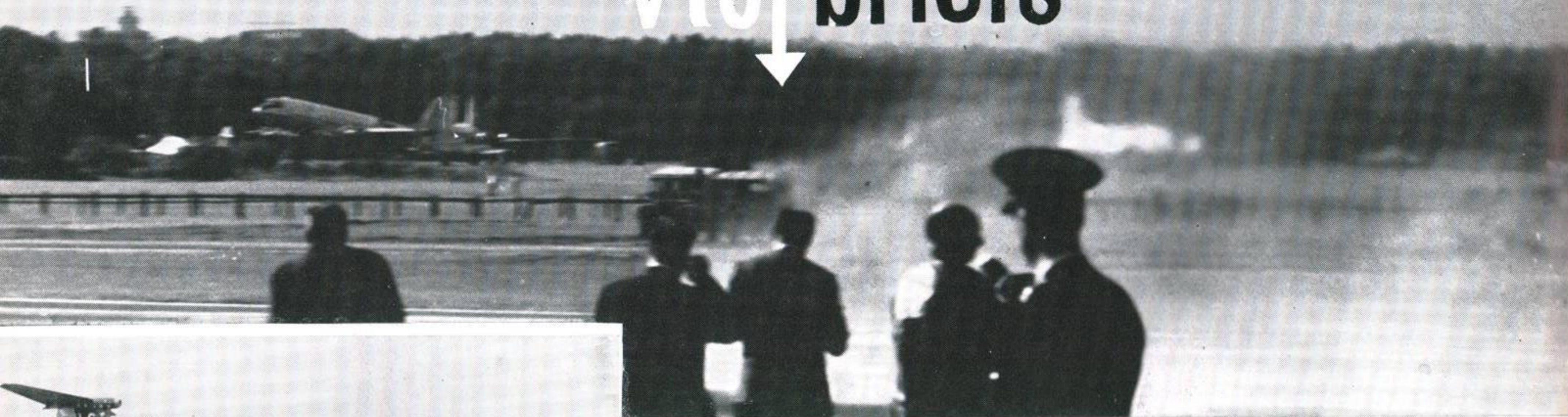
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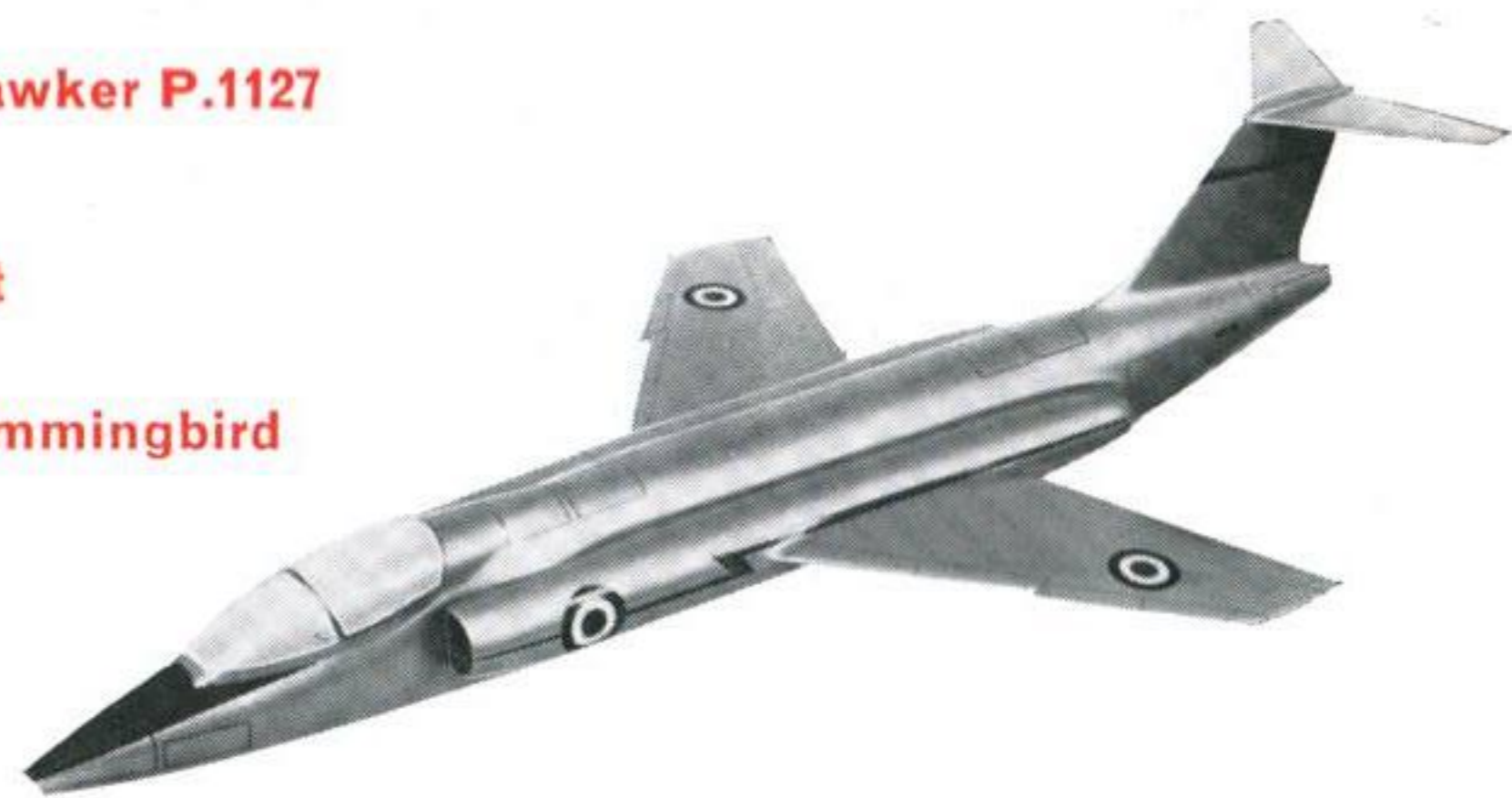


vtol briefs



▲ A demonstration by a Hawker P.1127

◀ The U.S. Army's twin-jet VTOL project on test, the Lockheed XV-4A Hummingbird which is designed to operate from hovering up to Mach .8



Two Italian projects, the V/STOL Fiat G222 transport, and the G95 tactical support aircraft which has been projected in several forms including the G95/4 with the tailplane raised to the top of the fin.



◀ The Bell 204B civil version of the U.S. Army's Iroquois.



IN PASSING

BOOK REVIEWS

United States Military Aircraft since 1909, by F. G. Swanborough, Historical Research by Peter M. Bowers. Published by Putnam. Price 84s.

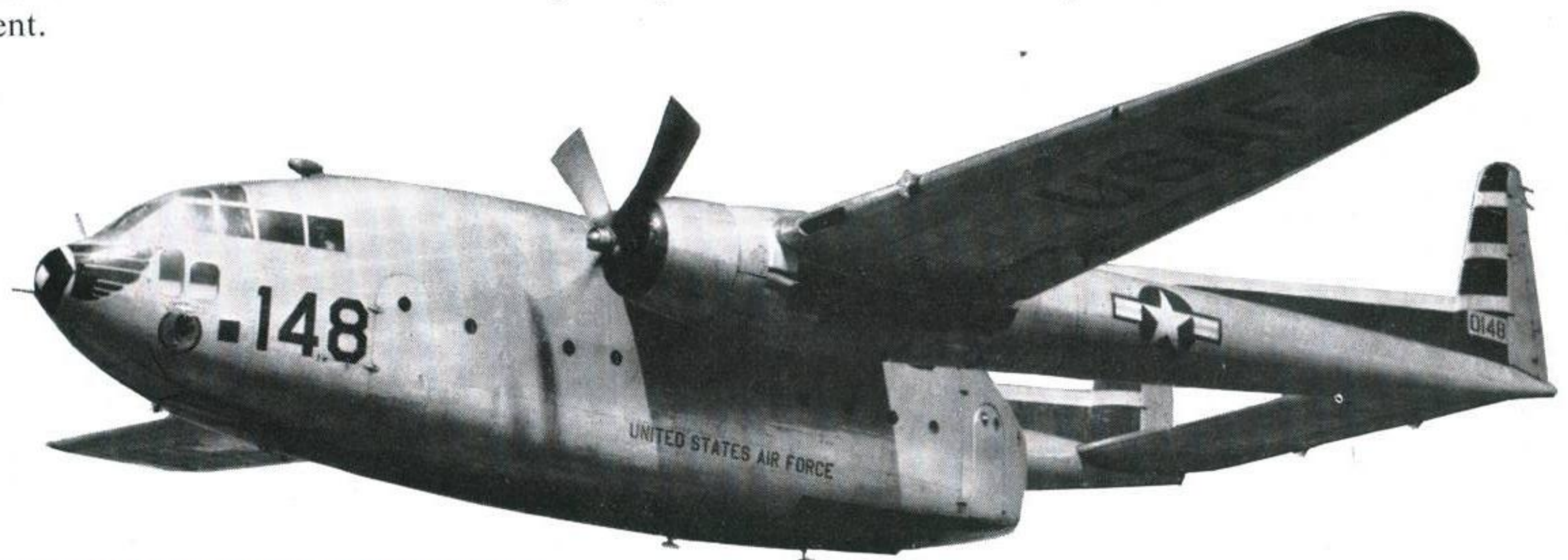
There has been a spate of books on United States Military Aircraft in recent years. A book at only 50s. gave coverage in the *Combat Aircraft of the United States* both military and naval and two volumes at 60s. apiece cover in some detail the development of fighter aircraft of the United States Army and Air Force and the United States Navy and Marine Corps. This new work, however, embraces all aircraft of the United States Army and Air Force and a companion work is planned for all naval aircraft.

"Combat", "Fighter" and "Bomber" are "selling words" in titles and meet a particular demand, but this new book and its subsequent companion volume will meet the need for a compact, overall reference on all United States military aircraft, past and present.

This book is the American counterpart of the "The Royal Air Force Since 1918", but to justify the extra guinea it is more detailed and has less wasted space in its 596 pages. The fine general arrangement drawings show variants as well as the basic types in many cases and serial numbers are given as far as security considerations allow. There is a foreword on colourings, markings and designations.

It is pleasing to see the name of an accepted British authority with a well-known American air historian combining to give the best from both sides of the Atlantic. All-in-all, this is the most comprehensive survey of American military aircraft ever presented and over eighty of the basic types covered are still flying.

On picking this book up, one gets an immediate impression of solid worth from its weight of almost three pounds—an impression that is not belied by its content. B. R.



The Bowers collection of aeronautical photographs is world famous, but for "United States Military Aircraft since 1909", Peter M. Bowers cast his net far and wide and included among the 550 photographs this one of a C-119 Boxcar (or Packet) which was specially taken for this *Journal*. In this connection it is pleasing to note that the book gives individual photo credits, together with negative reference numbers.

British Aircraft [Veteran & Vintage Series], by Kenneth Munson. Published by Ian Allan Ltd. Price 6s.

This is a 64-page book of old favourites, with a picture and brief on a number of types for which the main qualification for inclusion is that an example of the type is extant.

In an appendix, Kenneth Munson has compiled a list of surviving veterans, their registration or serial number, owner and usual location. Those maintained in an airworthy condition are annotated and thereby provide an interesting list of veteran spotting possibilities. B. R.



Veterans still flying—from front to rear: Spartan Arrow, D.H.85 Leopard Moth, Slingsby T.29B Motor-Tutor, Hawker Hart.

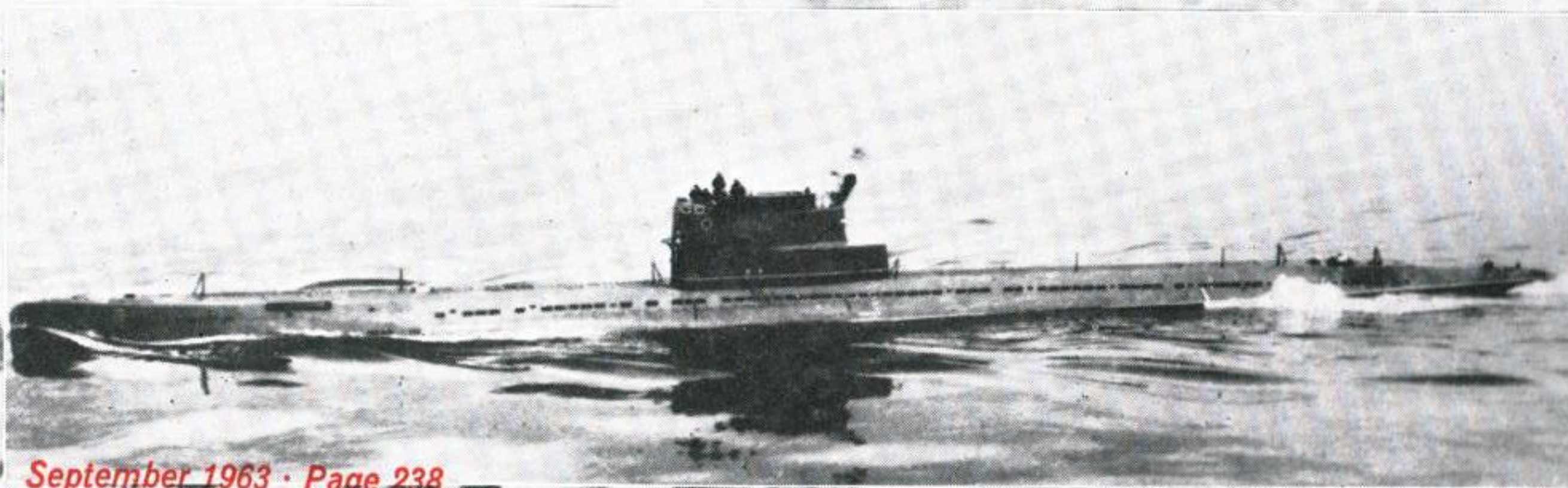
LESSON INSTRUCTIONS To obtain the maximum benefit from the training devices published in this *Journal*, the following procedure should be adopted.

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.

WARSHIPS OF THE USSR

A variant of the W Class Submarine — one of the closest close-ups of a Russian Submarine we have seen

by courtesy of Skyfotos Ltd.





Merchantmen of the USSR-5

The key photographs below will enable you to identify the numbered targets opposite and overleaf. List your answers and write out the length, tonnage and coding. A list of solutions appears on the cover. The point of this lesson is not to learn the “bits and pieces” but to see them within the vessel as a whole.

Mikhail Kalinin (Class)



Solnechnogorsk (Class)

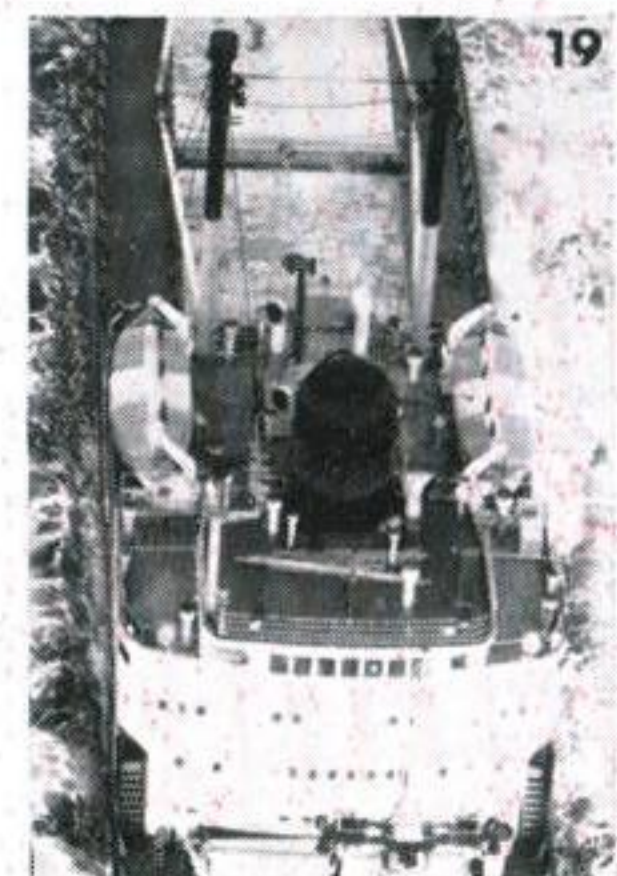
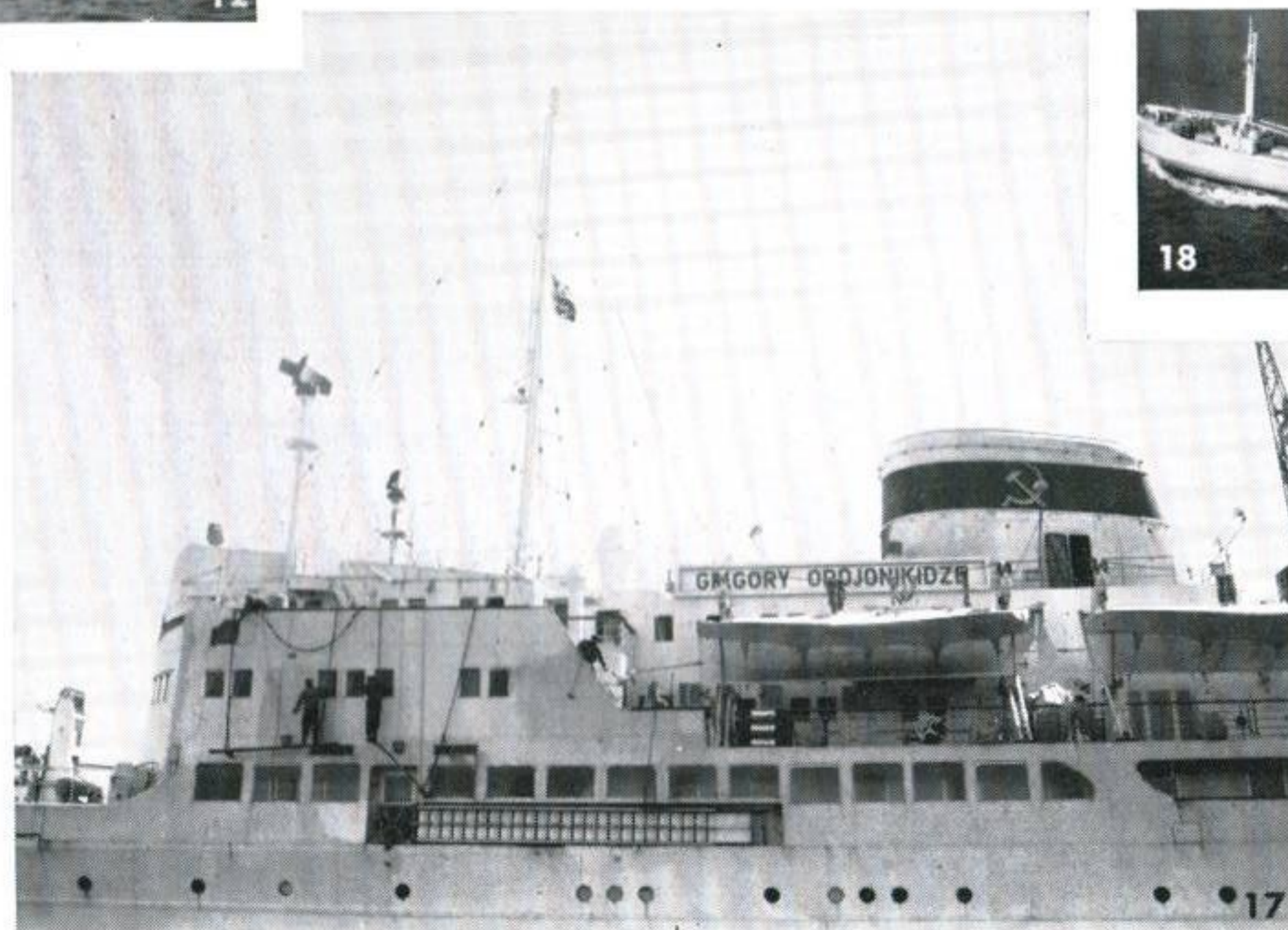
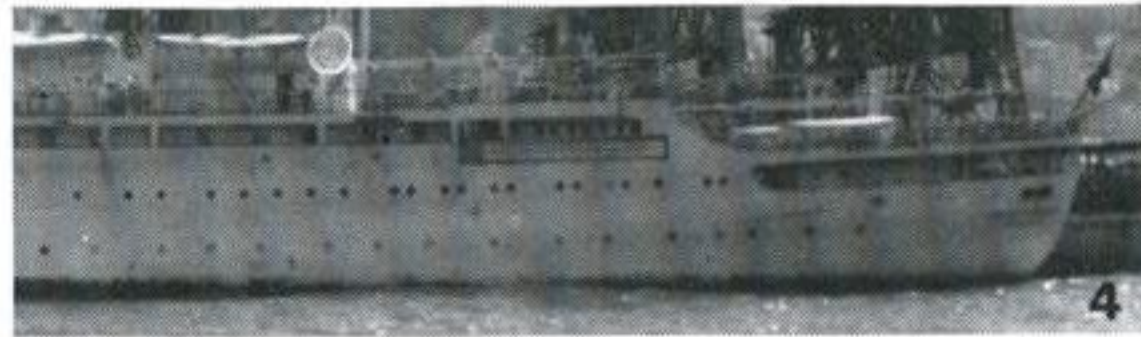


Jana (Class)

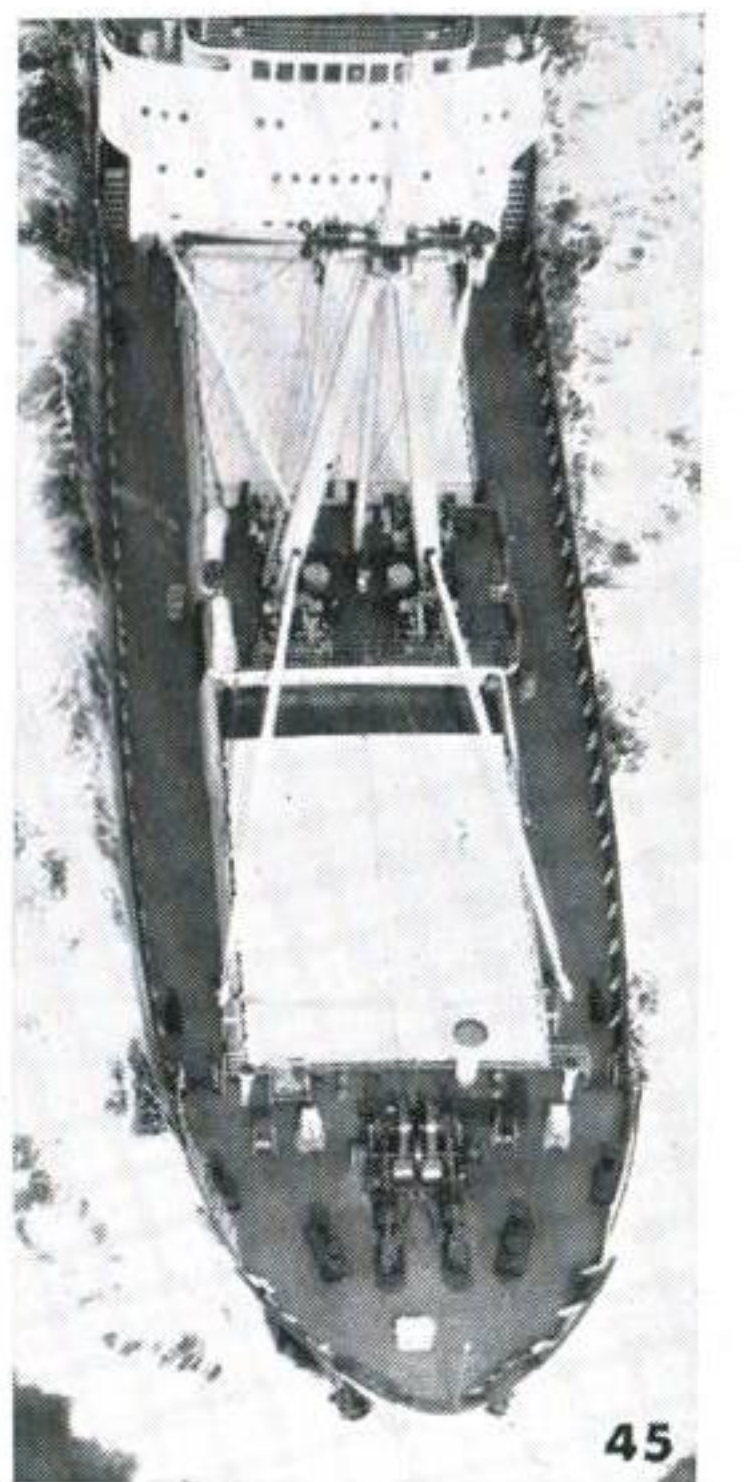
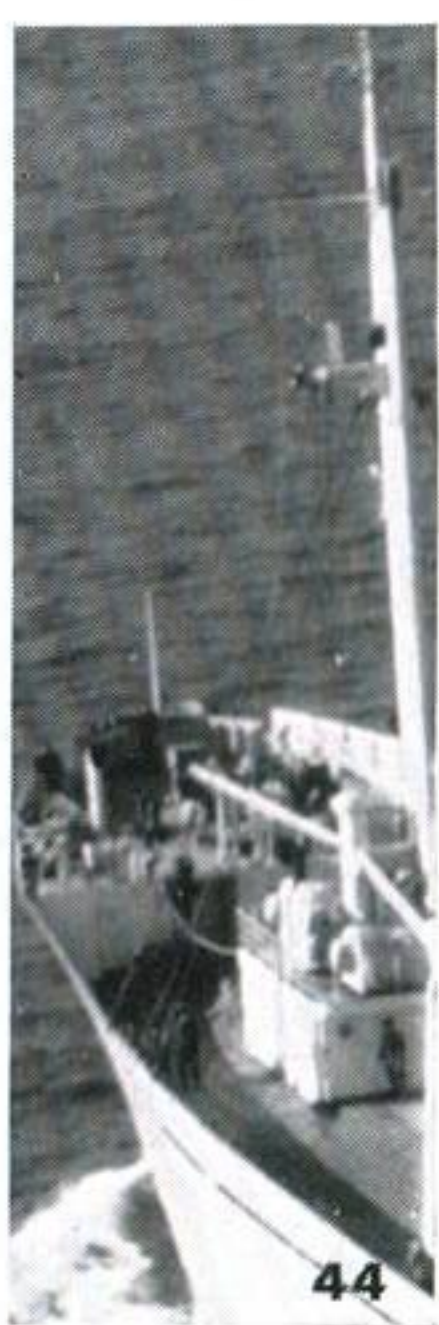
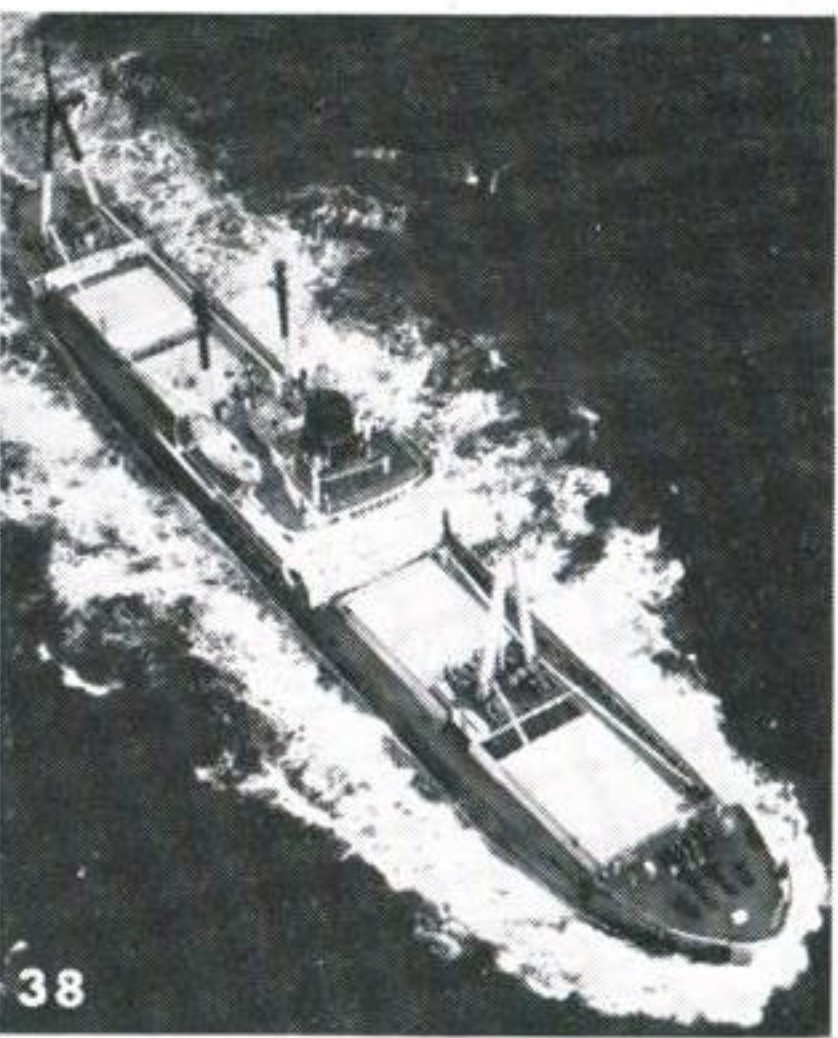
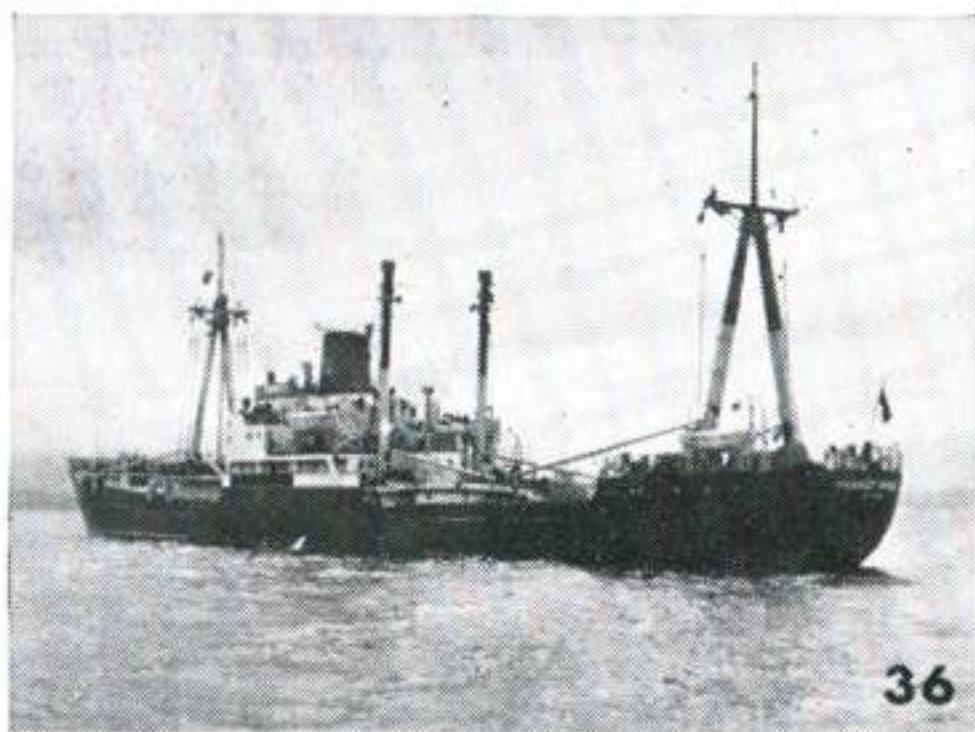
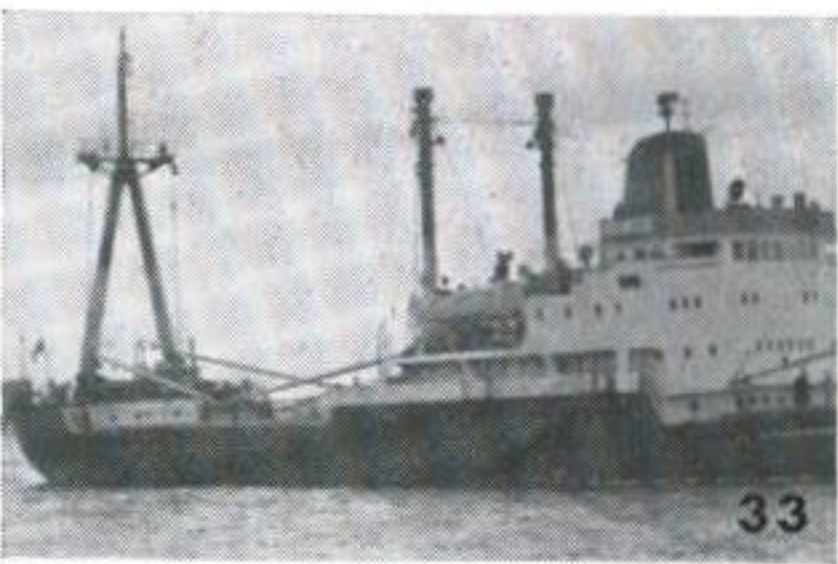
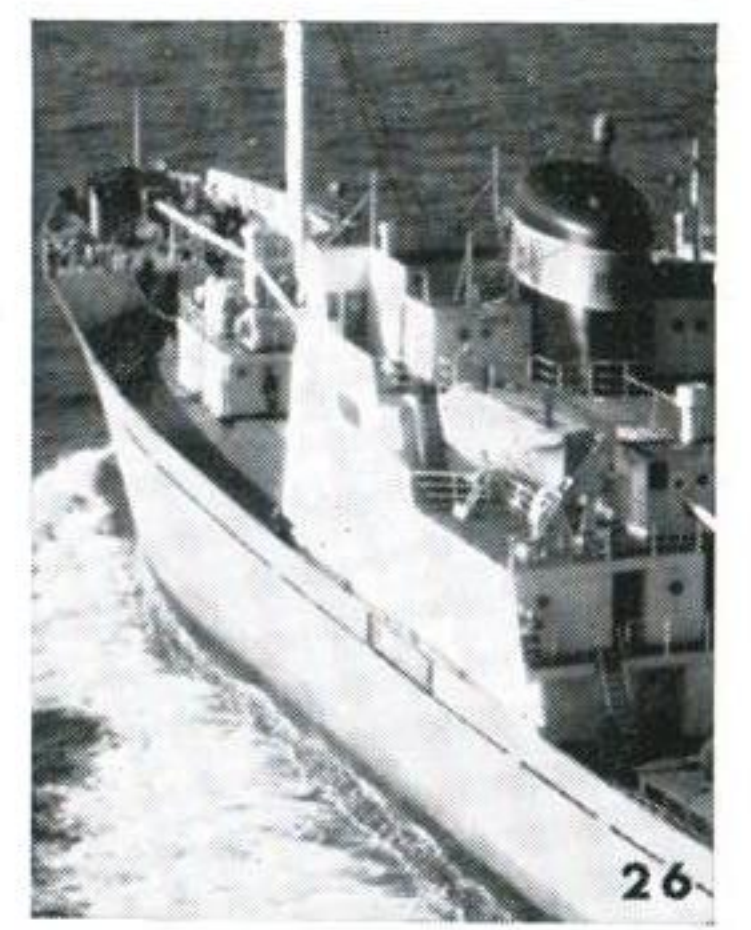
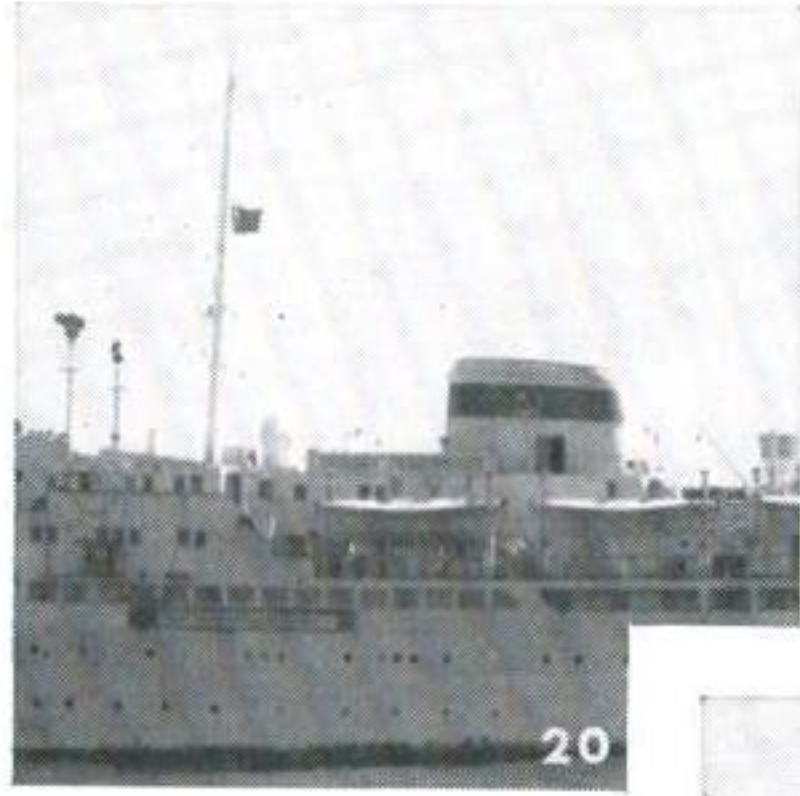


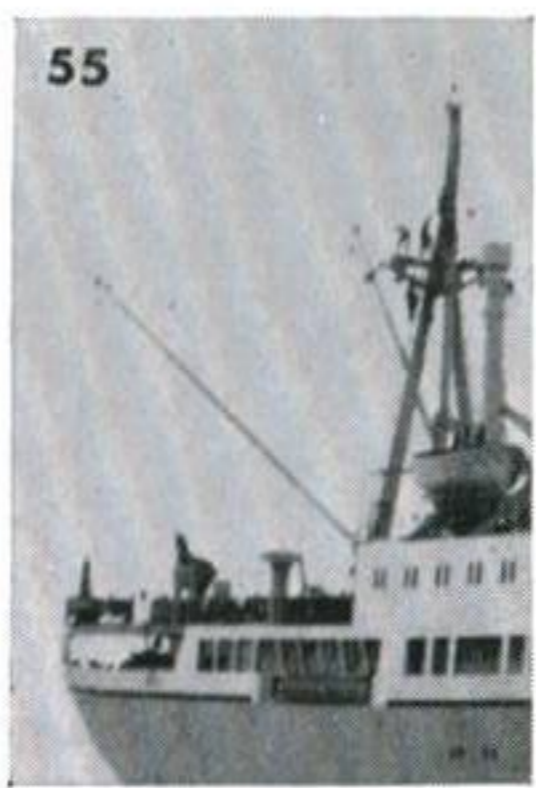
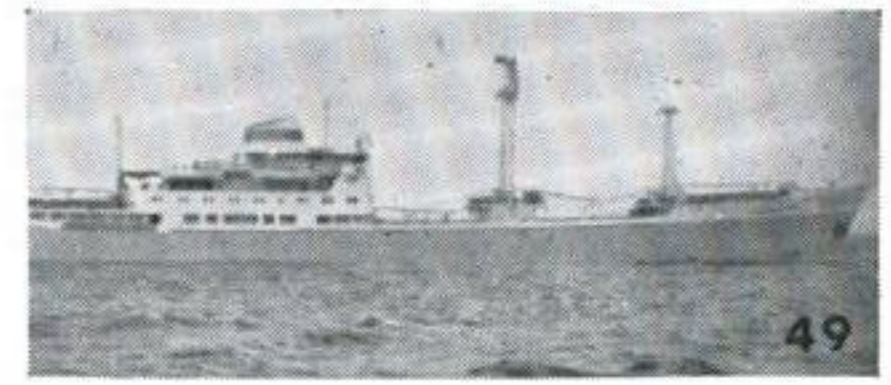
Elets (Class)



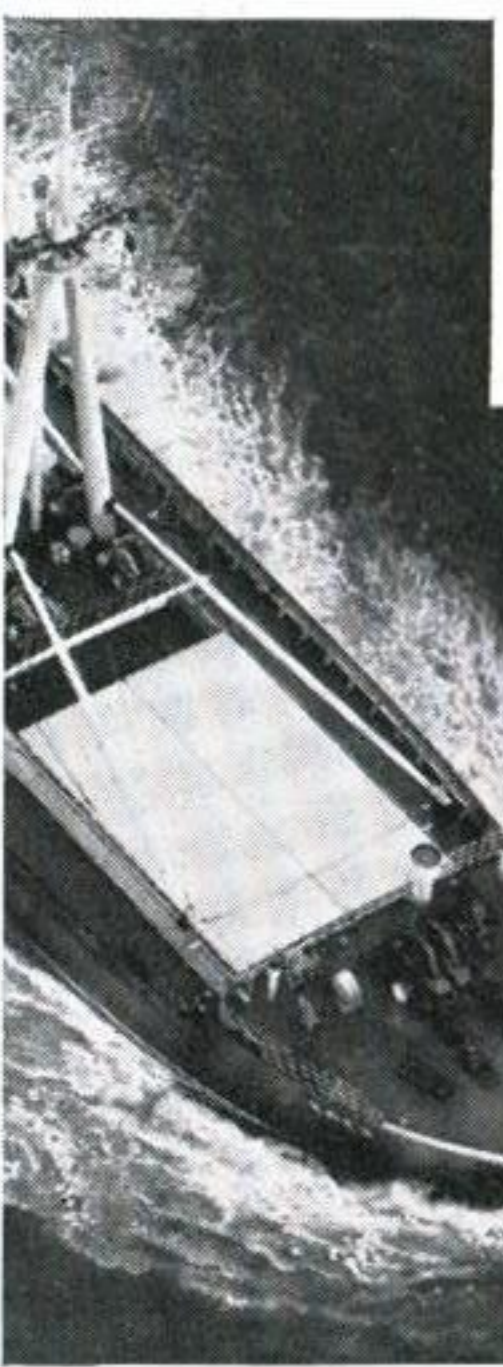


Merchantmen of the USSR-5





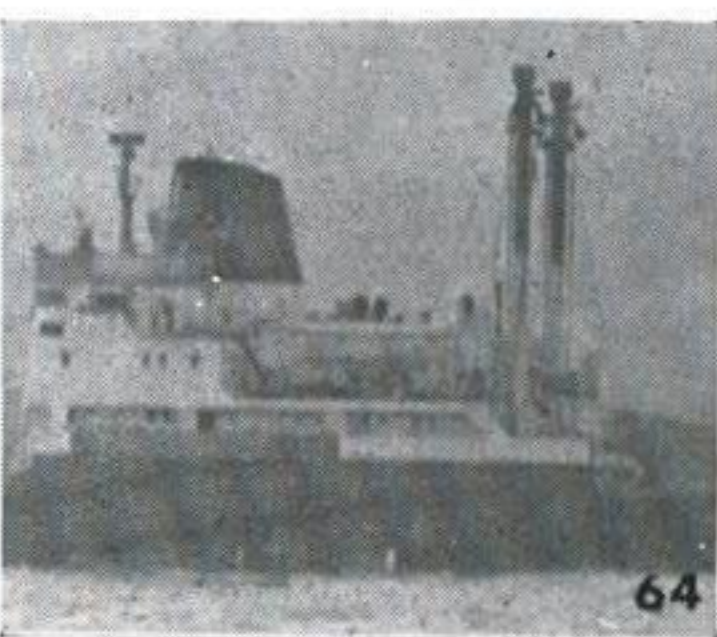
Mikhail Kalinin (Class)



Solnechnogorsk (Class)



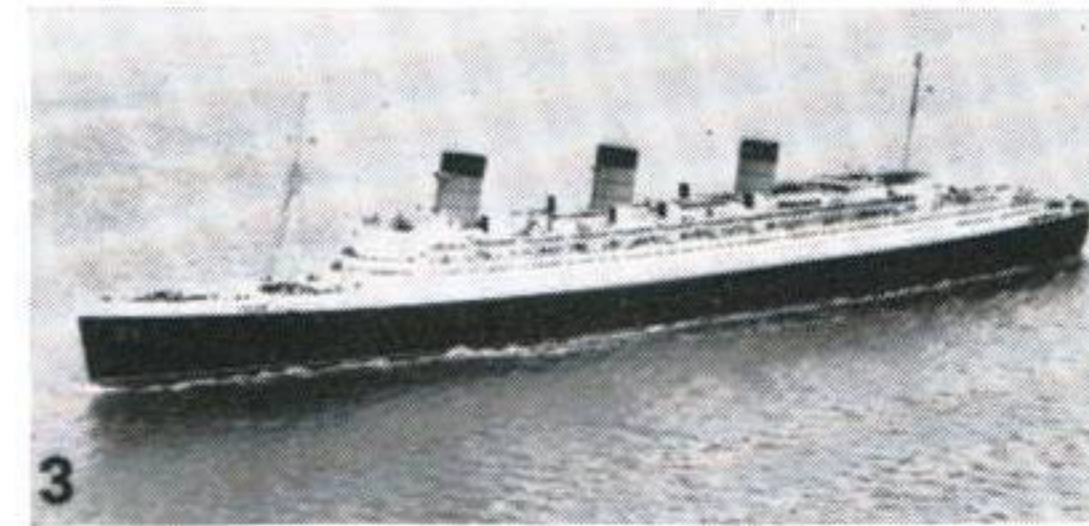
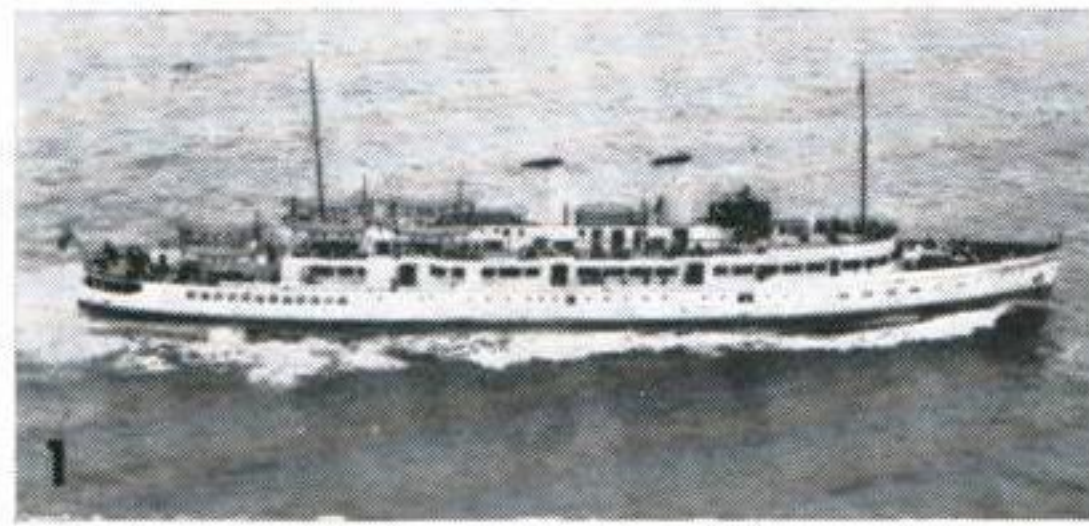
Jana (Class)



Elets (Class)

Merchant ship type test - 22

Solutions appear on the cover. Photographs by courtesy of Skyfotos Ltd.





25



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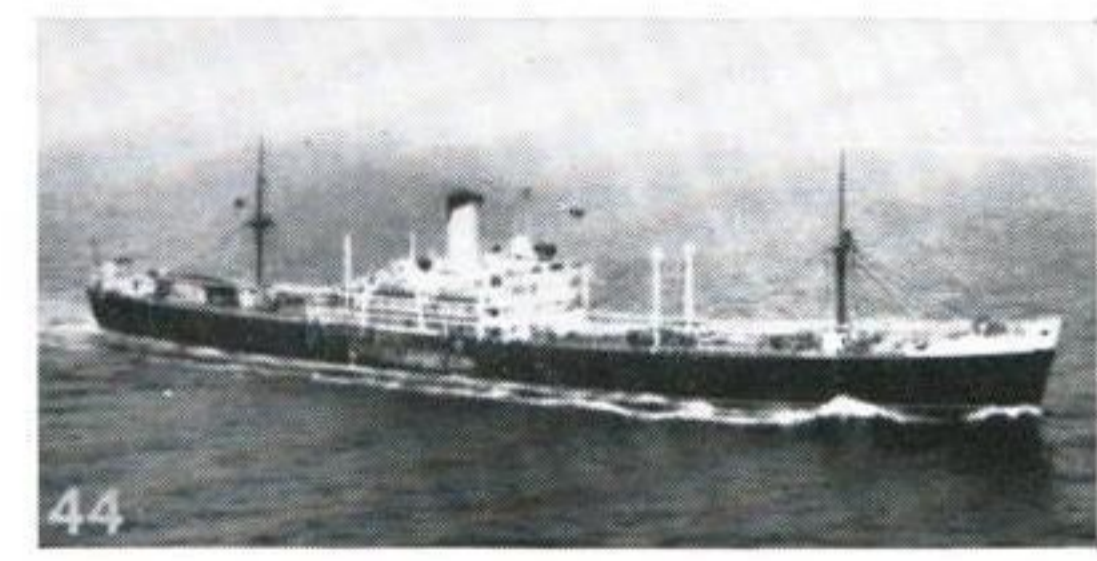
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Excursion Packet


Paddler

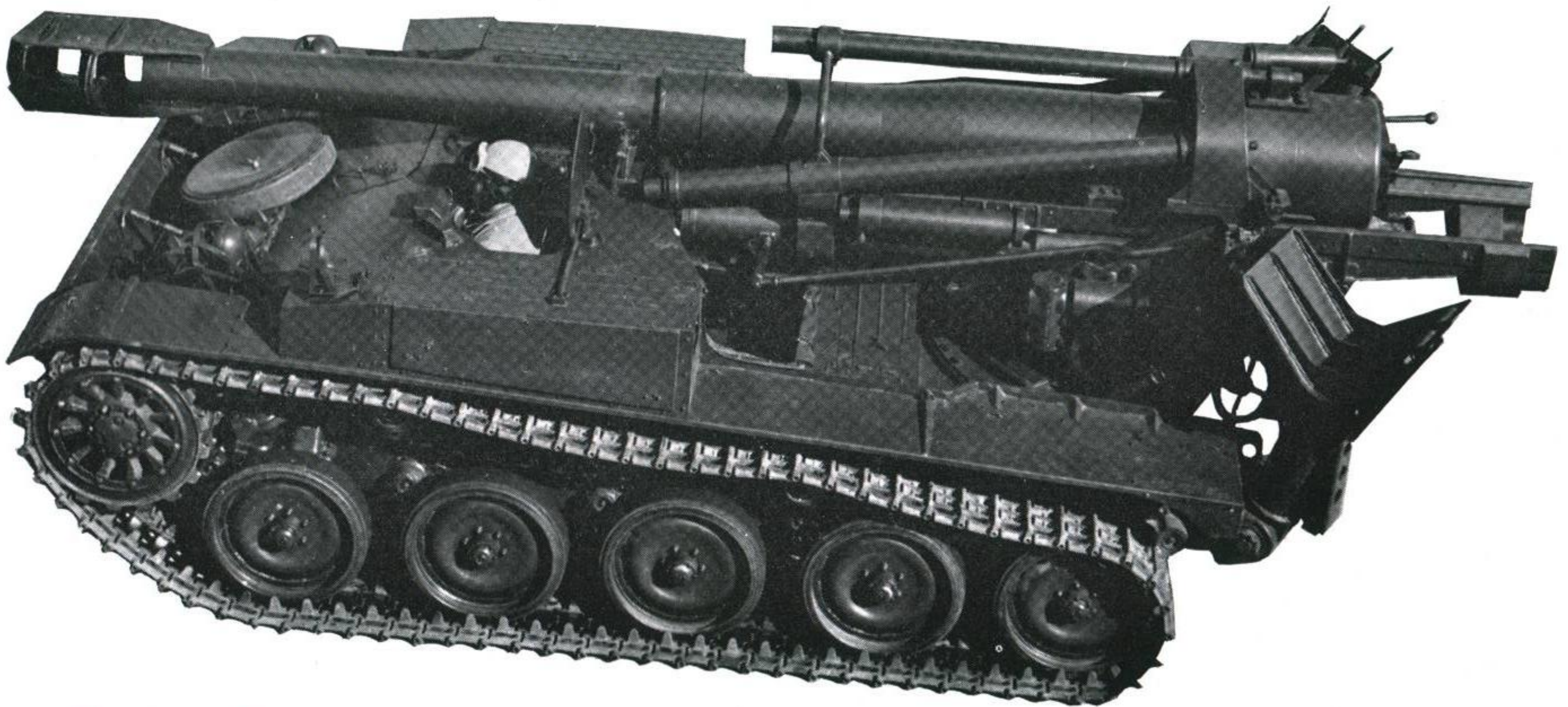

Passenger Liner


Packet


Freighter


Packet


Passenger Liner



New French 155-mm. self-propelled howitzer—obusier de 155 mm.—based on the chassis of the AMX-13 light tank. Except for the driver, neither crew nor gun are protected by armour. Other noteworthy features are the large double baffle muzzle brake and the two spades at the rear, shown folded into their travelling position.

NEWS FROM

Ever since their resumption of the development of armoured fighting vehicles after the war, the French have pursued their own and often novel ideas. As a result, they have developed several interesting vehicles, some of which have proved highly successful. So much so that they have been produced in quantity not only for their own army but also for others, and have secured for France a prominent place in the design field of armoured vehicles.

The most successful example has been the AMX-13 tank. Since its production begun about ten years ago, it has become the standard equipment of French tank units alongside the heavier, American-built, M-47 medium tanks. Like our own Centurion, it has been exported to several countries, including Switzerland, Venezuela, Israel and India.

The AMX-13 has also served as the basis of a whole series of armoured vehicles; among them are the AMX-VTT, an

armoured personnel carrier based on the AMX-13 chassis, and self-propelled field guns and anti-aircraft vehicles of which two recent examples are illustrated. The AMX-13 tanks themselves have also been developed further, some being fitted with Nord SS-11 guided missiles in addition to their normal 75-mm. gun main armament and others have been rearmed with the more powerful 105-mm. guns.

The AMX-13 has no equivalent in the British Army and neither has the new, light, two-man ELC which is peculiar to the French Army who have developed it as an infantry support vehicle. Another recent example, illustrated together with the ELC on the opposite page, does, however, have a British equivalent. This is the four-wheeled AML light armoured car corresponding to the Ferret scout car and which is intended to supplement the larger, eight-wheeled EBR armoured cars.



AMX-13, a three-man tank armed with the French Army's standard 75-mm. gun which is also in service in several other countries. The latest version, virtually indistinguishable from that shown opposite is armed with a 105-mm. gun. AMX, incidentally, stands for *Atelier de Construction d'Issy-les-Moulineaux*, the establishment where it was developed.



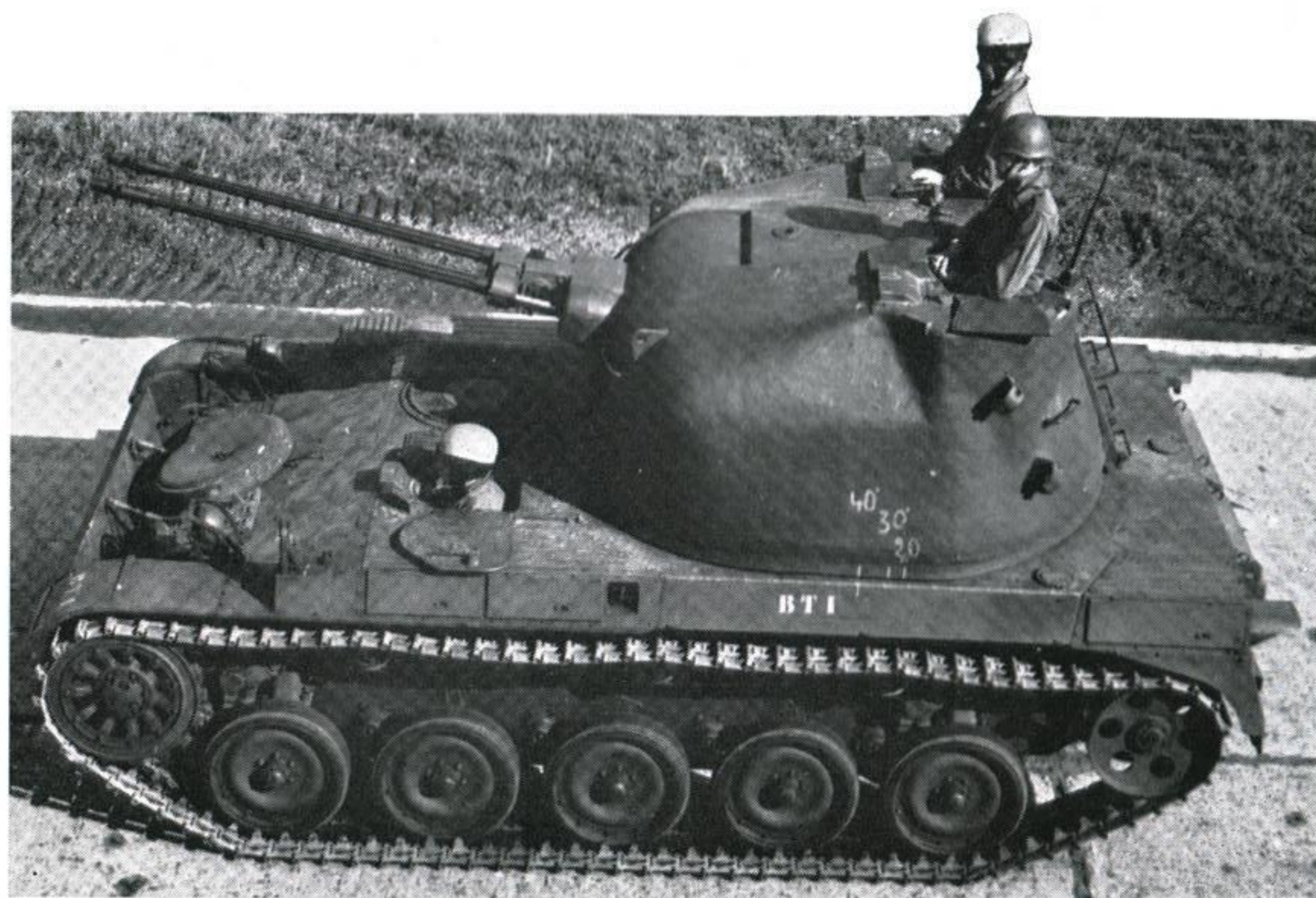
The squat four-wheeled armored car shown on the right is the new AML built by Panhard, who have already produced the large, eight-wheeled EBR. However, the weight of 4½ tons and the general characteristics of the AML make it compare more closely with the Ferret scout car. The Ferret might, in fact, be regarded as its predecessor since some were acquired by the French Army a few years ago. On the roads the AML has a maximum speed of about 60 m.p.h. and to enable it to perform in a variety of reconnaissance and security roles it carries an unusual combination of weapons in the form of one 60-mm. mortar and two 7.5-mm. machine guns.

FRANCE



The *Engin Léger de Combat*, or ELC, is a light two-man vehicle developed for close infantry support. There are two versions which differ in their turrets and armament. The one illustrated on the left has a 90 mm. D.E.F.A. gun with an automatic loading mechanism and one 7.5-mm. machine gun; the other model has two 30-mm. Hispano Suiza automatic guns and two 7.5-mm. machine guns. Other-

wise they are very similar and their turrets are actually interchangeable. They weigh about 7½ tons, have a maximum speed of 42 m.p.h. on hard level ground and a range of 220 miles.



One of several vehicles developed from the basic AMX-13 light tank is this anti-aircraft model with two 30-mm. guns. Its most characteristic feature is the relatively tall, cast turret which enables the guns to be elevated sufficiently high to fire at aircraft. The guns themselves are similar to those used in fighter aircraft, and comparable with our Aden guns. The designation of the anti-aircraft tank is AMX-DCA, the last three letters being an abbreviation for *Défense Contre Avions*.



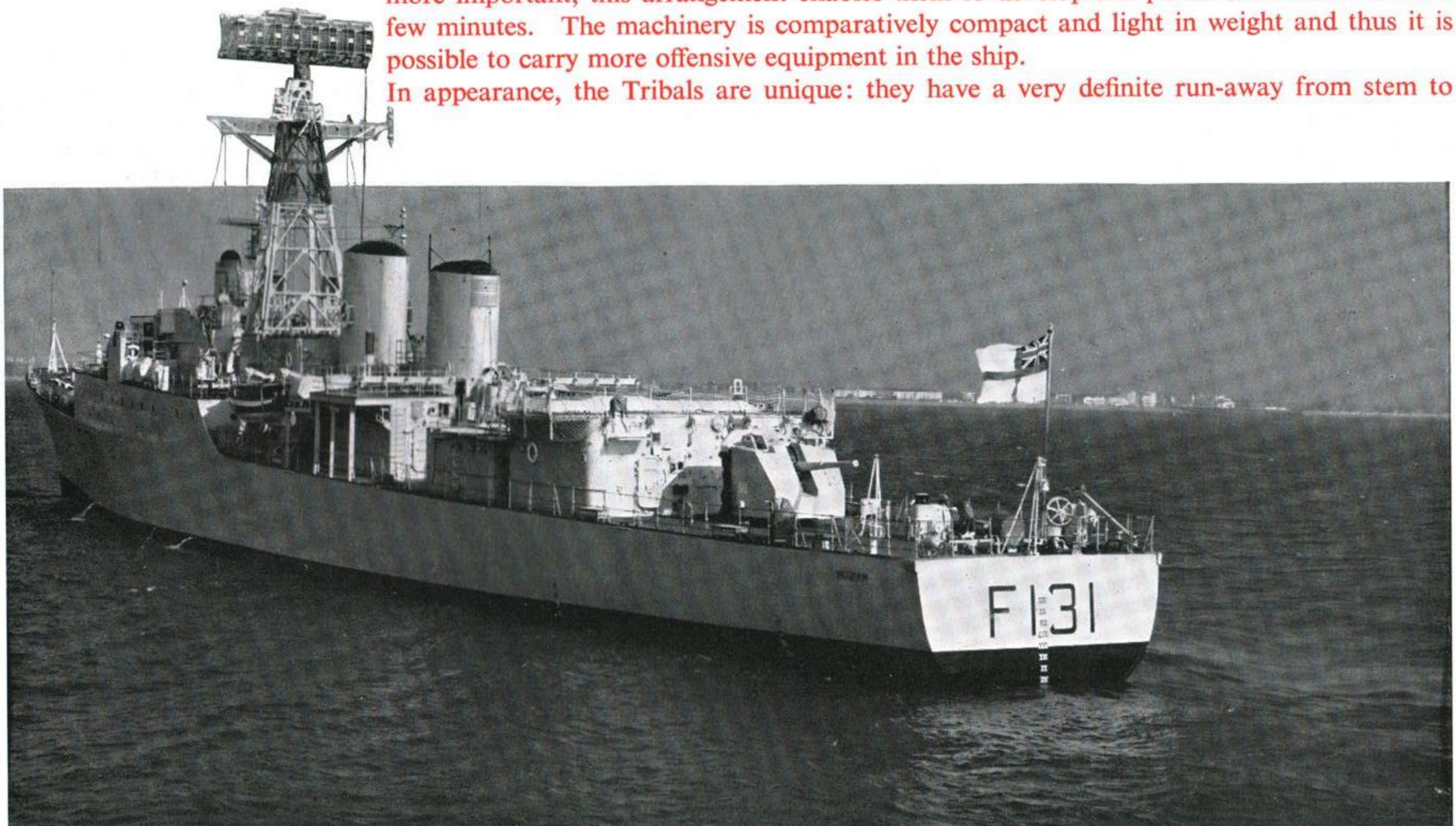


Tribal class frigate TYPE 81

The seven units of this destroyer type frigate class were designed to fulfil the functions of anti-submarine, anti-aircraft protection and aircraft direction ships combined, it being considered more economical to have one versatile class than several highly specialised.

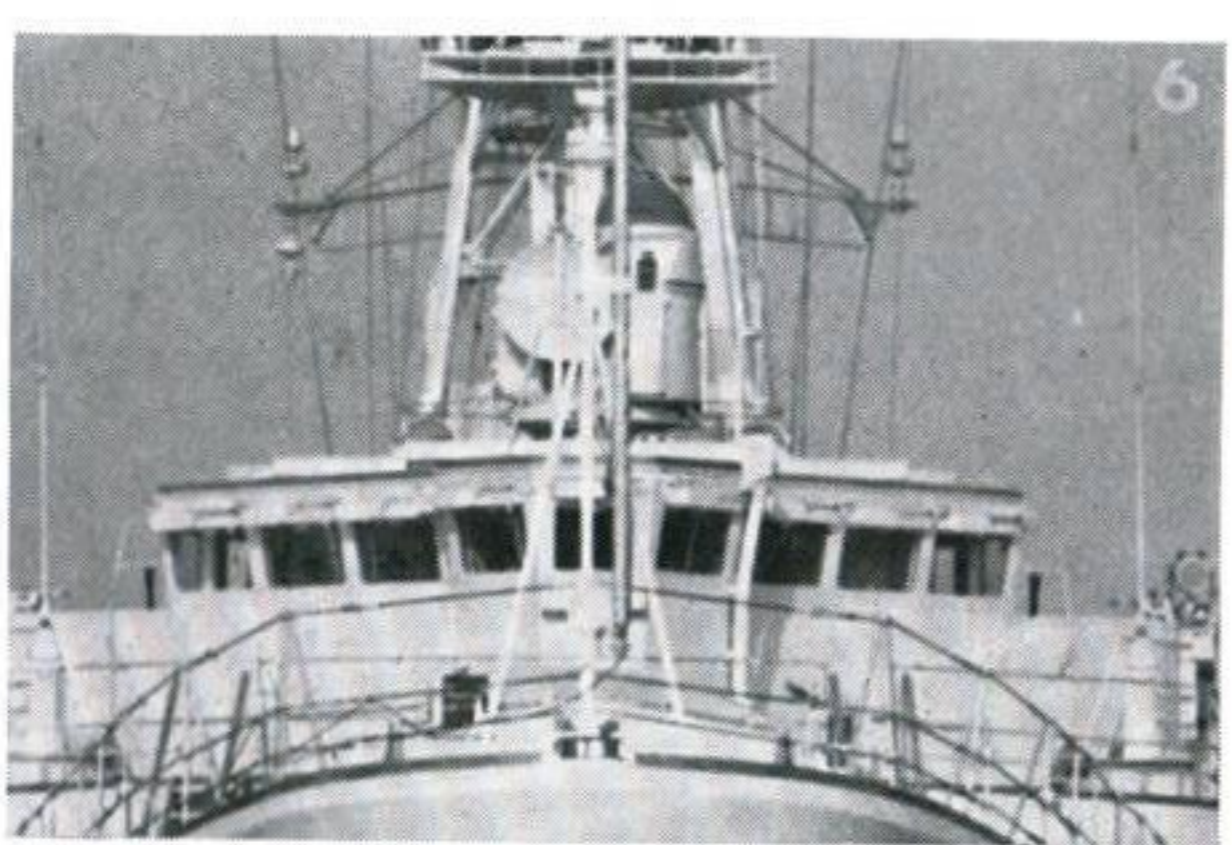
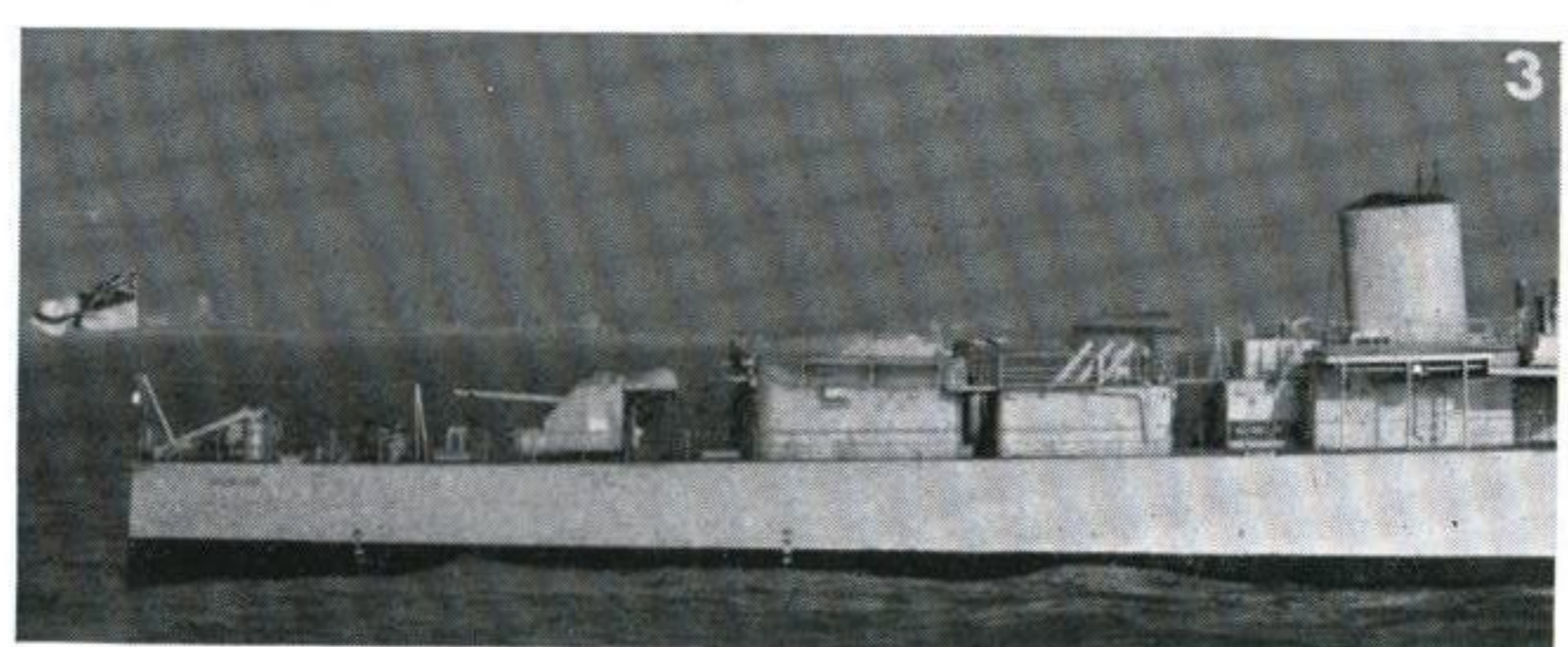
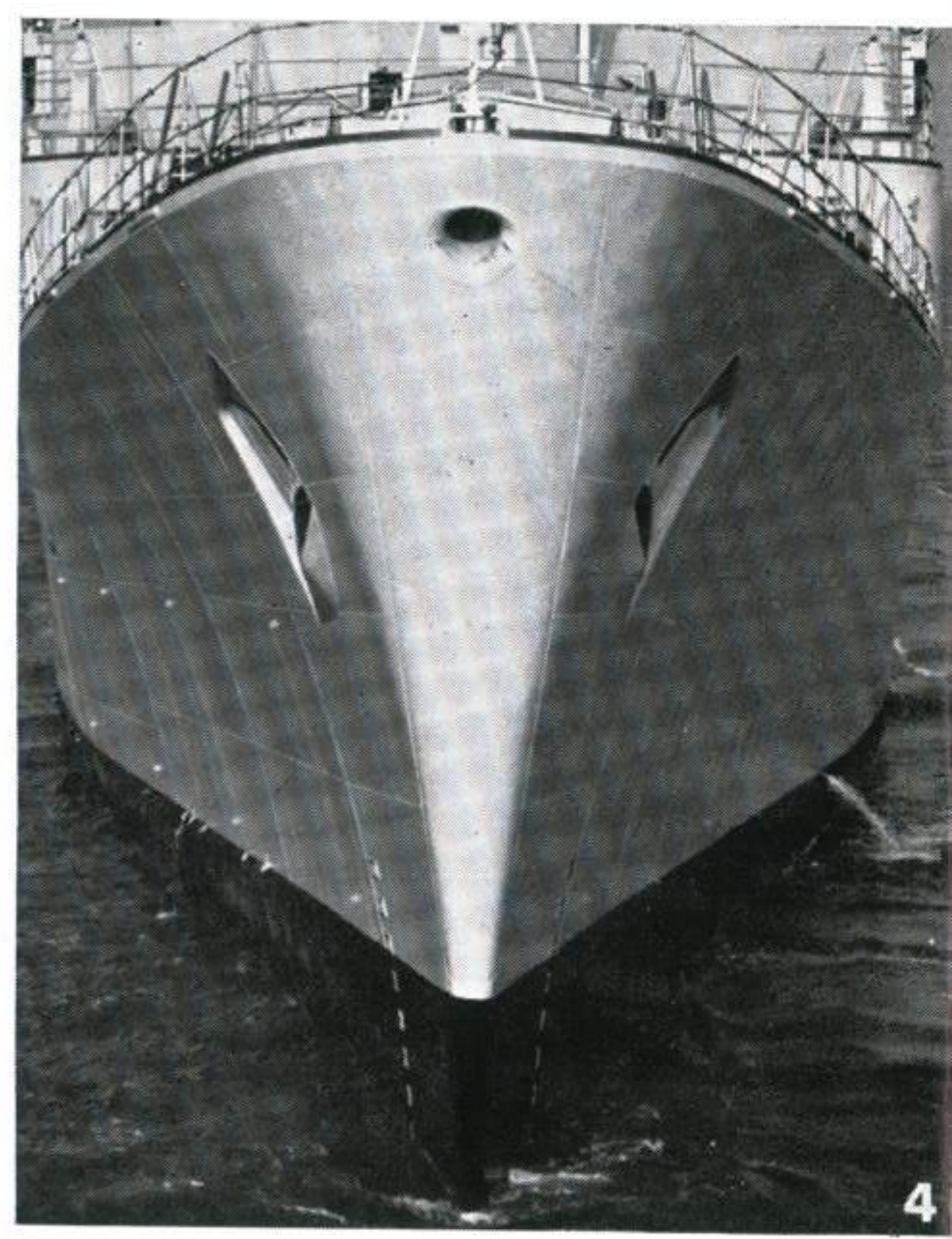
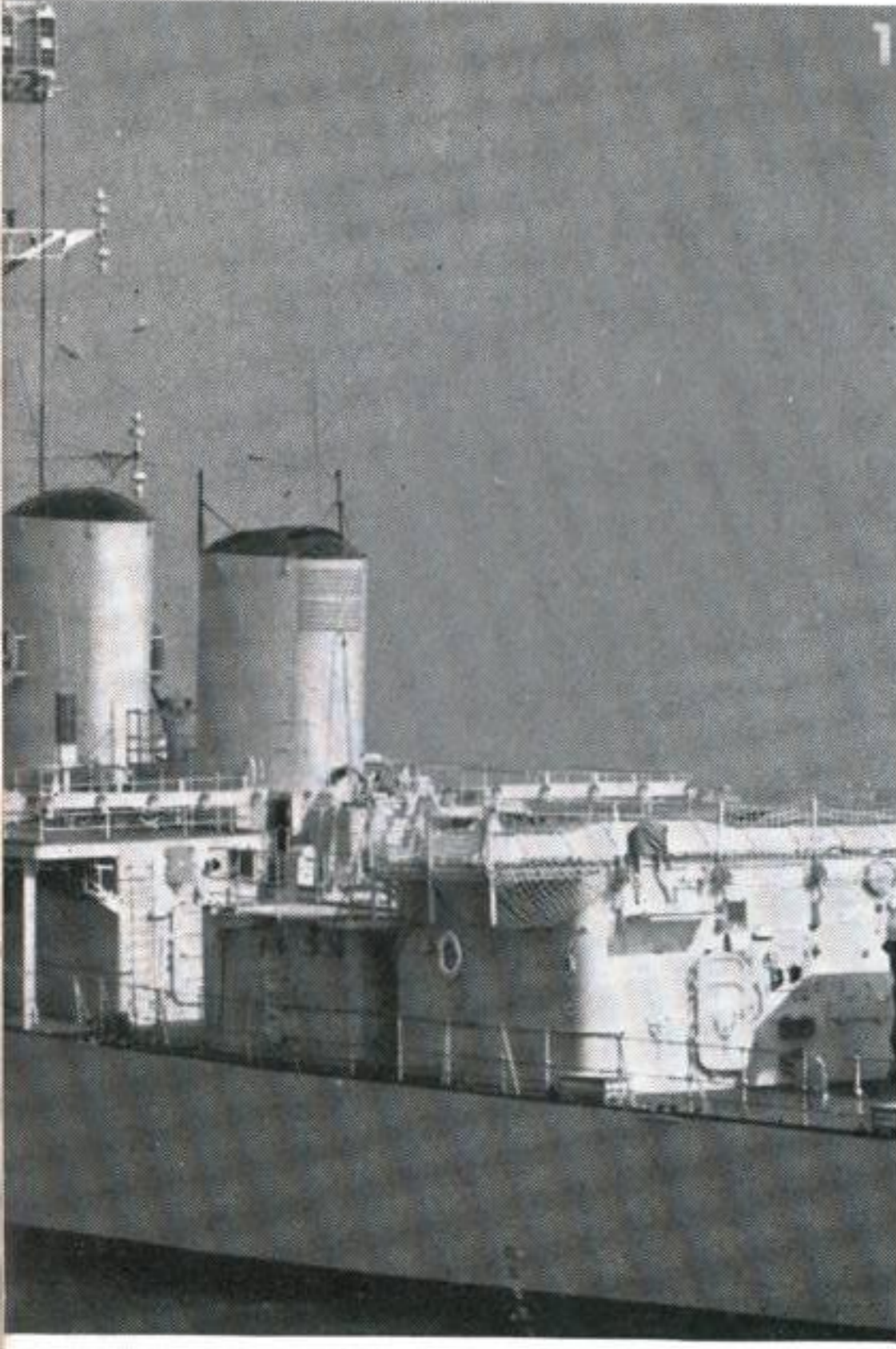
The Tribal Class ships, laid down under the 1955–1956 Navy Estimates, are revolutionary in several ways. They have combined steam and gas turbine engines, the latter on the same shaft, providing a high concentration of power for sustained high speed. Even more important, this arrangement enables them to develop full power from cold within a few minutes. The machinery is comparatively compact and light in weight and thus it is possible to carry more offensive equipment in the ship.

In appearance, the Tribals are unique: they have a very definite run-away from stem to



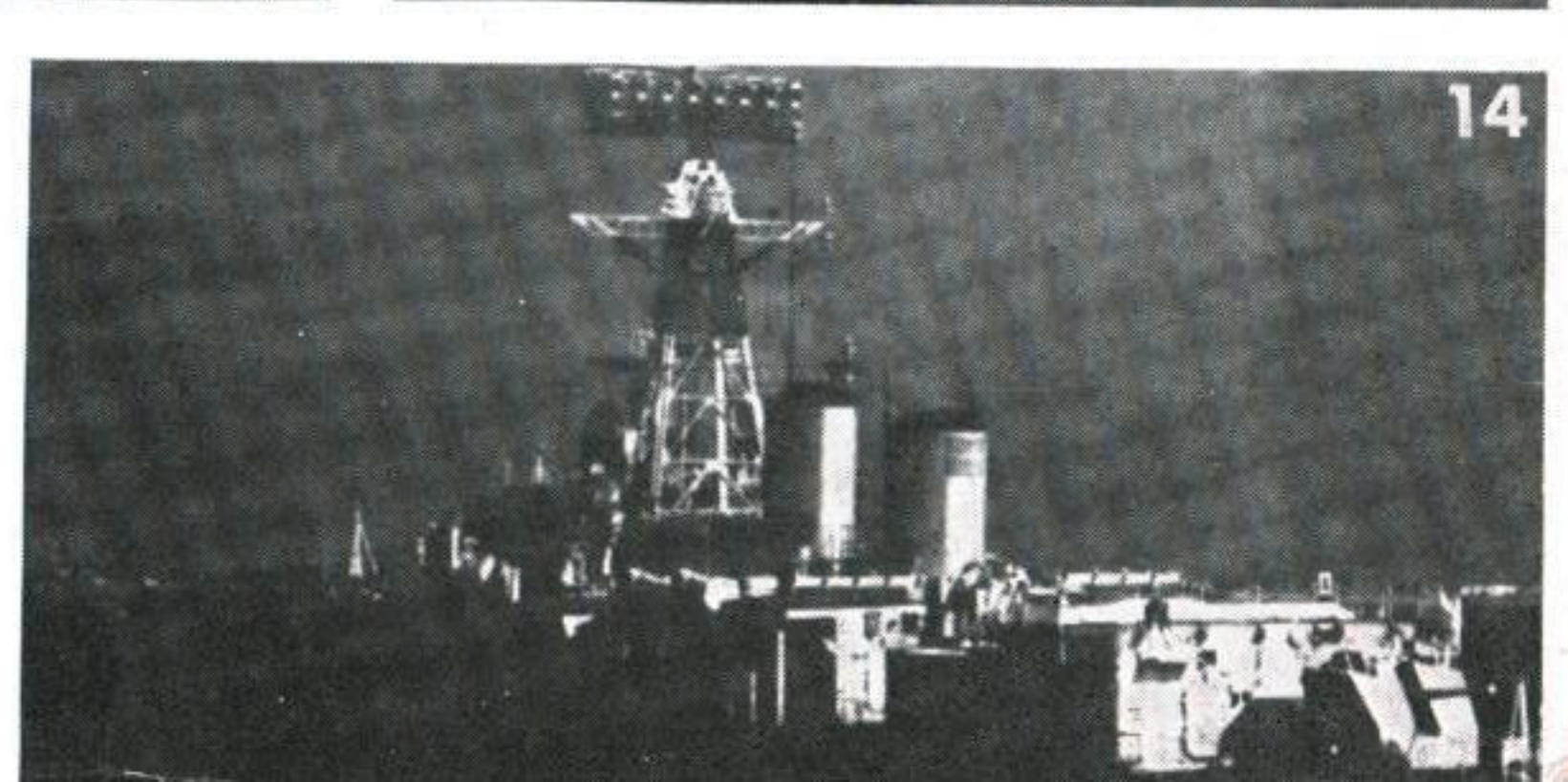
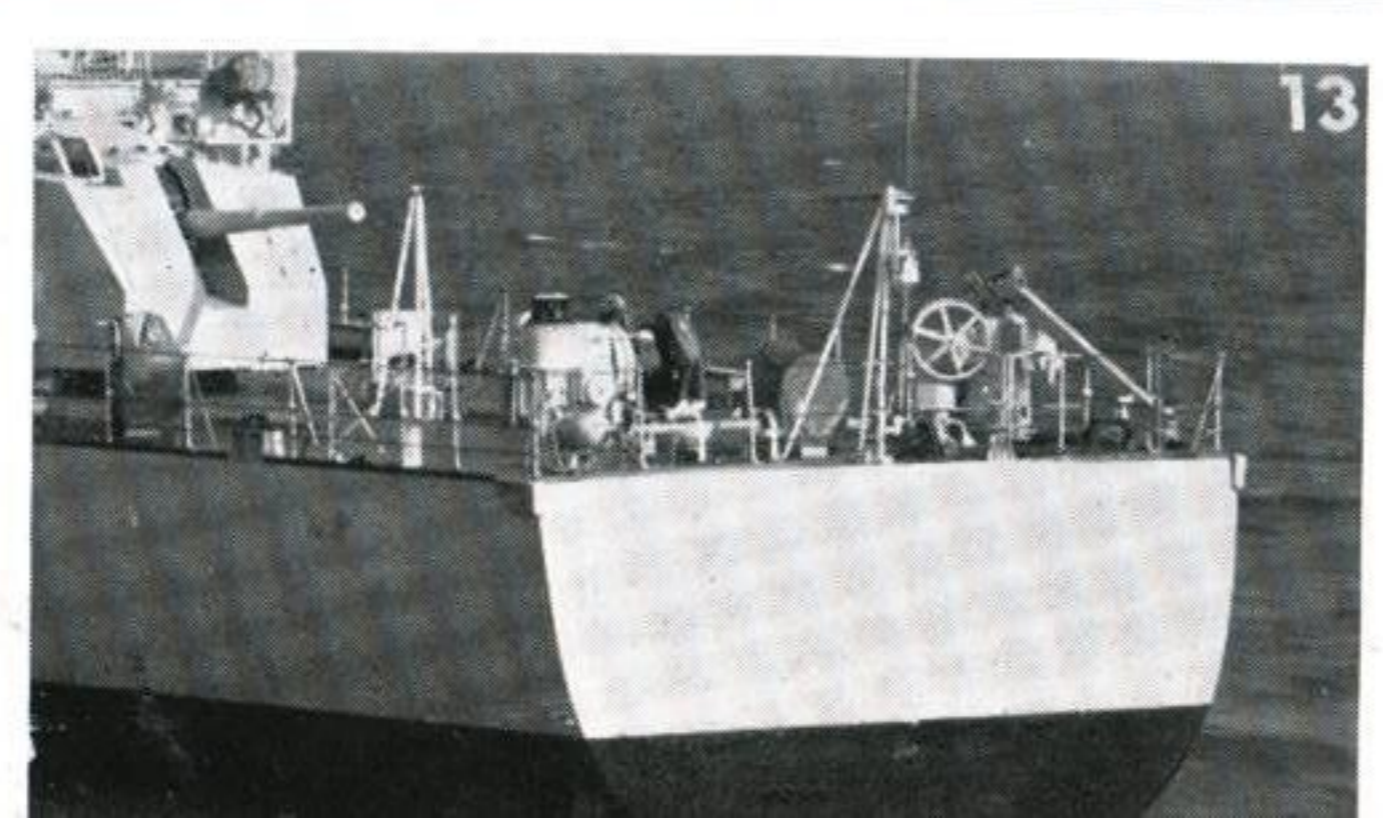
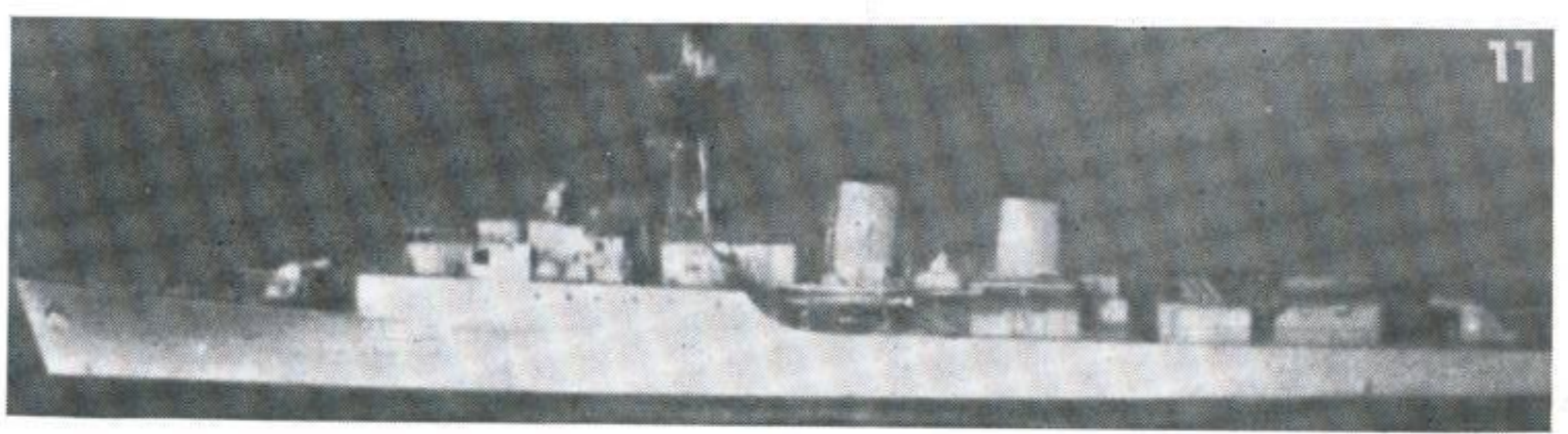
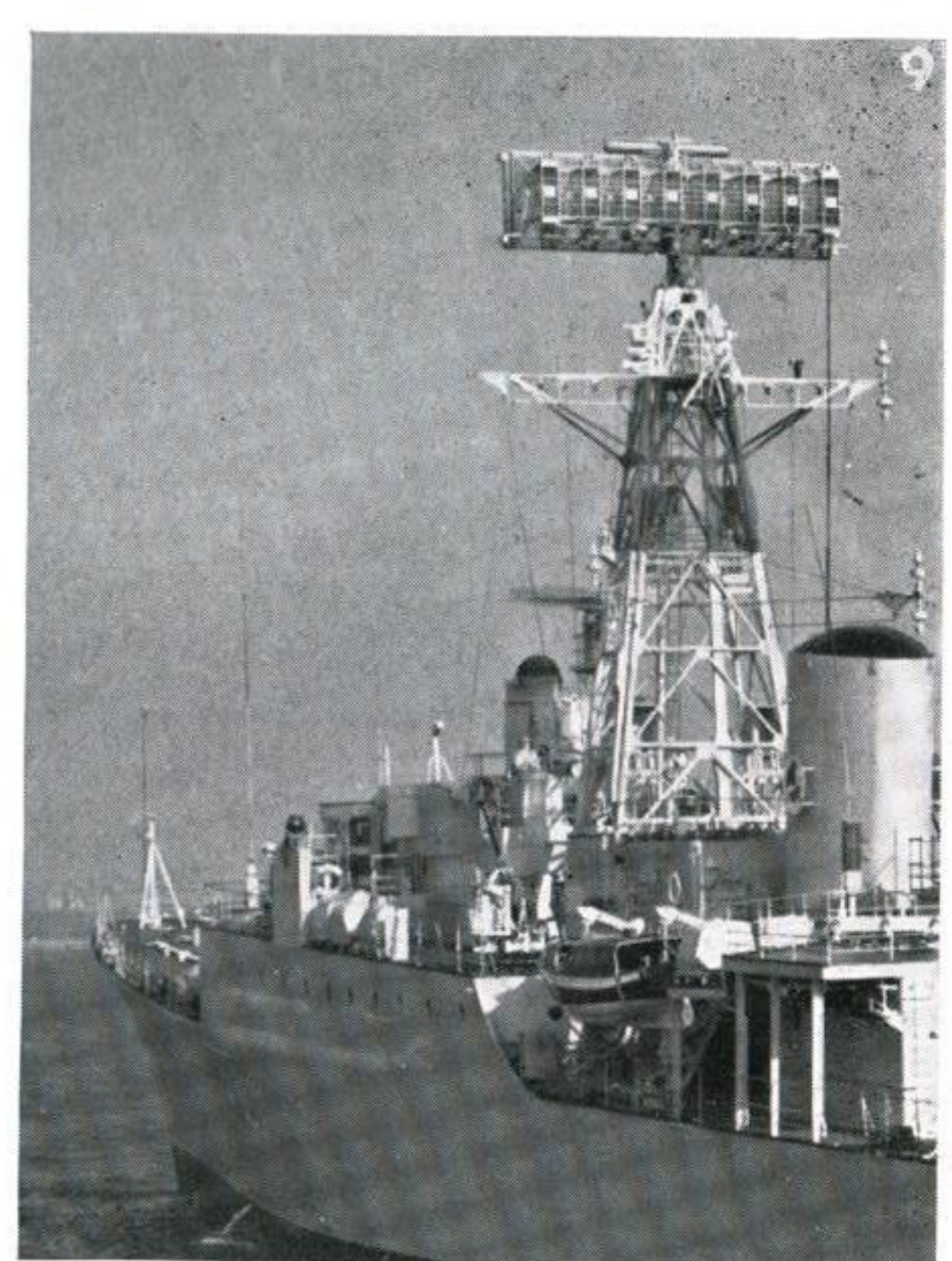
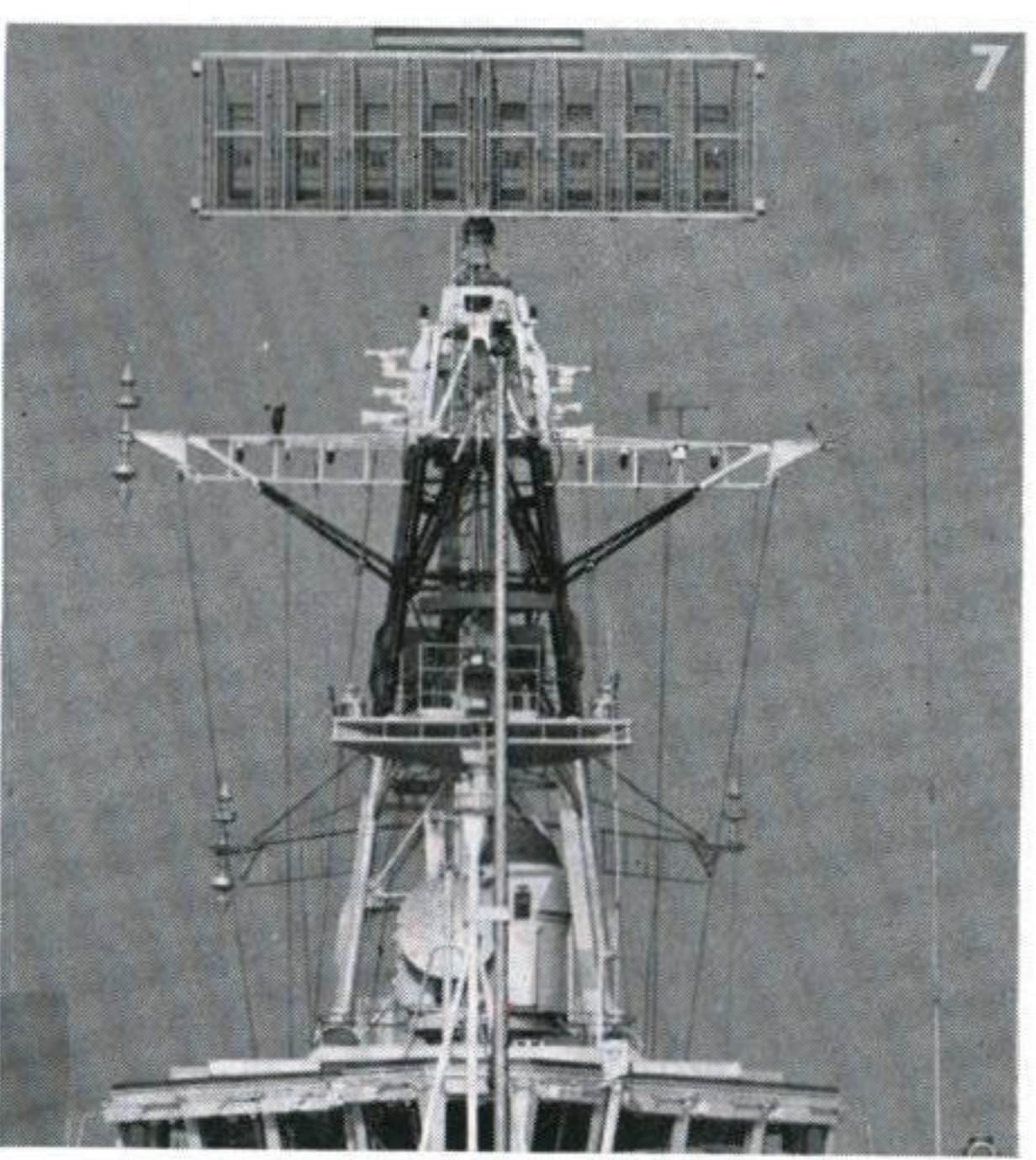


Tribal class frigate

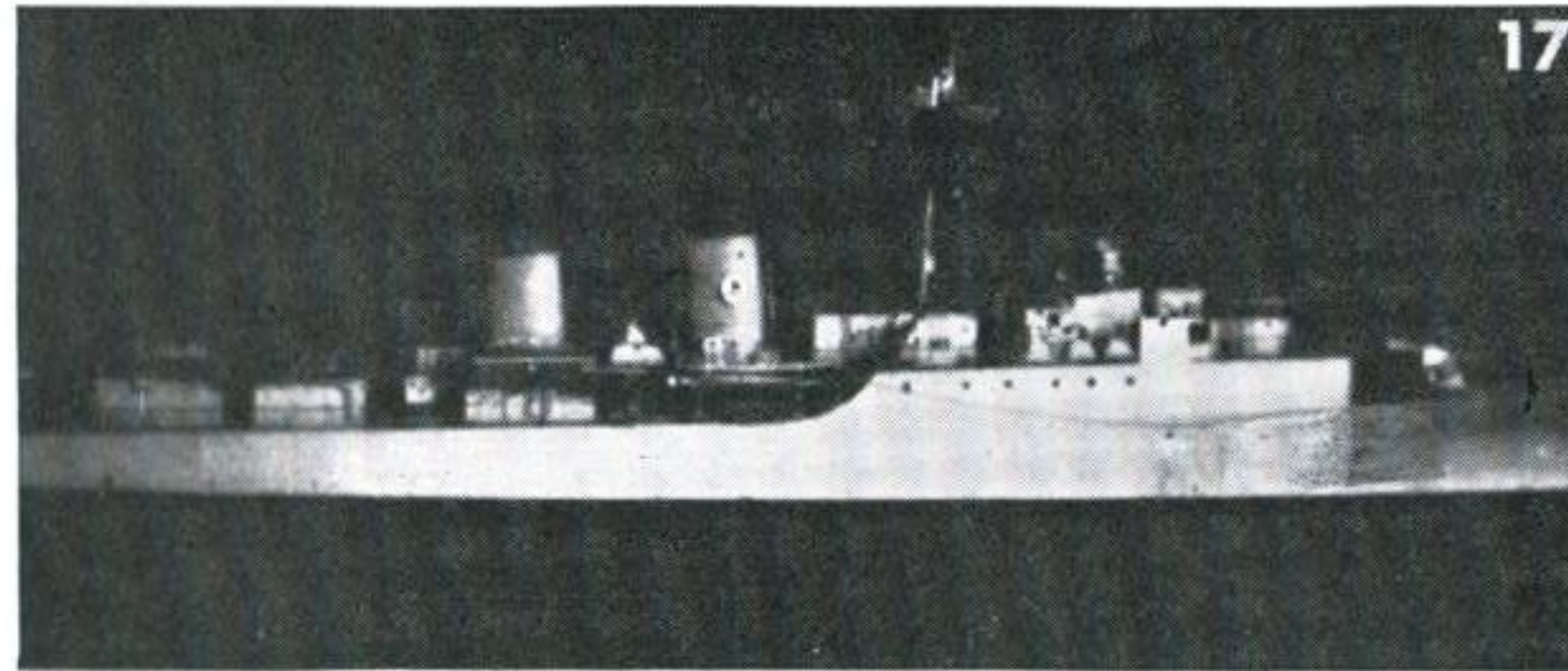
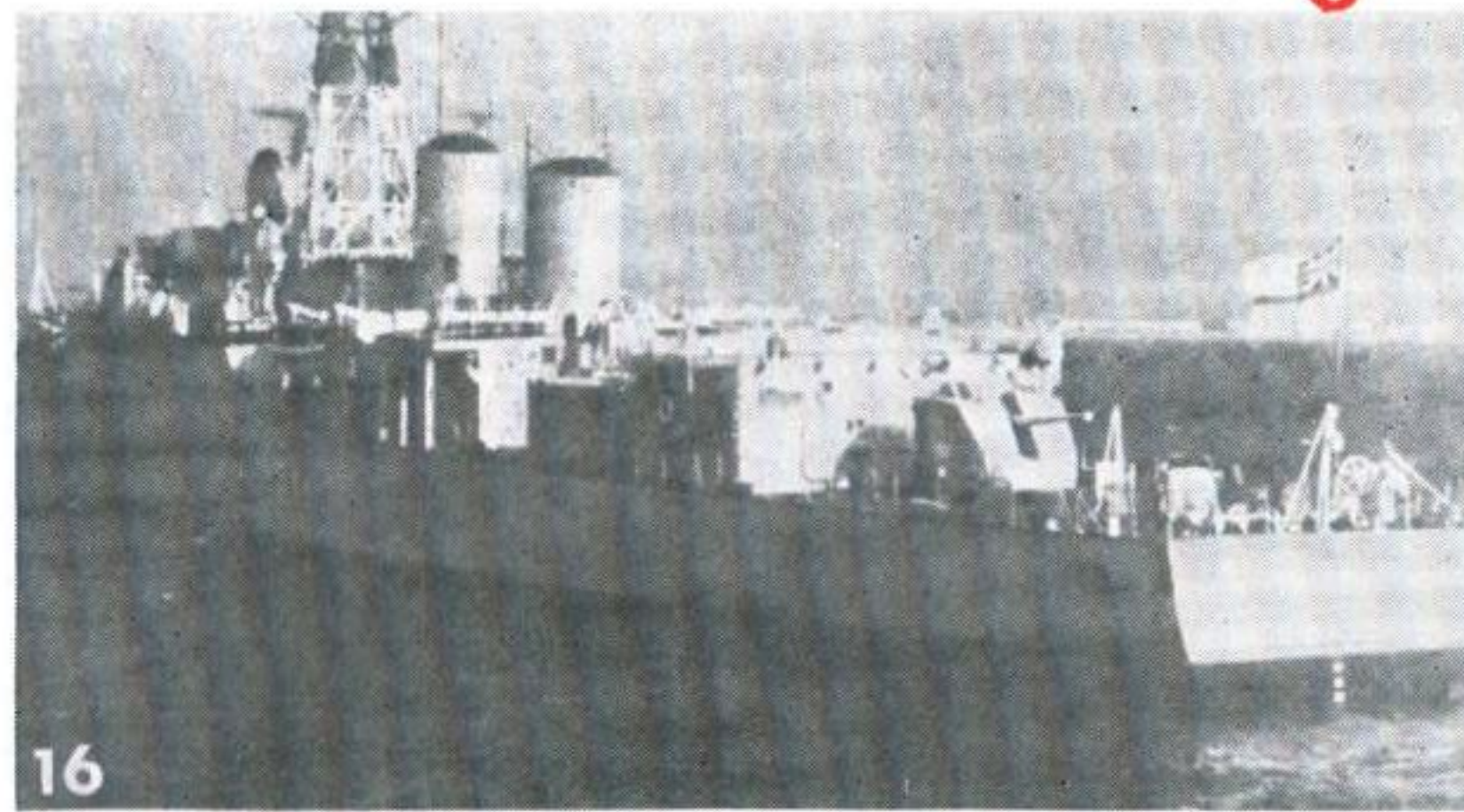


stern which is a feature also found in some Swedish and some earlier United States destroyers. They might have been improved in looks had there been a single, slightly taller funnel: the two fitted being rather too unequal for symmetry although this feature should make them more easy to identify.

The armament includes two 4.5 inch dual purpose guns one mounted forward and the other aft, as well as two 40-mm. Bofors guns. A Limbo three-barrelled depth bomb mortar is carried as an anti-submarine weapon. They are the first frigates designed to carry a helicopter.

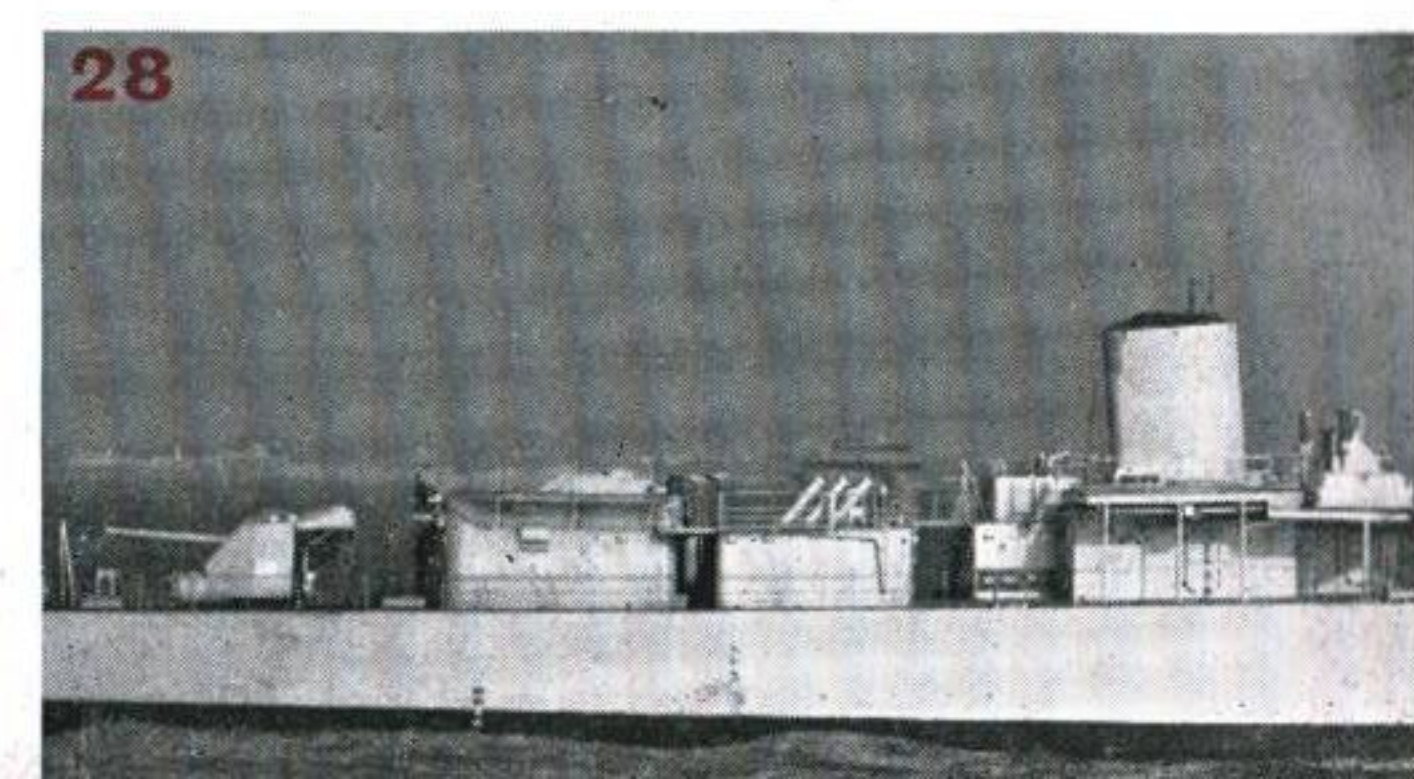
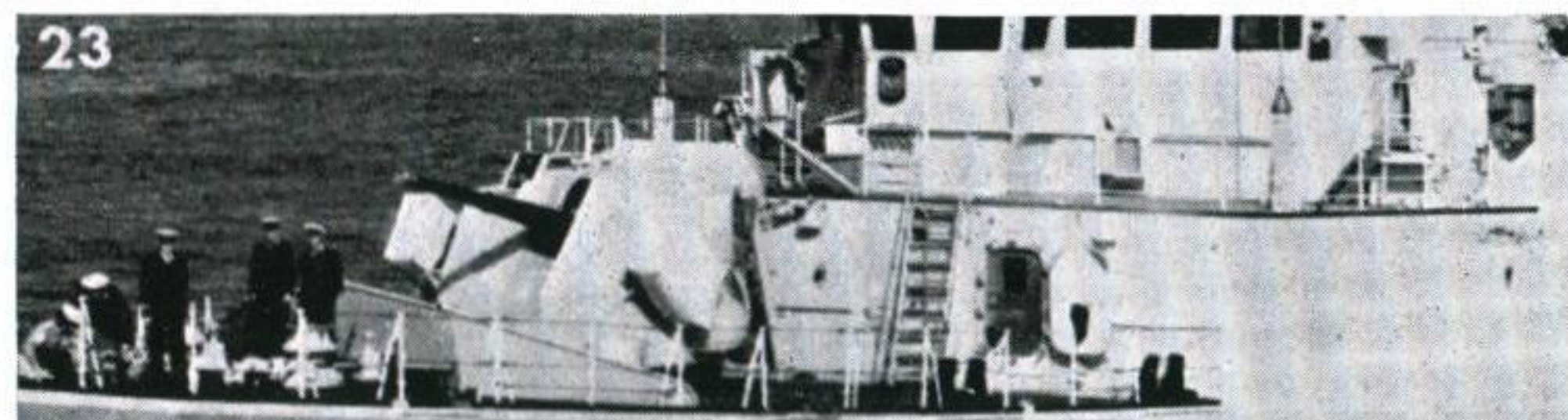
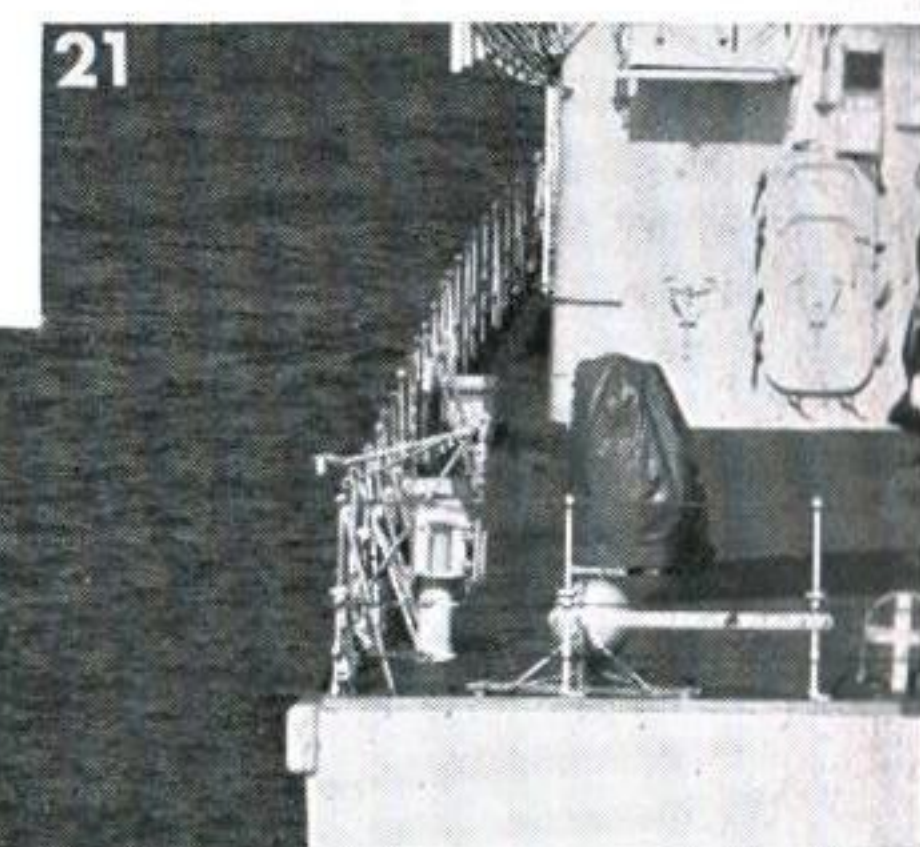
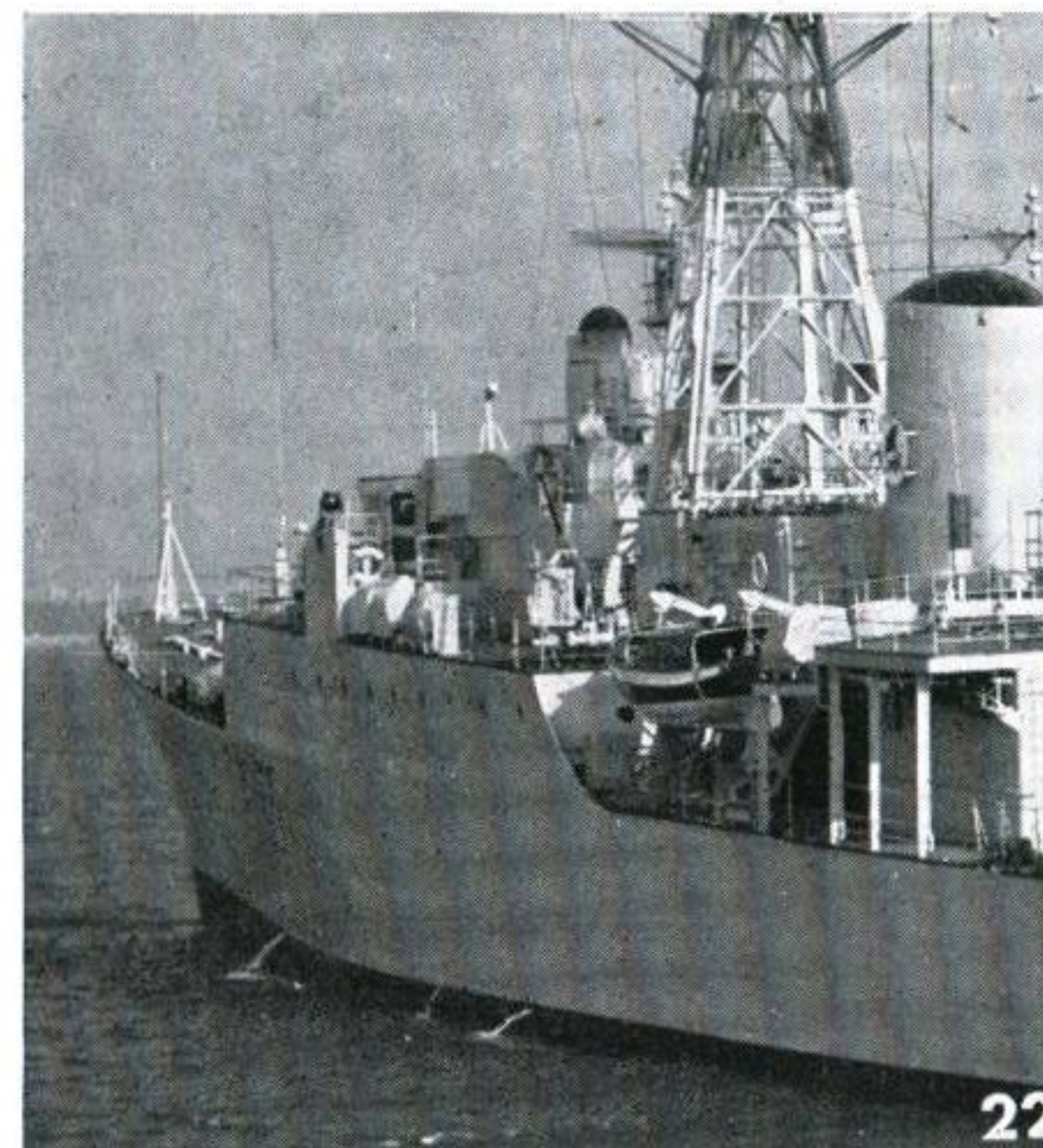
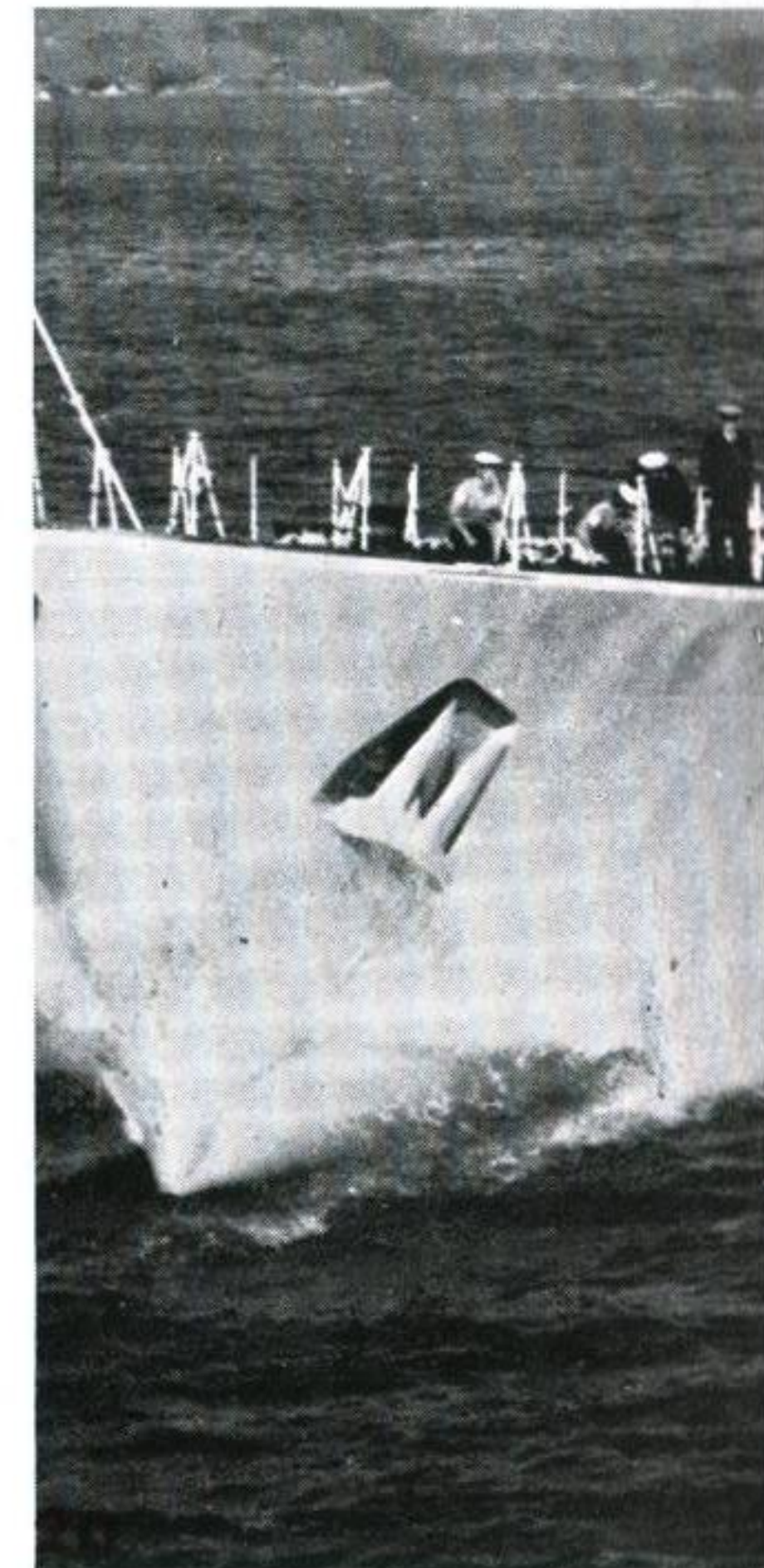


Tribal class frigate



Facts and figures. Full power (22,500 s.h.p.) produces a speed of 28 knots. Denny-Brown stabilisers are fitted to reduce rolling and enable high speed to be maintained in heavy weather. The standard displacement is 2,300 tons and the length of the vessels 360 feet overall.

There are seven ships comprising the class: the class ship is **ASHANTI**, the others being **ESKIMO**, **GURKHA**, **NUBIAN**, **TARTAR**, **MOHAWK** and **ZULU**. The last two are still under construction. *Lesson Instructions appear on page 237.*



Solutions to tests and exercises

Page 228

COOT

All targets are of **Coots** except for No. 11 which is of a **Cat**.

Page 230

FIDDLER

All targets are of **Fiddler** except for No. 15 which is a **Blinder**.

Page 232

STRATOJET

All targets are of **B-47 Stratojets** except Nos. 13 and 28 which are **B-52 Stratofortresses**. (N.B. Targets are mainly of the **B-47E** version but Nos. 10 and 18 are of **B-47Bs**. Both types are still in service.)

Page 234

LIGHT TYPES

1 Jet Provost	16 Auster A.O.P.11	32 Nord 3200
2 Jodel D.140B	17 Chipmunk T.10	33 Terrier
Mousquetaire	18 T-28 Trojan	34 Storch (Mraz Cap)
3 Cessna 175 Skylark	19 Bölkow 207	35 Noralpha
4 Pioneer C.C.1	20 Nord 3400	36 Falcho F.8L
5 Trener-Master	21 Dornier Do28	37 Cessna T-37B
6 Beagle 206X	22 Airedale	38 Travelair
7 Dove	23 Brigadyr	39 Pilatus Porter
8 Piper Aztec	24 Piaggio 149	40 Rallye Club
9 Safir	25 Cessna Skymaster	41 Prospector
10 Bölkow Junior	26 T-34 Mentor	42 Paris II
11 Morava L.200	27 Meta-Sokol	43 Mule
12 Dornier Do27	28 Prentice T.1	44 S-G-P M.222 Flamingo
13 Provost	29 Super Rallye	45 Max
14 Mooney Mk. 21	30 Broussard	46 Queen Air
15 Piaggio P.166	31 Super Aero 45	

COVER PHOTO



F-4 Phantom II: A decision without precedent in the annals of the United States Air Force was recently taken when they adopted a naval fighter as a standard U.S.A.F. fighter. Until production of the U.S.A.F.'s versions, the F-4C and RF-4C is under way, 29 Phantoms have been acquired for the Navy of which this example is one.

Page 248

TRIBAL CLASS FRIGATES

All targets are of **Tribal Class Frigates** except No. 19 which is of a **Battle Class Destroyer**.

Page 240

MERCHANTMEN OF THE USSR—5

1 Jana	23 Solnechnogorsk	45 Elets
2 Solnechnogorsk	24 Solnechnogorsk	46 Mikhail Kalinin
3 Jana	25 Mikhail Kalinin	47 Mikhail Kalinin
4 Mikhail Kalinin	26 Jana	48 Jana
5 Jana	27 Joker	49 Solnechnogorsk
6 Elets	28 Solnechnogorsk	50 Elets
7 Elets	29 Solnechnogorsk	51 Jana
8 Mikhail Kalinin	30 Mikhail Kalinin	52 Solnechnogorsk
9 Mikhail Kalinin	31 Mikhail Kalinin	53 Jana
10 Elets	32 Elets	54 Jana
11 Solnechnogorsk	33 Elets	55 Solnechnogorsk
12 Solnechnogorsk	34 Solnechnogorsk	56 Elets
13 Elets	35 Jana	57 Solnechnogorsk
14 Mikhail Kalinin	36 Elets	58 Solnechnogorsk
15 Solnechnogorsk	37 Jana	59 Jana
16 Jana	38 Elets	60 Solnechnogorsk
17 Mikhail Kalinin	39 Jana	61 Mikhail Kalinin
18 Jana	40 Solnechnogorsk	62 Elets
19 Elets	41 Jana	63 Jana
20 Mikhail Kalinin	42 Solnechnogorsk	64 Elets
21 Jana	43 Elets	65 Solnechnogorsk
22 Mikhail Kalinin	44 Jana	66 Mikhail Kalinin

		G.R. Tons	Length in feet	Reporting Code
Jana	Fish Carrier (Freighter in appearance)	3,550	378	MFM
Elets	Freighter	3,812	355	MFKM
Mikhail Kalinin	Passenger Liner	4,700	401	CMFMC
Solnechnogorsk	Cargo Liner	7,400	455	KMKFKM

Coding: C = Cranes

Page 244

MERCHANT SHIP TYPE TEST NO. 22

Name of Vessel	Type	G.R. Tons	Length in feet	Reporting Code
1 Royal Daffodil	Packet	2,060	313	MFFM
2 Olympic Thunder	Tanker	17,800	625	KMKF
3 Queen Mary	Passenger Liner	81,200	1,020	MFFFF
4 Tern	Coaster	1,028	214	MM(M)F
5 Royal Sovereign	Packet	1,850	288	MFM
6 United States	Passenger Liner	51,900	990	KMFFK
7 Britannia	Royal Yacht	4,700	412	MFM
8 Rhodesia Castle	Passenger Liner	17,000	577	MFMK
9 Goldfinch	Coaster	450	187	MKMF
10 Clan Menzies	Freighter	7,700	503	KMKFKMK
11 Lancastrian Prince	Freighter	4,800	372	KMKFKK
12 Port Nelson	Freighter	8,900	490	KMKFKCK
13 America	Passenger Liner	26,300	723	KMFFMK
14 Iberia	Passenger Liner	29,600	719	MKFKM
15 El Kanemi	Freighter	5,700	426	MKKFM
16 Mobil Enterprise	Tanker	31,500	736	MMKKF
17 Port Melbourne	Freighter	10,500	533	KMKFKK
18 Esso Nederland	Tanker	18,000	628	KMKF
19 Hilversum	Freighter	7,100	534	KMKFKMK
20 Bengloe	Freighter	11,300	550	KMKFKMK
21 Polar Reefer	Coaster	500	202	MMF
22 Kano Palm	Freighter	8,700	500	KMKFKK
23 Rotterdam	Passenger Liner	38,600	749	KM(F)MK
24 British Bulldog	Tanker	18,600	643	KMKKFK
25 Port Sydney	Freighter	10,000	533	KMKFKCK
26 Angularity	Coaster	900	211	MMF
27 Clan Macleod	Freighter	6,100	466	KMKFKM
28 Clan Mactaggart	Freighter	8,000	506	MKKFKM
29 Rangitoto	Passenger Liner	21,800	609	KMKFKMK
30 Esso Hamburg	Tanker	17,480	630	KMKKFK
31 Queen Elizabeth	Passenger Liner	83,700	1,031	MFFM
32 Port Auckland	Freighter	11,900	560	KMKFKCK
33 Queen of the Channel	Packet	1,500	272	MFM
34 Badagry Palm	Freighter	5,100	447	KMKFKK
35 Rangitane	Passenger Liner	21,900	609	KMKFKMK
36 Clan Mactavish	Freighter	6,600	471	KMKFKM
37 Swift	Coaster	800	209	MMF
38 Arkadia	Passenger Liner	20,300	589	KMF
39 Andoni Palm	Freighter	5,800	473	KMKFKK
40 Esso Cambridge	Tanker	17,500	628	KMKKFK
41 Cote D'Azur	Packet	4,000	365	MFM
42 Olympic Star	Tanker	17,800	625	KMKF
43 Port Lincoln	Freighter	7,300	488	MKKFM
44 Papanui	Freighter	10,000	494	MKKFKM
45 Elmina Palm	Freighter	5,400	455	KMKFKK
46 Witmarsum	Freighter	6,200	484	KMKFKMK
47 Clan Sutherland	Freighter	8,400	513	KMKFKM
48 Canberra	Passenger Liner	45,700	819	KMF