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P/1

JOINT



SERVICES

RECOGNITION

Journal



Vol. 24 FEBRUARY 1969 No. 2

KEEPING UP WITH THE CHOPPERS

A main feature of the S.B.A.C. Display is Westland Aircraft's helicopter "circus", and at last year's "Farnborough" the range of new choppers—including those shown in model form—was greater than ever. The reason for this is that in addition to continuing their policy of Anglicising successful Sikorsky designs (e.g. the S-61 Sea King) they are collaborating with Sud Aviation of France in producing helicopters. They are building a proportion of two current Sud designs for Anglo-French use, i.e. the SA.341 for the British and French armies, and the SA.330 for the R.A.F. and the French Army; and they have also been given design leadership for the W.G.13 twin-turbine utility helicopter which will be built in quantity for the British Army, the

Royal Navy, the French Navy, the R.A.F. and, in an armed reconnaissance version, the French Army.

A civil version of the W.G.13 utility will carry up to 12 passengers and the first 15 examples of this model have been ordered by Bristow Helicopters.

With an eye to the future, Westland are also working on a series of rotary wing short range transport projects from which both a civil inter-city vehicle and a larger civil/military vehicle can stem. However, these are still gleams in the designers' eyes and in this picture gallery we are concentrating on those helicopters currently in production or else due to enter production fairly soon.





JOINT SERVICES

RECOGNITION JOURNAL

The *Joint Services Recognition Journal* is a monthly publication produced by the Directorate of Flying Training (R.A.F.), Ministry of Defence, and prepared in collaboration with the Admiralty Board, the Army Department and the Ministry of Technology. Applications for copies can only be accepted from the Services or other official bodies, and must be submitted through the normal official publications supply channels—not to the Editorial Office or direct to the Ministry of Defence. **The Journal is produced solely for official use and must not be sold to members of the public.** Contributions and correspondence should be addressed to the Editor, *Joint Services Recognition Journal*, Ministry of Defence, Room 409, Old War Office Building, Whitehall, London, S.W.1.

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Wessex



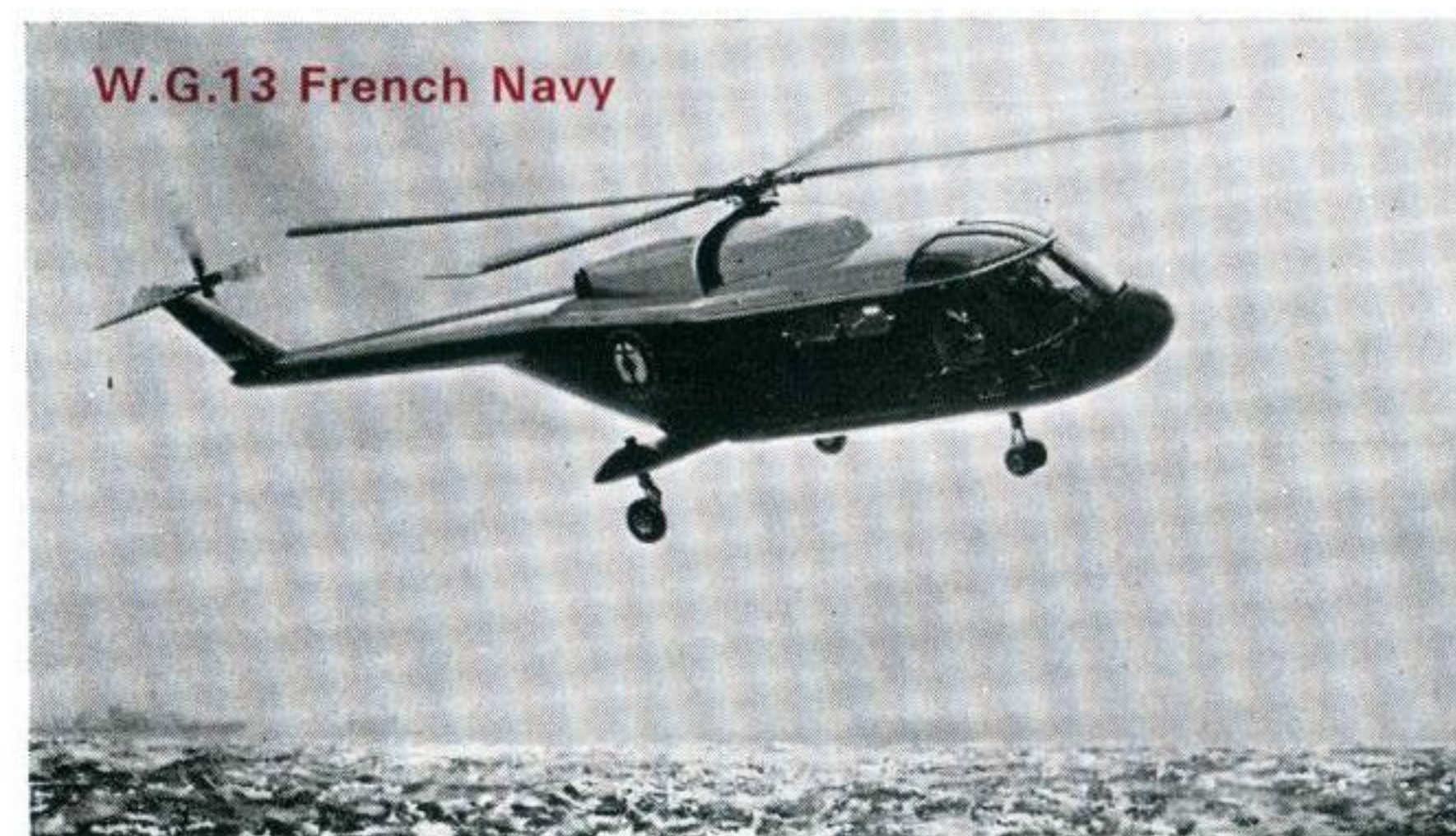
W.G.13 Civil



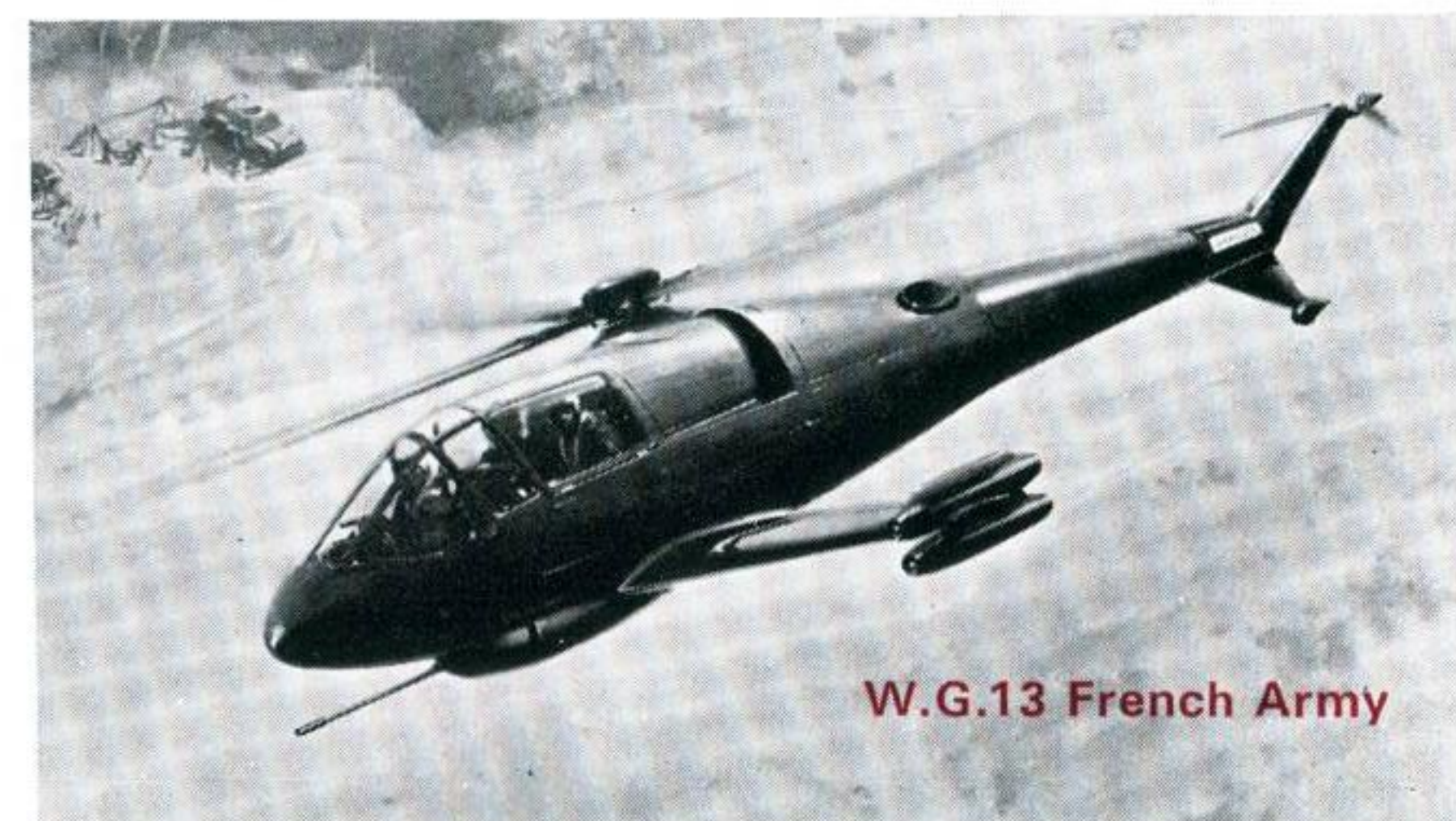
W.G.13 RN



W.G.13 British Army



W.G.13 French Navy



W.G.13 French Army

**FERRET SCOUT CAR?
—ASSORTED MKS.**

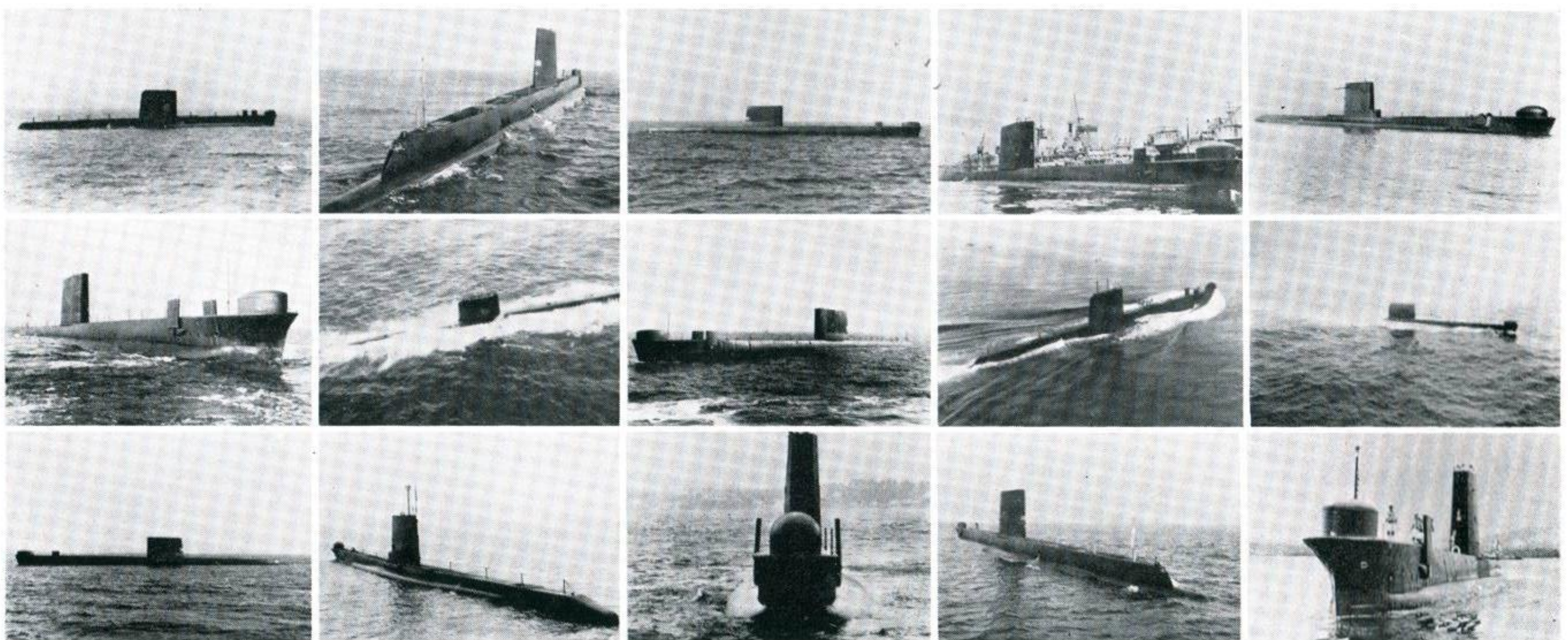
TEST PAPERS *Can you identify these vehicles and ships?*



PZ 61?



OBERON CLASS?





LESSON INSTRUCTIONS

The ability to identify is a skill and therefore a matter of "doing", not of gathering information. Submit to the instructions given in every edition of this *Journal* and the ability will become automatic.

1. Read the text associated with the lesson.
2. Prepare a list of target numbers so as to be able to tackle the targets in any order.
3. Identify the target pictures by comparing them with the key views: start with the easy ones so as to gain experience: also use targets already identified to solve the more difficult ones.
4. When certain of the identity of a target write down its name *IMMEDIATELY* against the appropriate number on your list. **THIS IS IMPORTANT.**
5. Lessons should not be hurried or given a time limit. So far as beginners are concerned, it is more important to identify accurately than quickly.
6. Do not attempt conscious memorising of details, shapes, or names. The procedure will take care of that. Do not attempt to do the lesson without the key too soon, wait until your ability to do so is self-evident.

Gebrauchsanweisung für die Typenlehre

Um den größten Nutzen aus den Übungsbildern, die in diesem Heft veröffentlicht werden, zu ziehen, sollte wie folgt verfahren werden.

1. Den zur Lehre gehörigen Text lesen.
2. Eine numerierte Typenliste vorbereiten, in der angesprochene Typen in eine gewisse Ordnung gebracht werden können.
3. Typen ansprechen durch Vergleich mit den Hauptansichten (von oben, von unten, von vorne, von hinten und von der Seite). Anfangen mit den einfachen Bildern, um Erfahrung zu bekommen. Die angesprochenen Typen zur Ansprache der schwierigeren benutzen.
4. Wichtig: Sobald ein bestimmtes Flugzeugbild mit Sicherheit richtig angesprochen ist, sofort die Typenbezeichnung in die entsprechende Stelle der Liste eintragen.
5. Bei der Übung nicht beeilen oder eine zeitliche Begrenzung festlegen. Für Anfänger ist es wichtiger, richtig anzusprechen als schnell.
6. Nicht mit Einzelheiten, Umrissen, Namen aufhalten.

KEY



ALOUETTE II

This French five-seat general purpose and utility helicopter first flew in March 1955 and since then almost 1,000 units have been built and these are in use not only with the French Army, Navy and Air Force, but also with the armed services of numerous other countries, including the British Army. The basic model, the SE-3180, can accommodate two casualty stretchers and be fitted for counter-insurgency missions. Powered by a 360 s.h.p. Artouste IIC.6 turboshaft

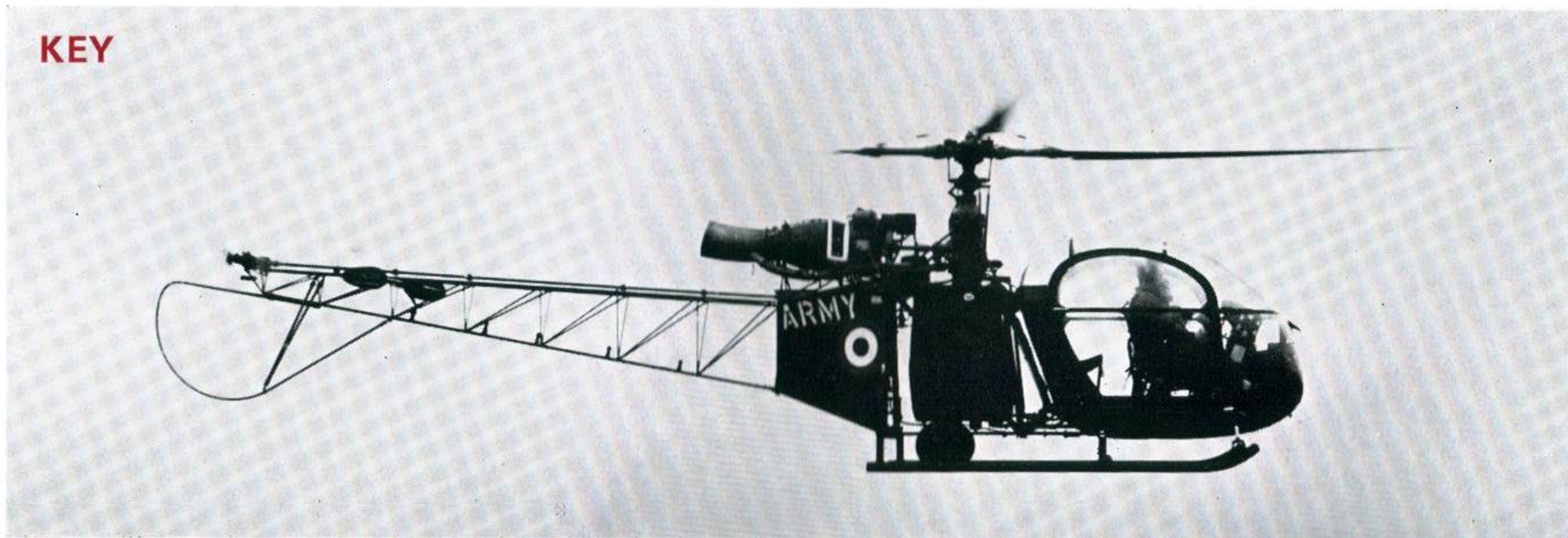
engine, it weighs 1,973 lb. empty, 3,527 lb. loaded and has a maximum speed of 109 m.p.h. at sea level.

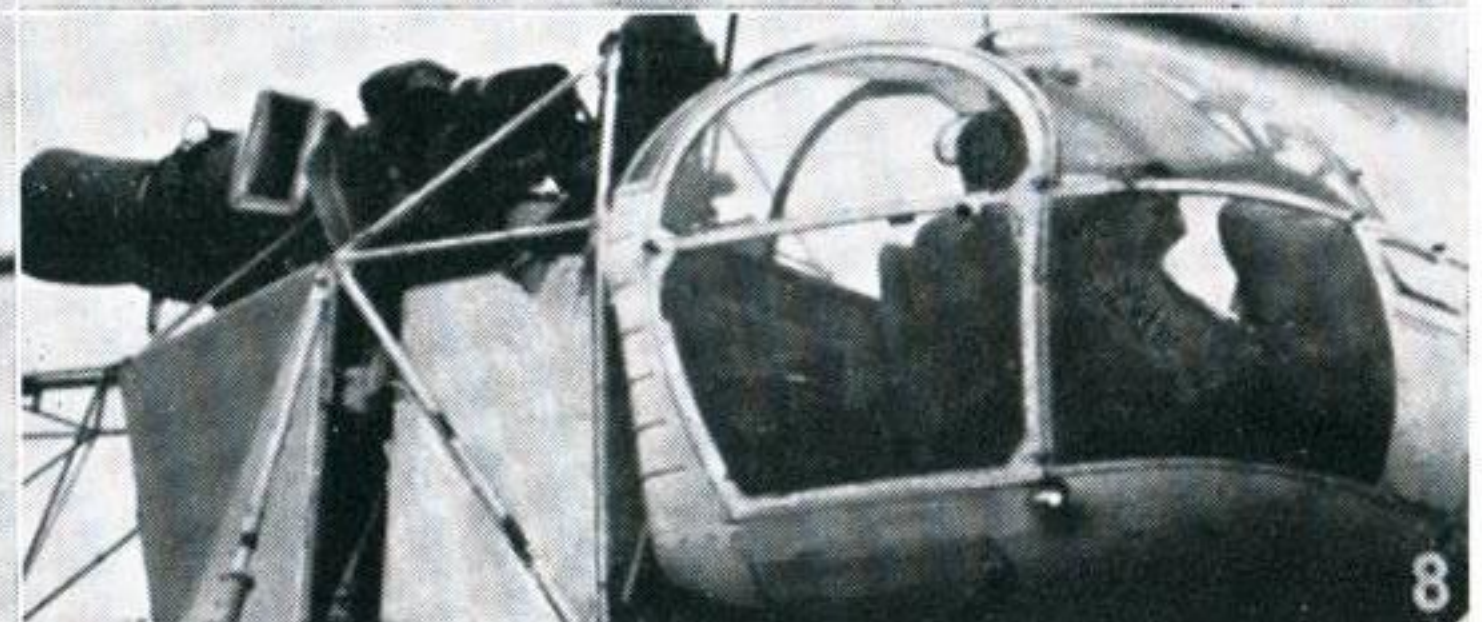
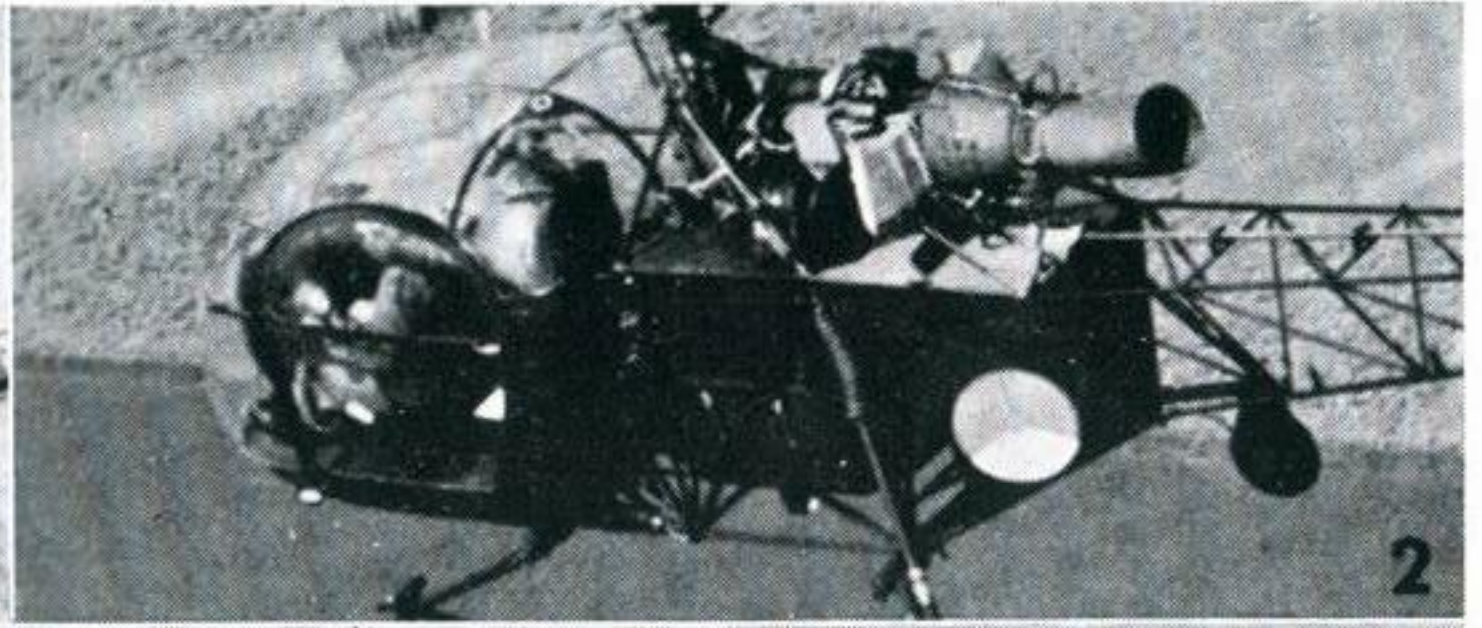
A recent development of the Alouette II is the SA-3180 550 s.h.p. Astazou IIA-powered variant for the French Army and Police.

Both models of the Alouette II can perform a wide variety of missions. They are normally fitted with a skid landing gear but can be fitted with floats or wheels if necessary.

continued overleaf

KEY

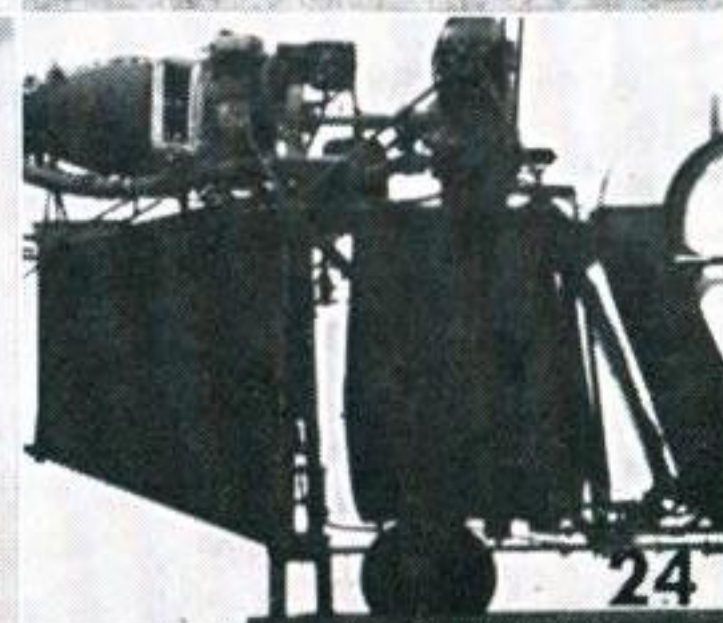
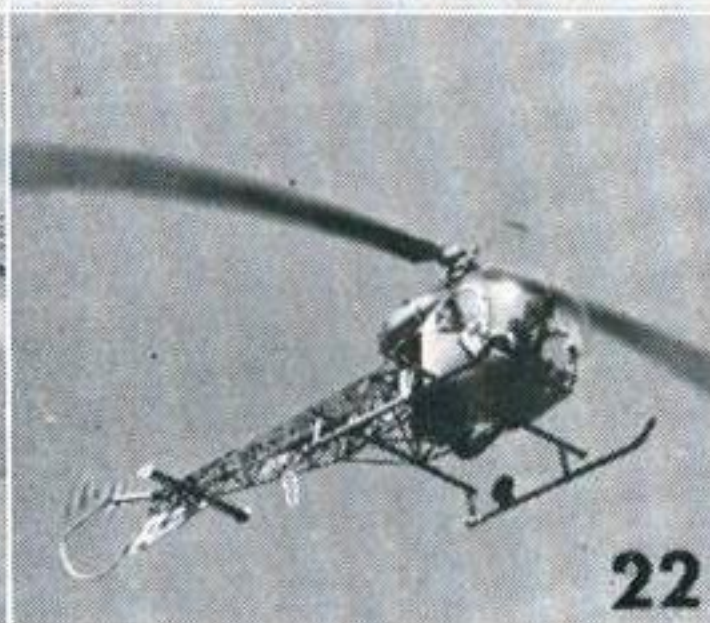
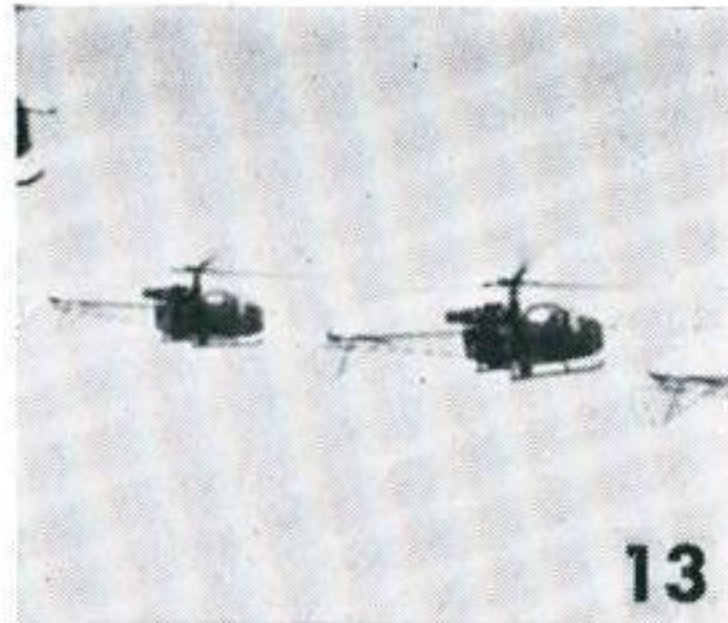
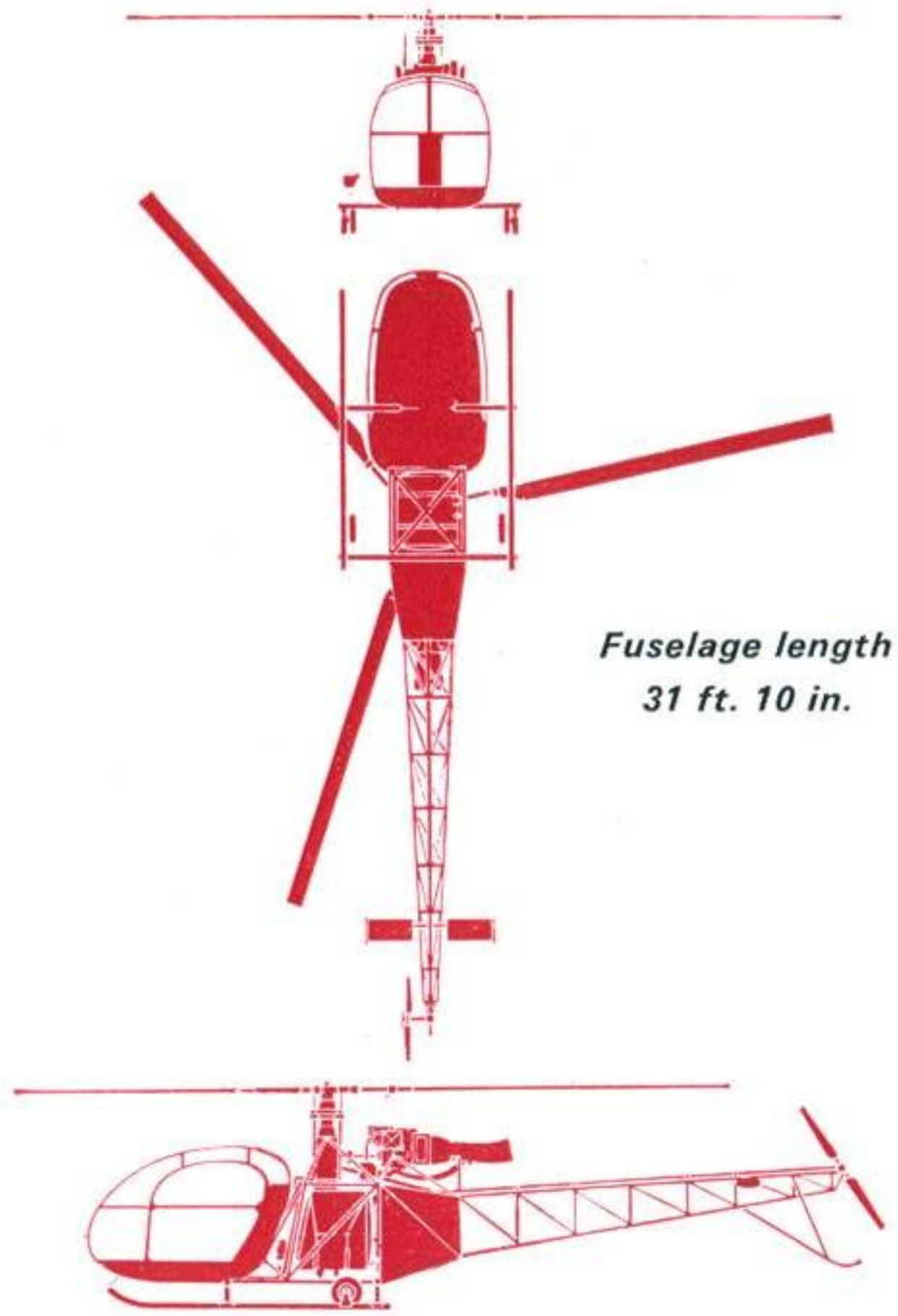




Lesson instructions are on page 33 Solutions on the cover



KEY



ALOUETTE II

continued

As the Alouette II bears a striking resemblance to the Sioux it needs to be learned carefully, so work to the instructions on page 33 and report all targets as Alouette II, or otherwise if jokers. Solutions are on back cover.

February 1969

KEY



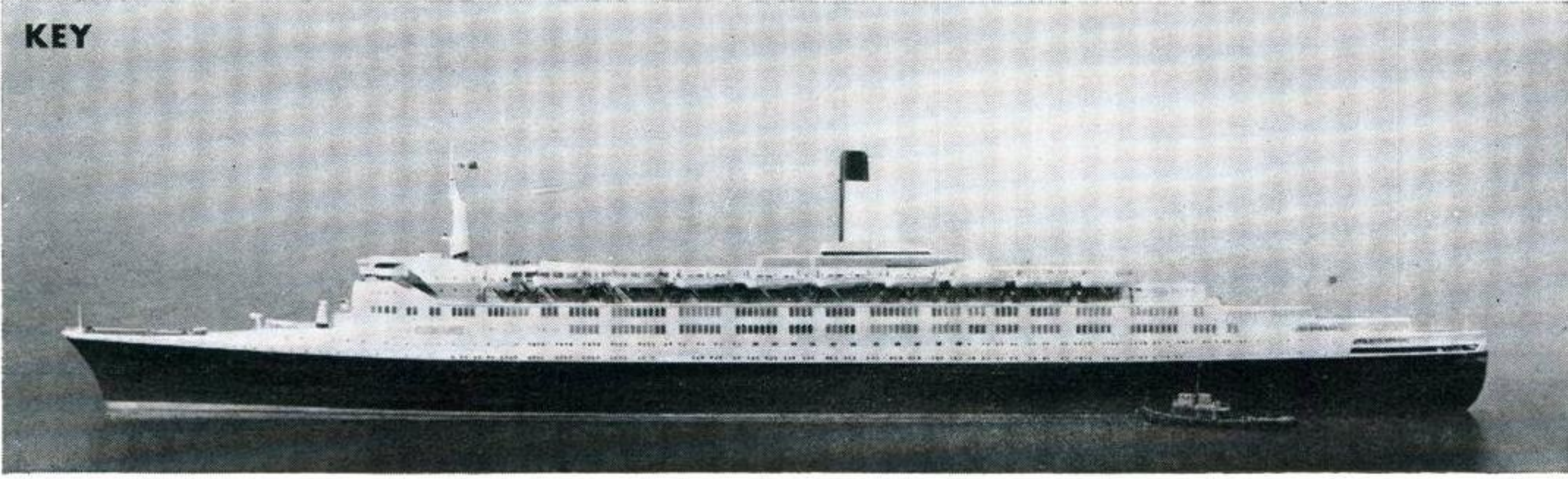
SA-330

This twin-engined helicopter was developed by Sud Aviation to meet a French Army requirement for a medium-size tactical and logistics transport helicopter capable of all-weather operation. The first prototype flew in April 1965 and production has since begun for the French Army (48), the R.A.F. (130—produced jointly by Sud and Westland) and other customers.

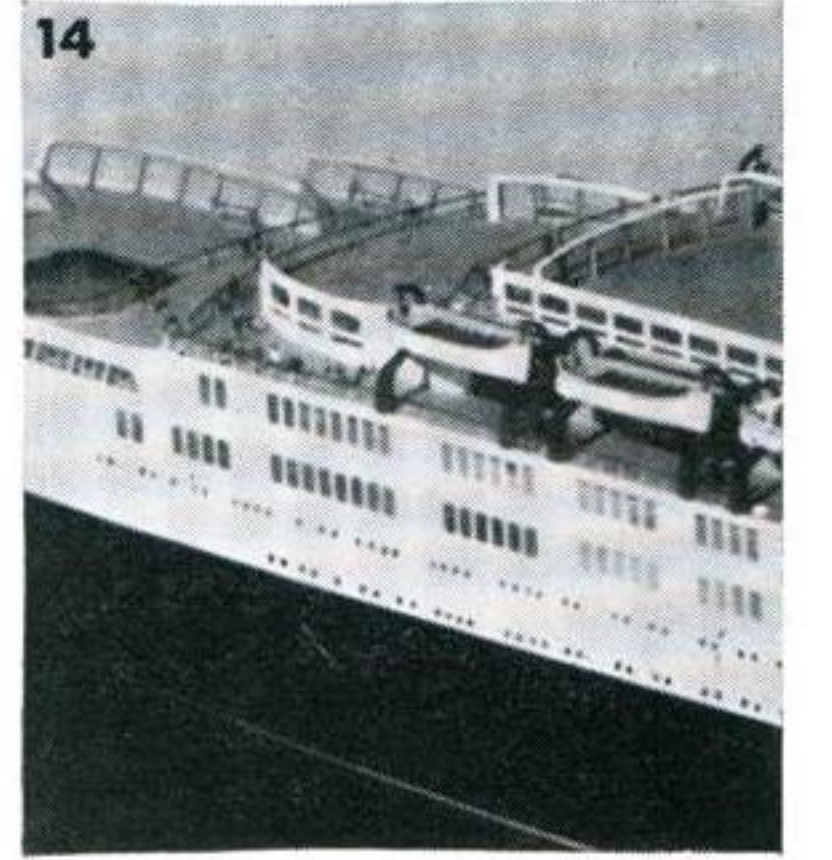
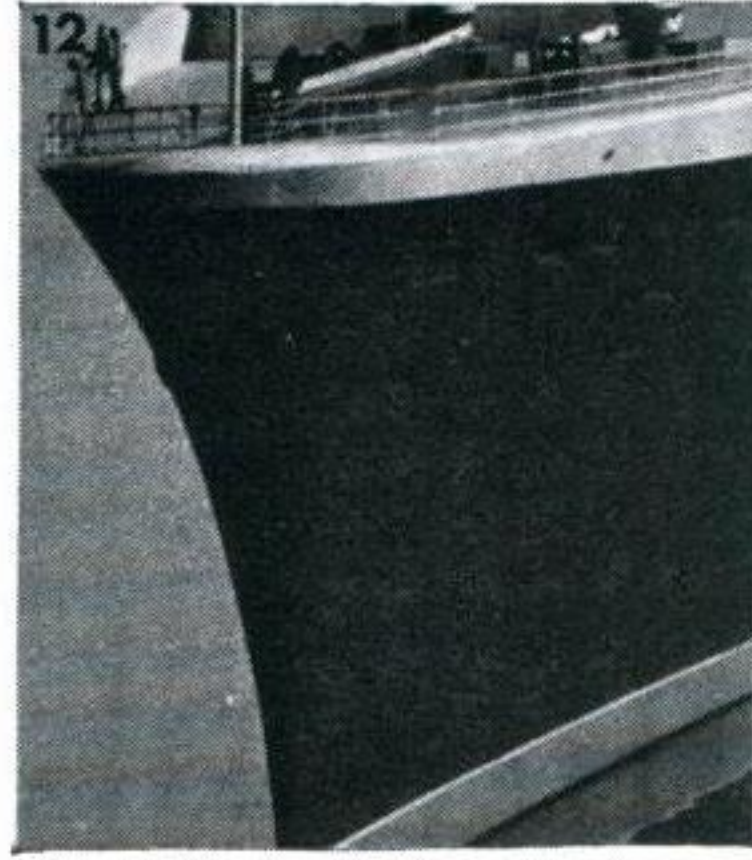
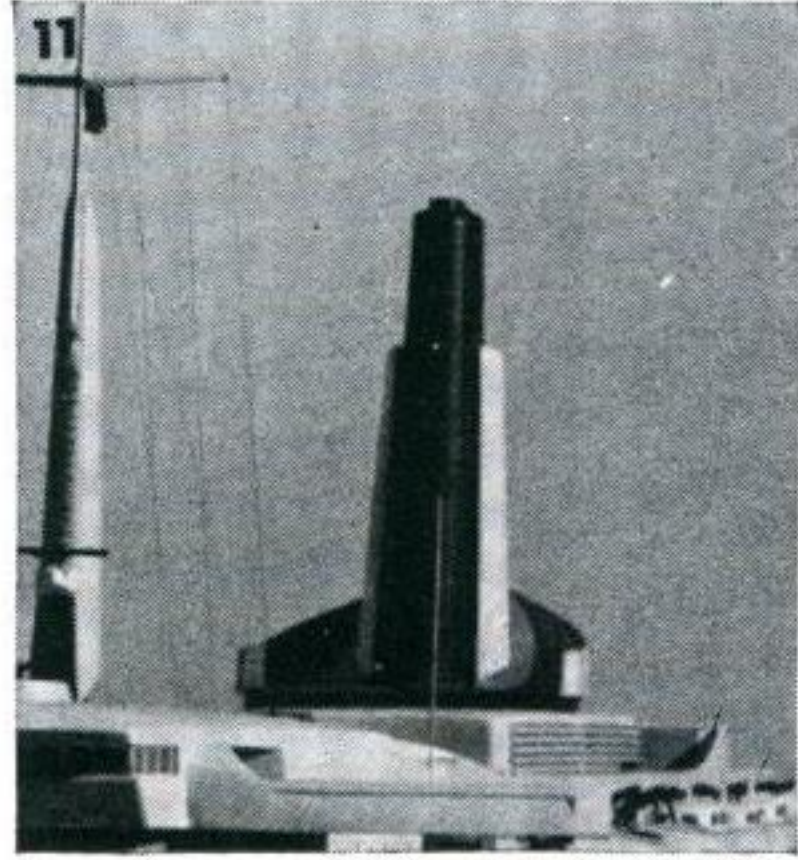
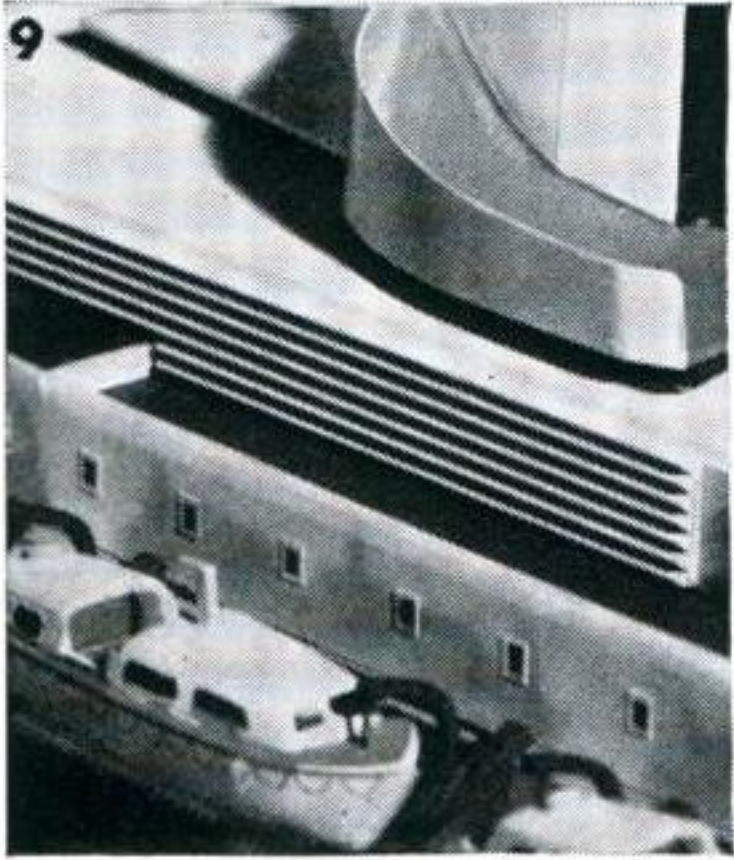
The photos below are all of prototypes. On page 30 of this issue is the latest prototype, which may well go into production.



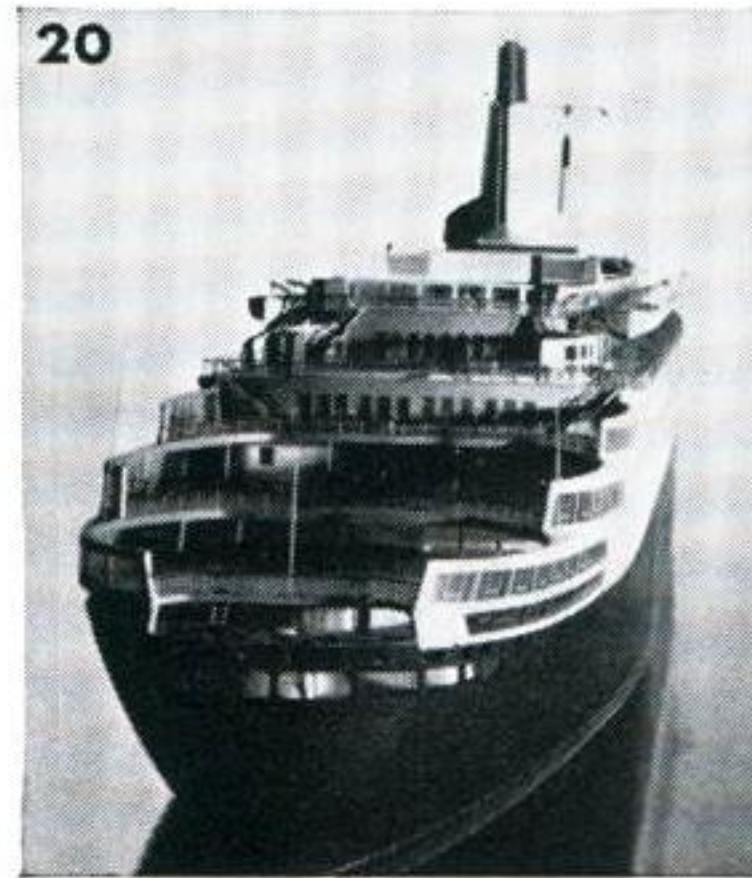
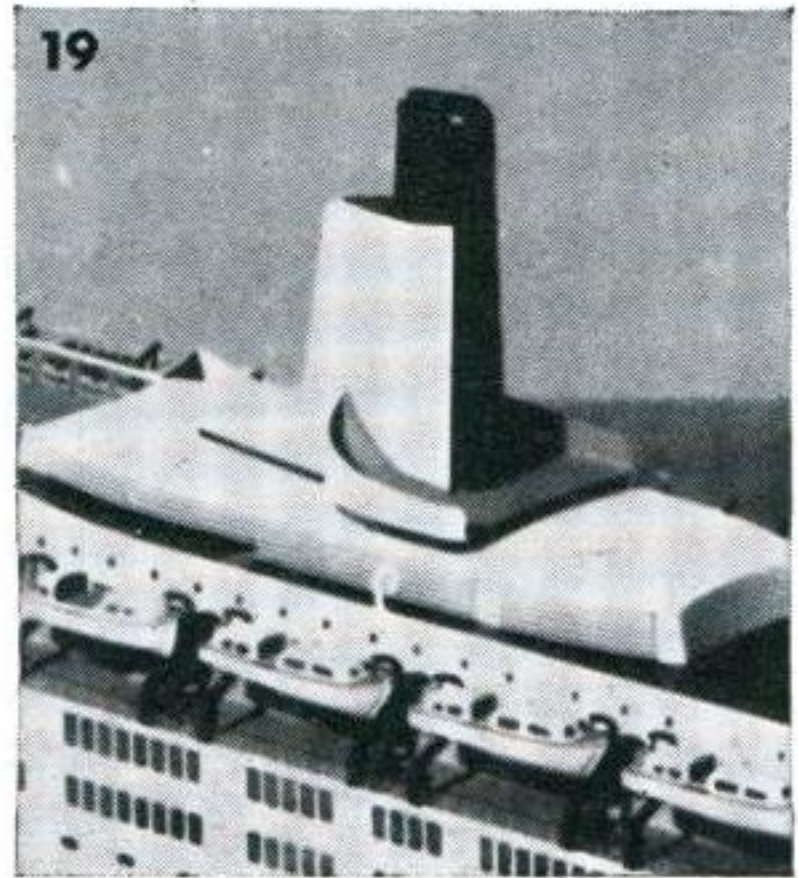
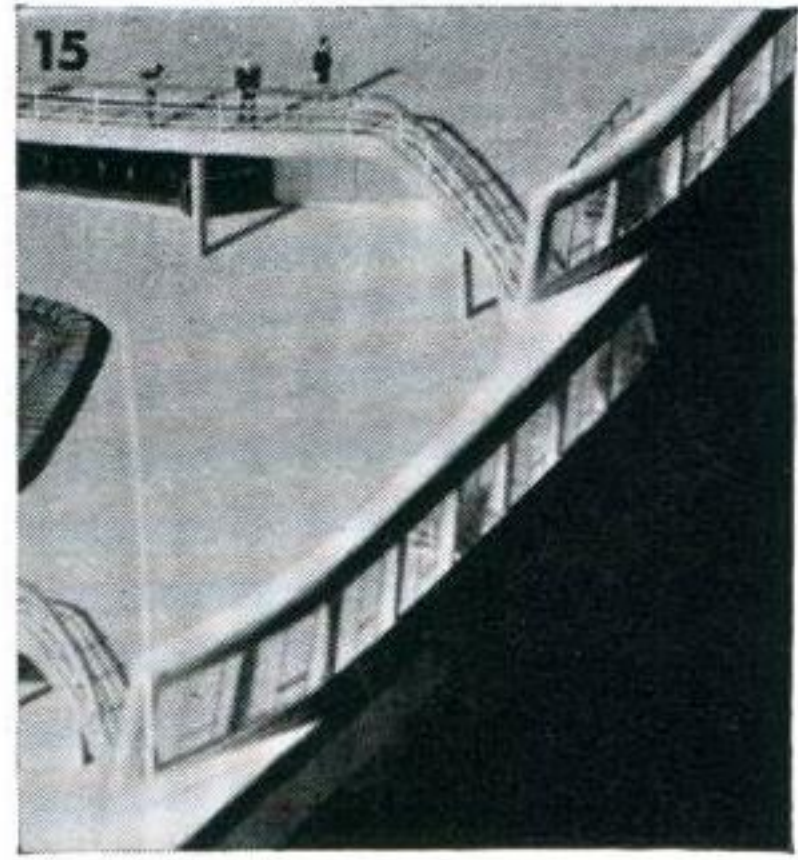
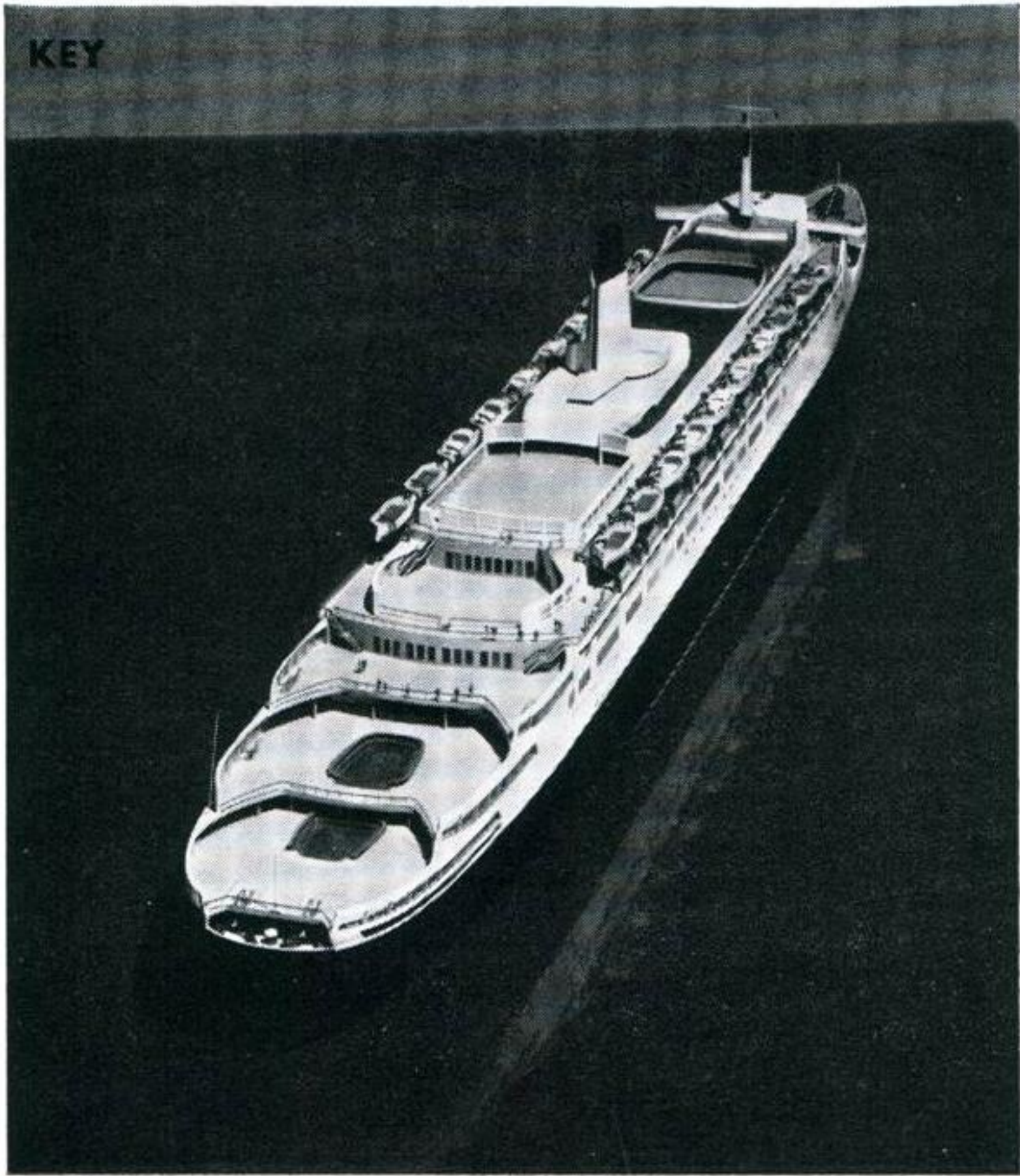
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KEY



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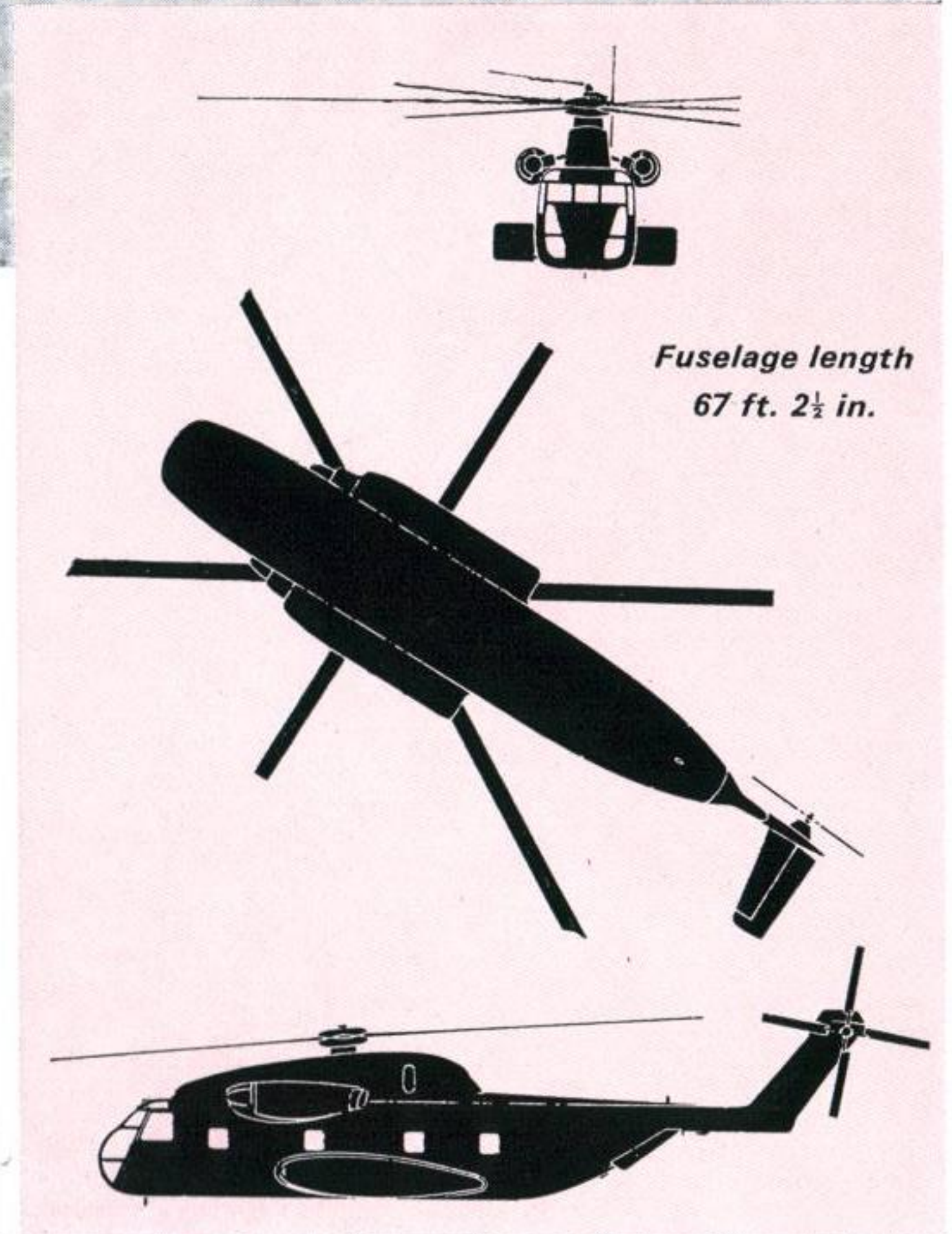




HH-53B minus flight refuelling probe

SIKORSKY S-65

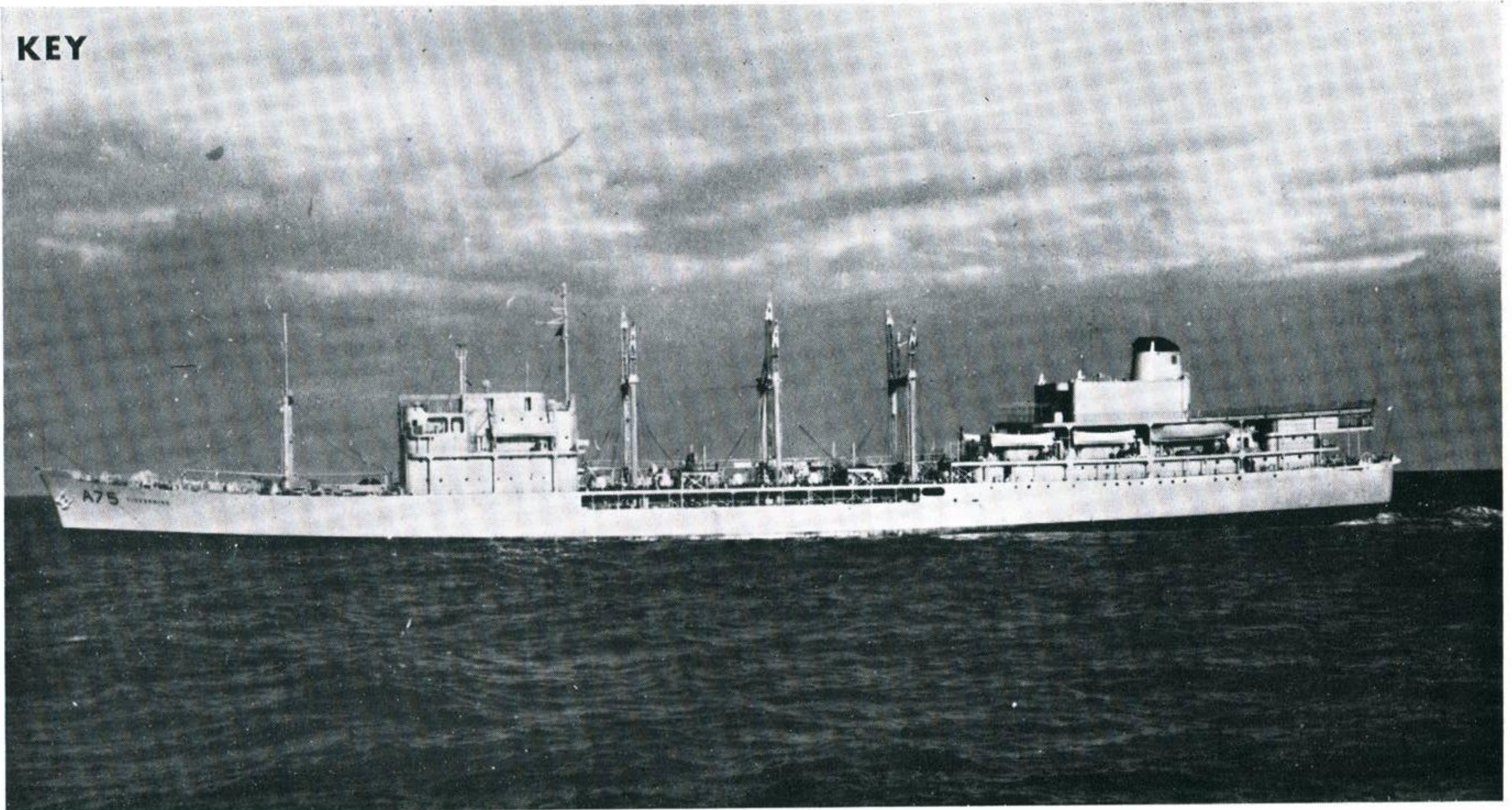
The two versions of the Sikorsky S-65 helicopter, the CH-53A and HH-53B, are respectively the U.S. Marine Corps heavy assault helicopter—also known as Sea Stallion—and the U.S.A.F. combat aircrew rescue version. Both types are powered by General Electric T64 turboshaft engines and are in service in Vietnam. The HH-53B—popularly known as the “Super Jolly Green Giant”—features a retractable flight refuelling probe (not always fitted to early examples), jettisonable auxiliary fuel tanks, rescue hoist and defensive armament. To learn these helicopters work to the instructions on page 33 and report all targets as S-65—or otherwise if jokers. Solutions on the cover.



HH-53B



KEY



FLEET REPLENISHMENT OILER TIDESPRING

This vessel and her immediate sister *Tidepool* belong to the later "Tide Class" tankers of the Royal Fleet Auxiliary. She and her four earlier consorts, one of which is now *Supply* of the Royal Australian Navy, were designed for Fleet replenishment under way and apart from fuel oil, their main cargo, they are equipped with derricks and very sophisticated gear for the transference of many kinds of stores. Oil can be discharged at a high rate when steaming in company with vessels on either beam or astern.

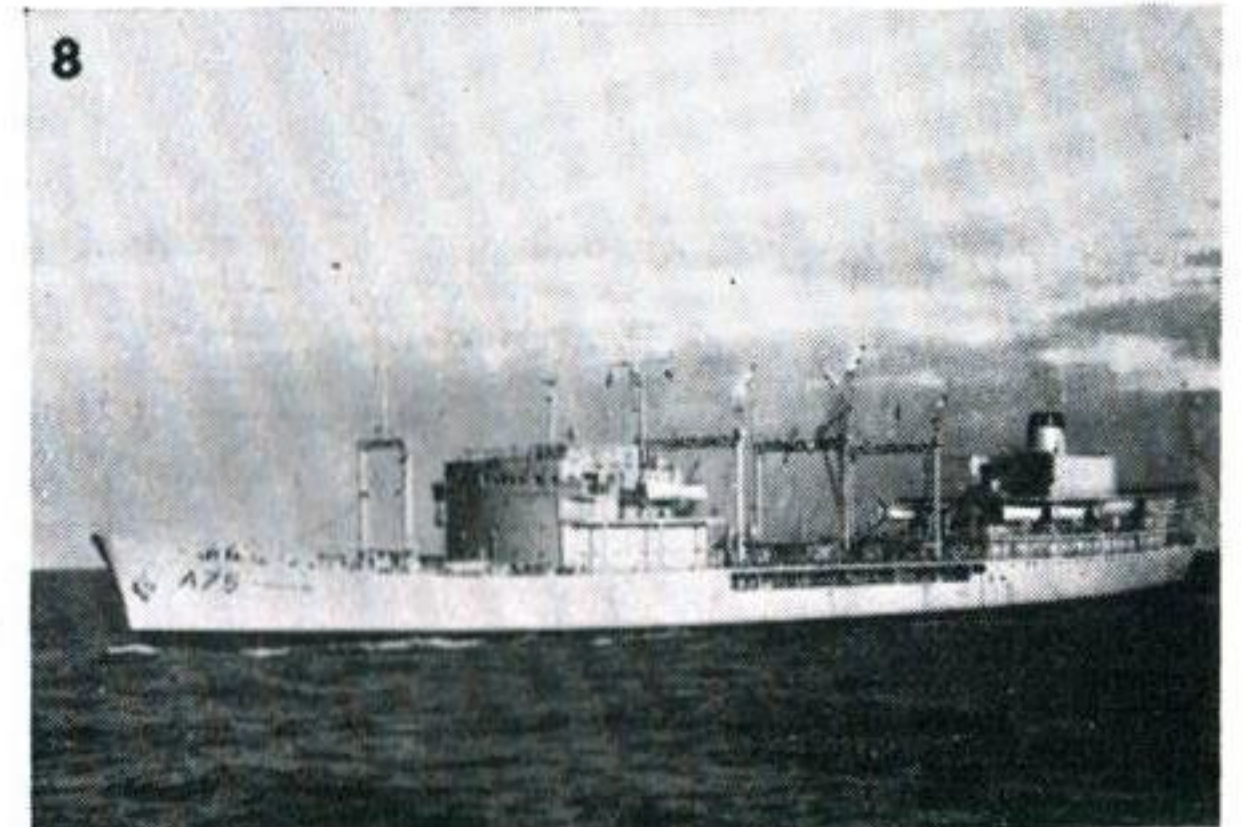
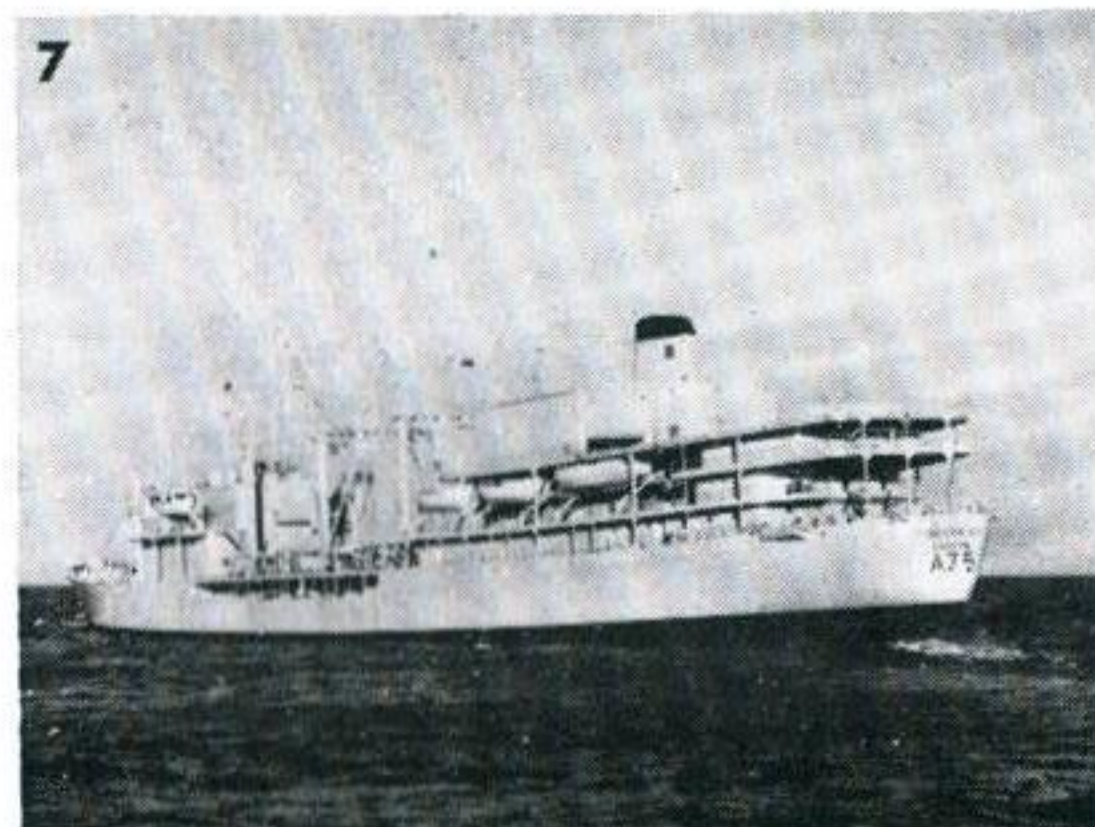
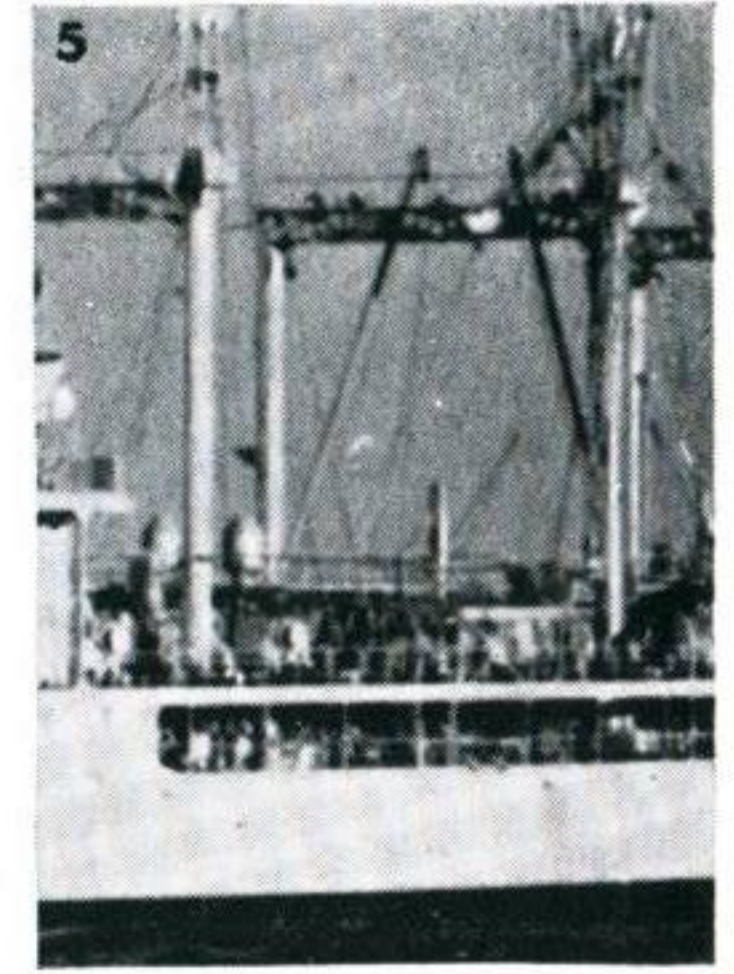
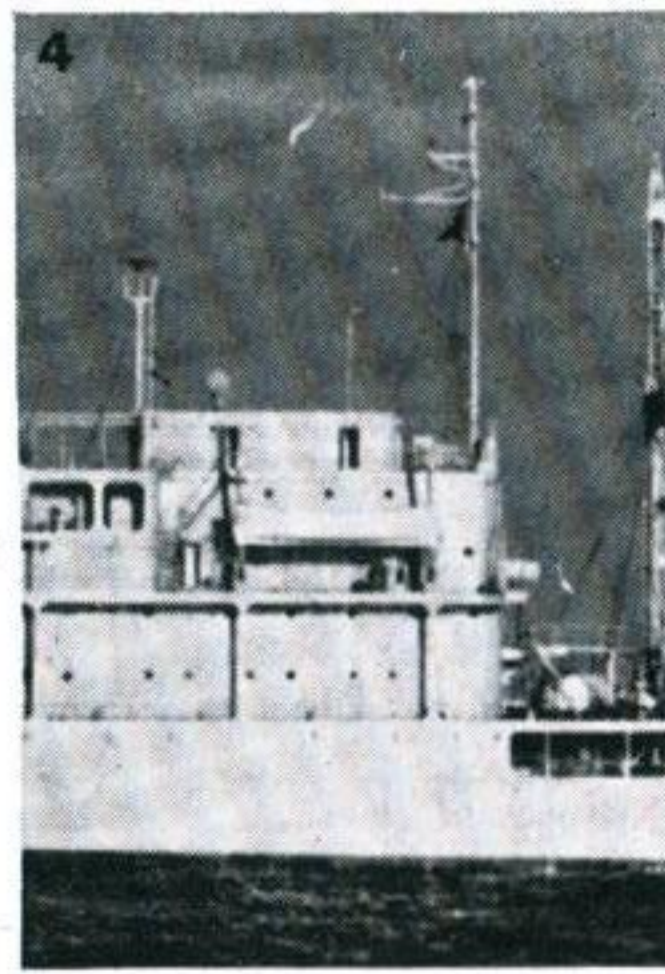
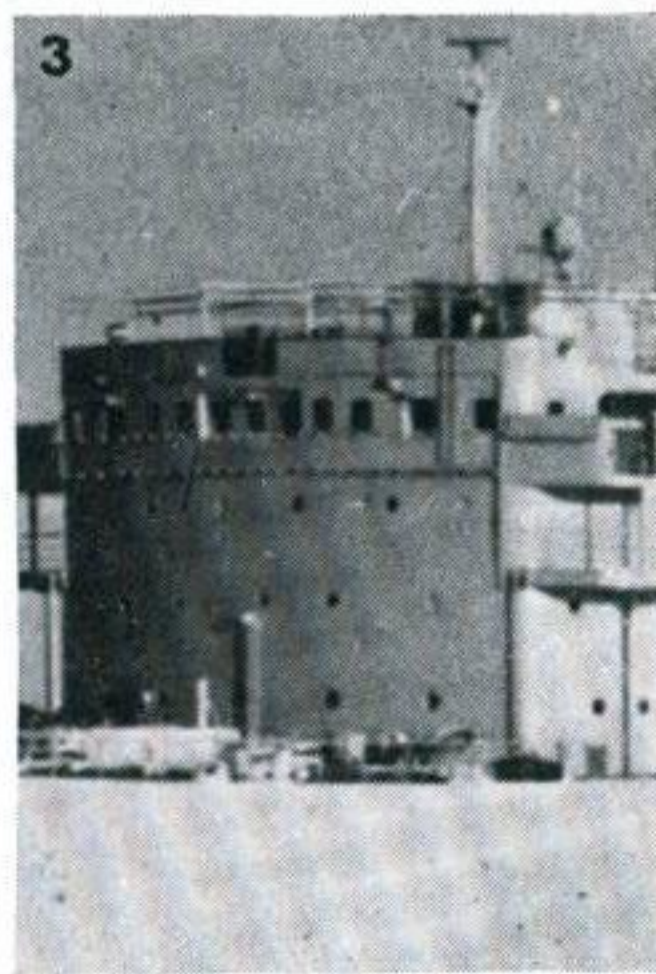
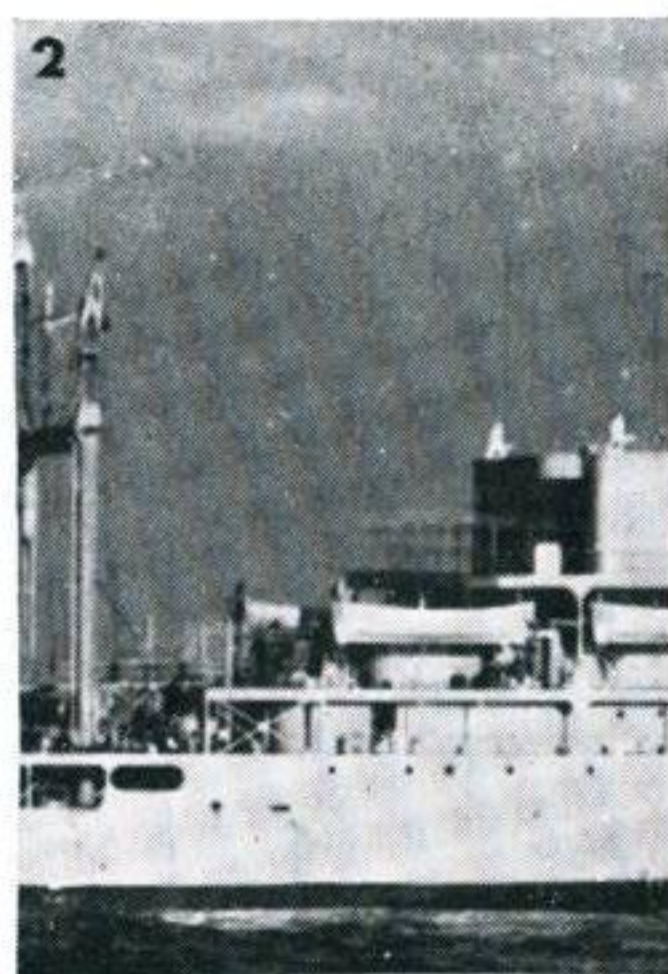
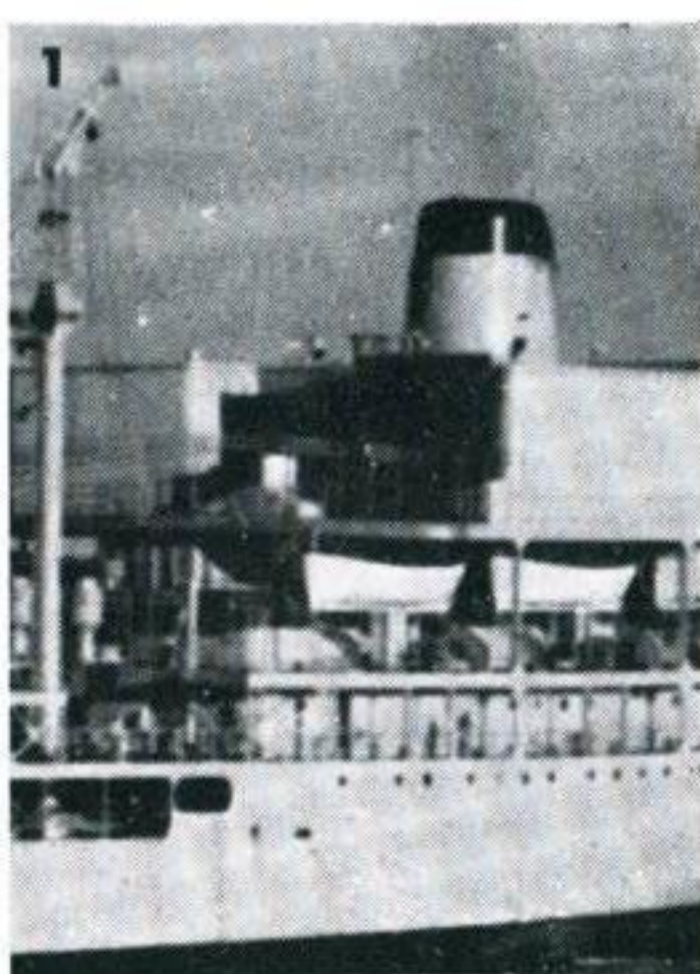
Tidespring—Pennant number A75—is of 8,500 tons light displacement and 25,900 full displacement, giving a deadweight of

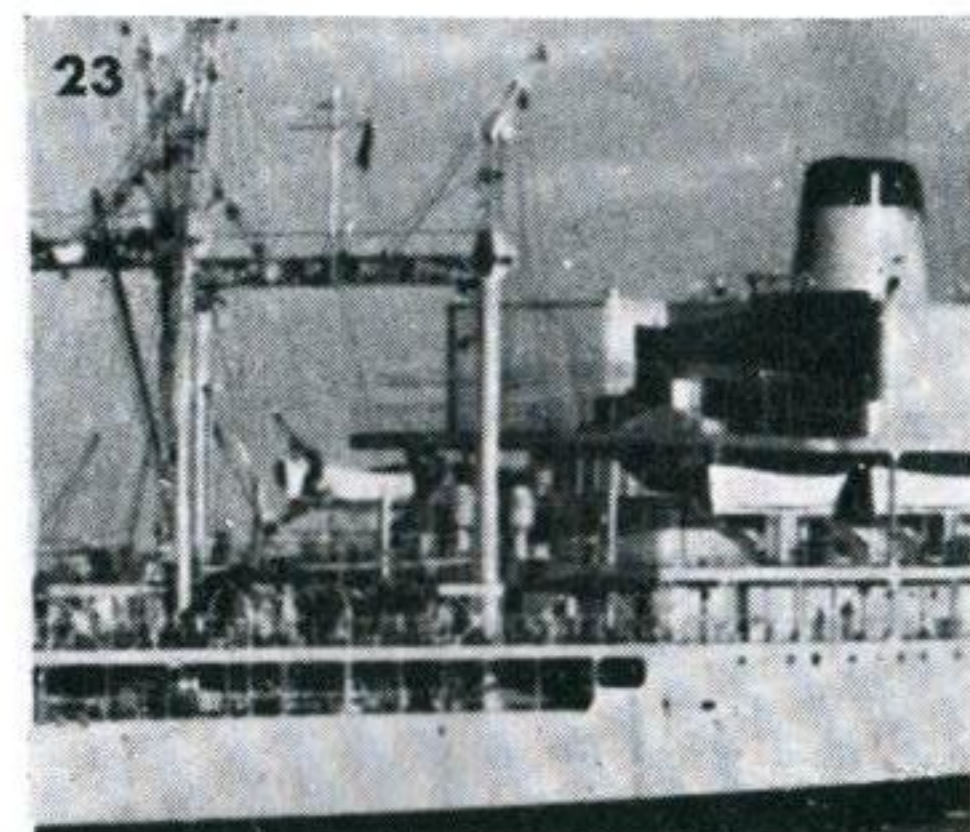
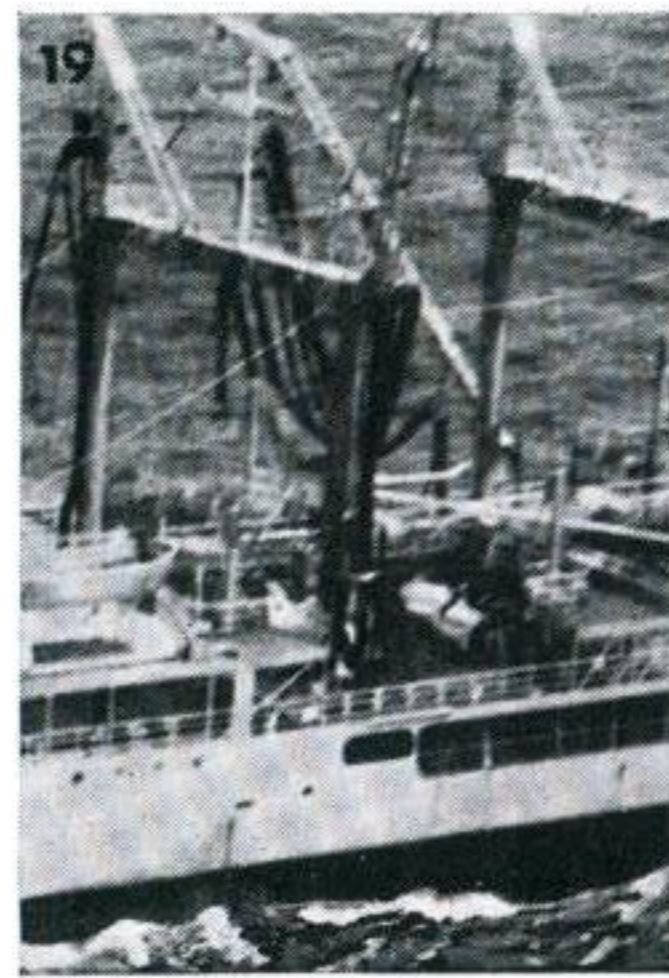
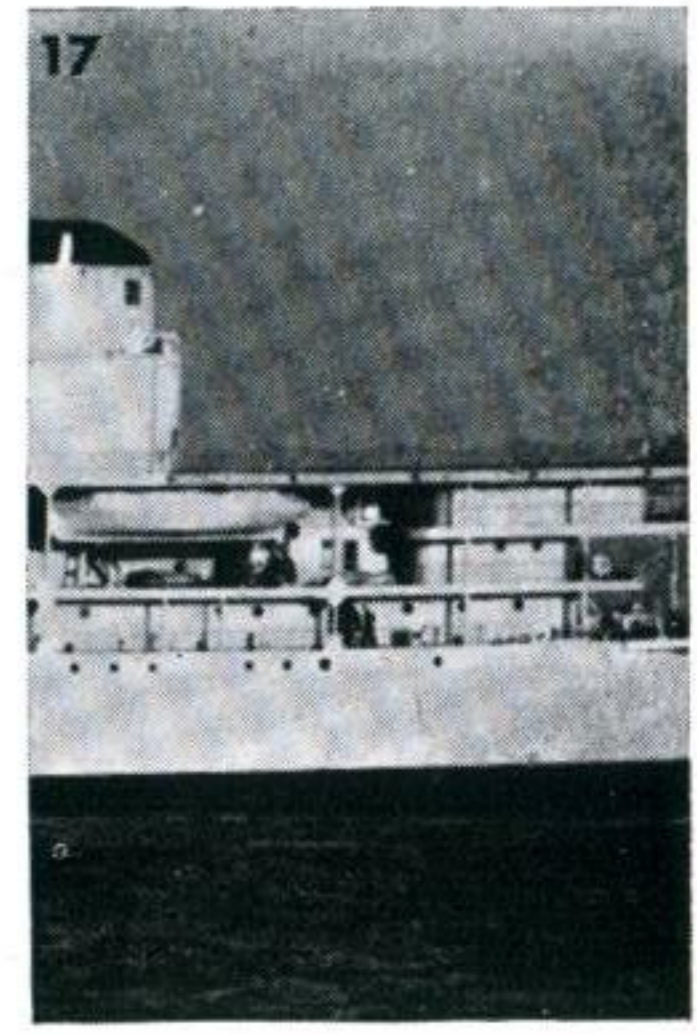
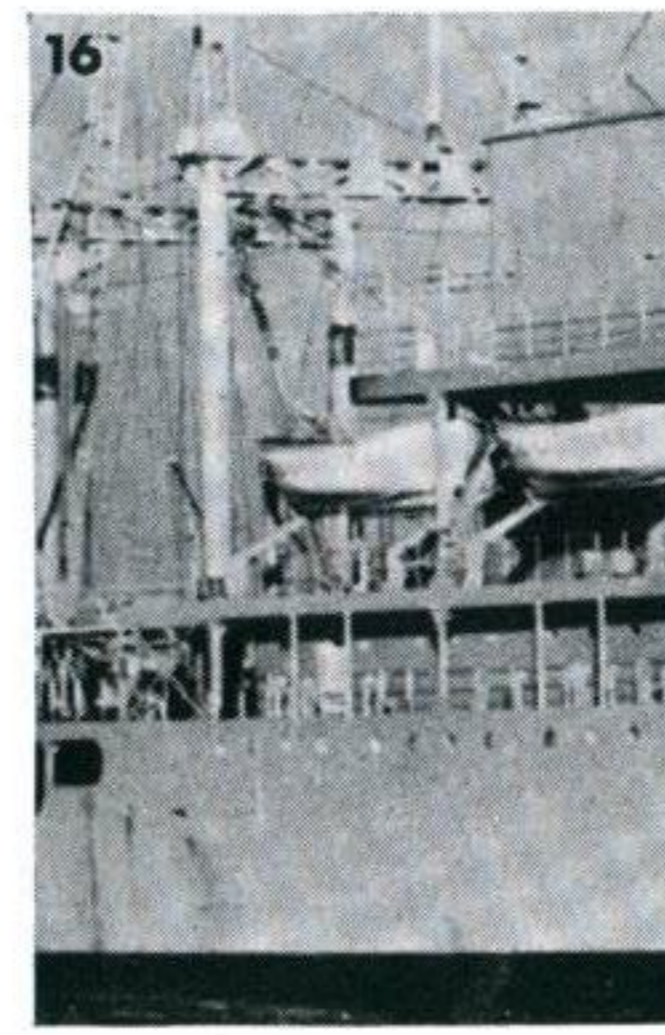
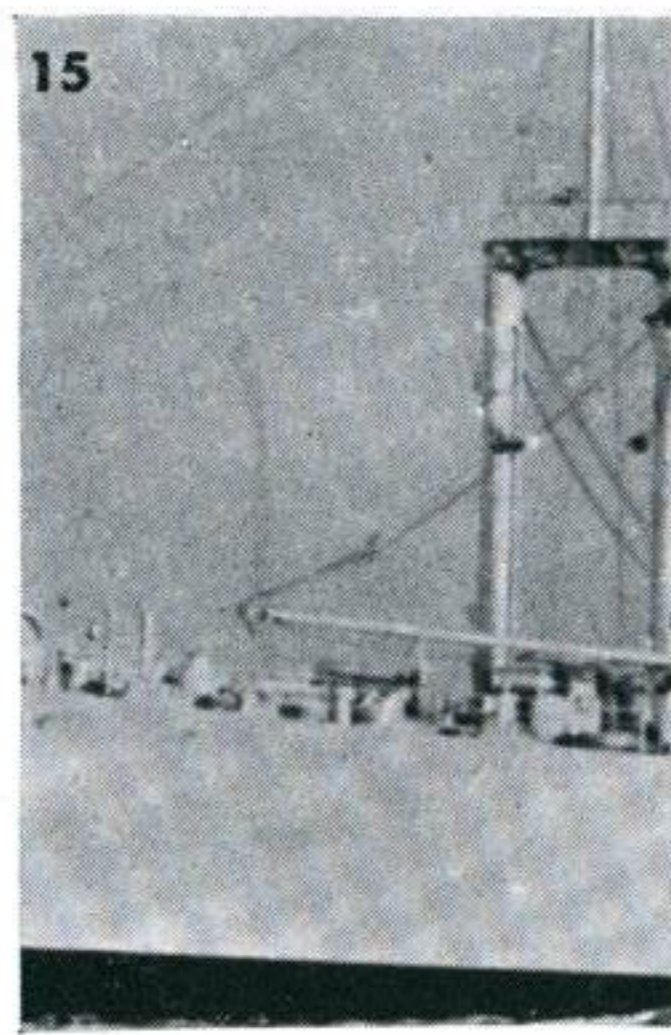
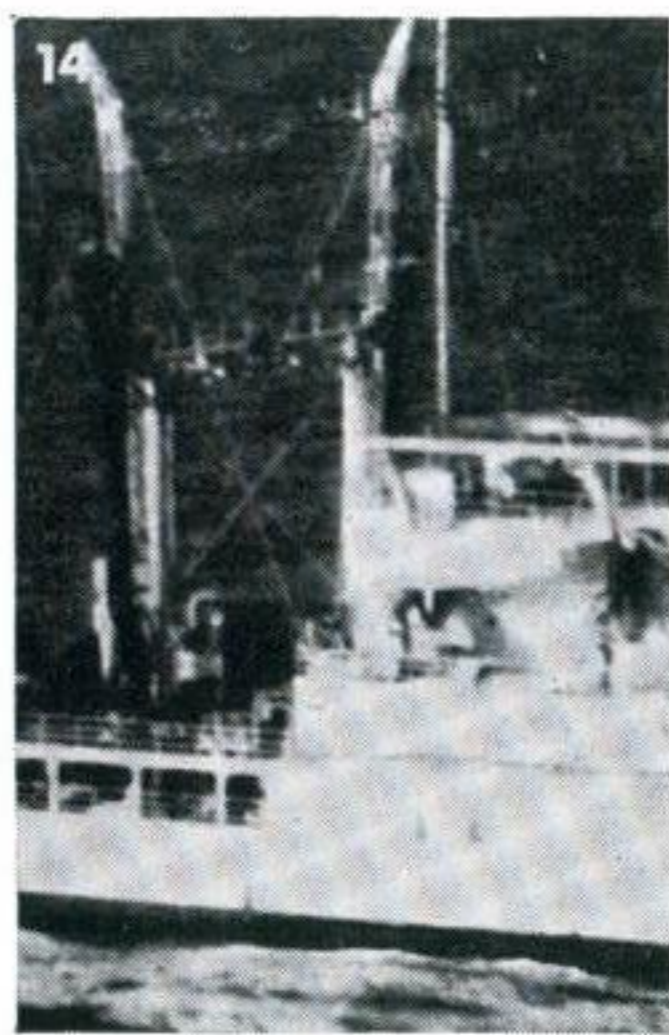
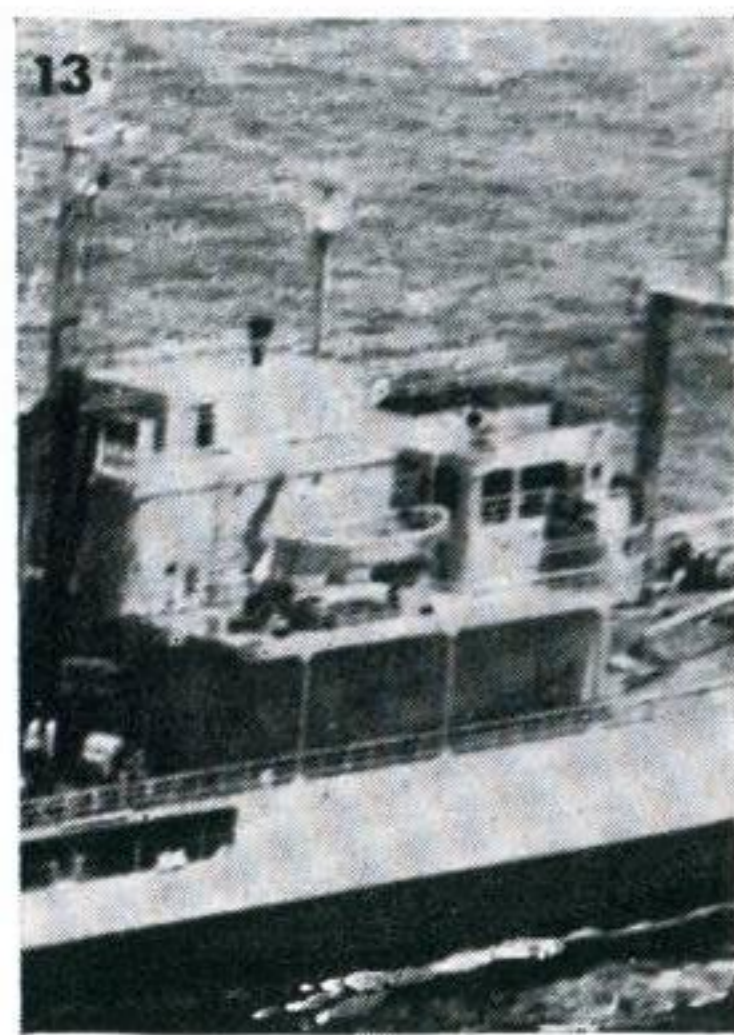
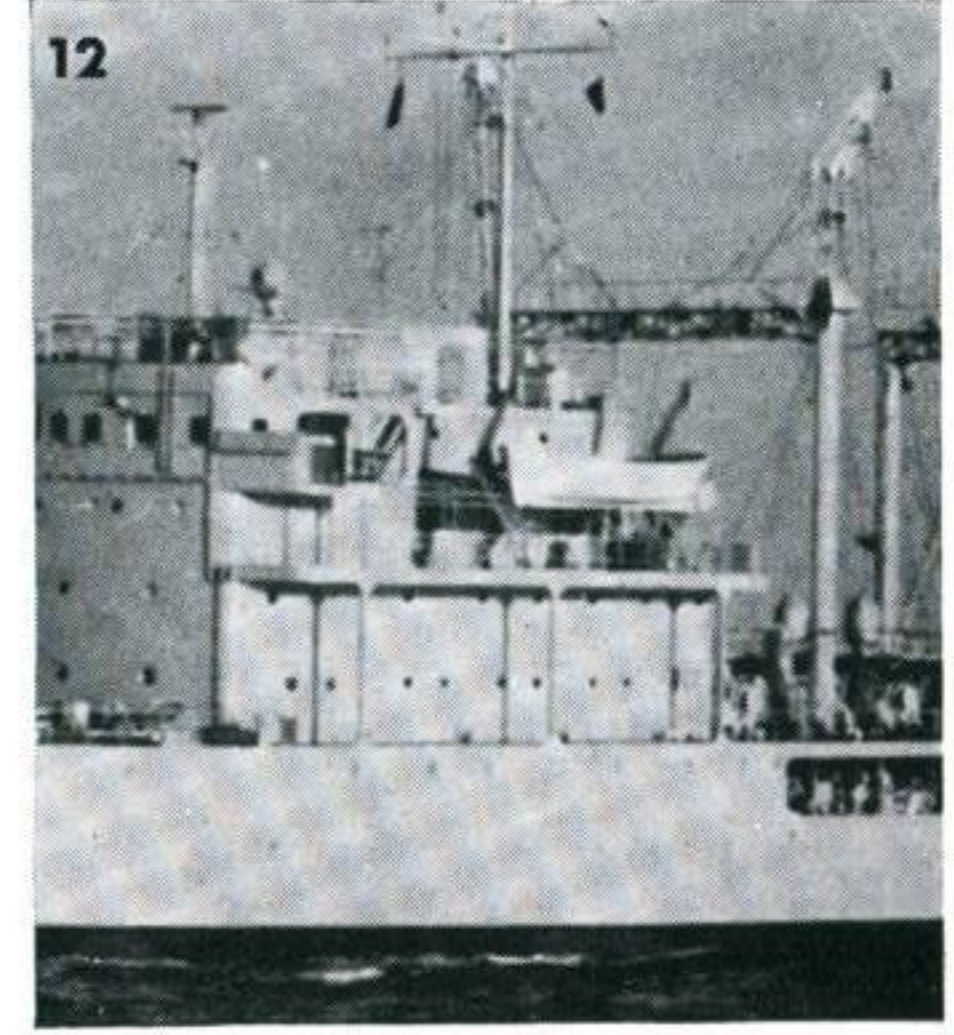
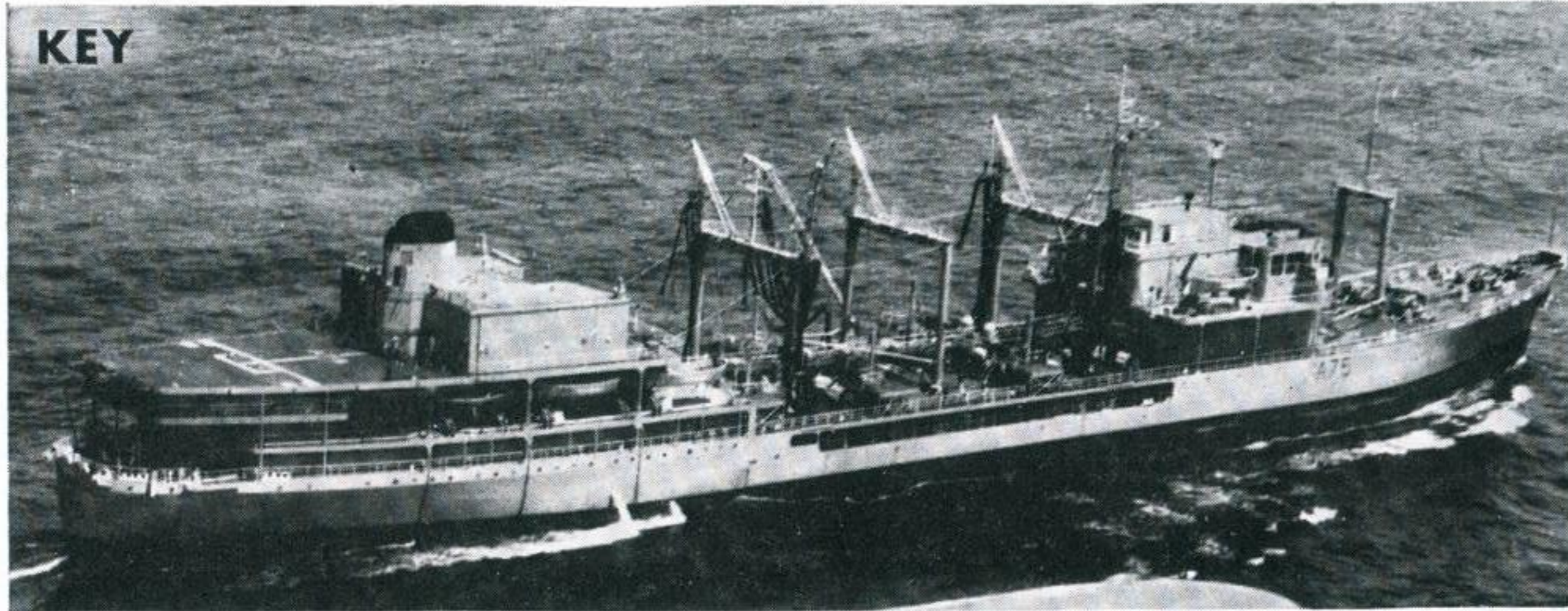
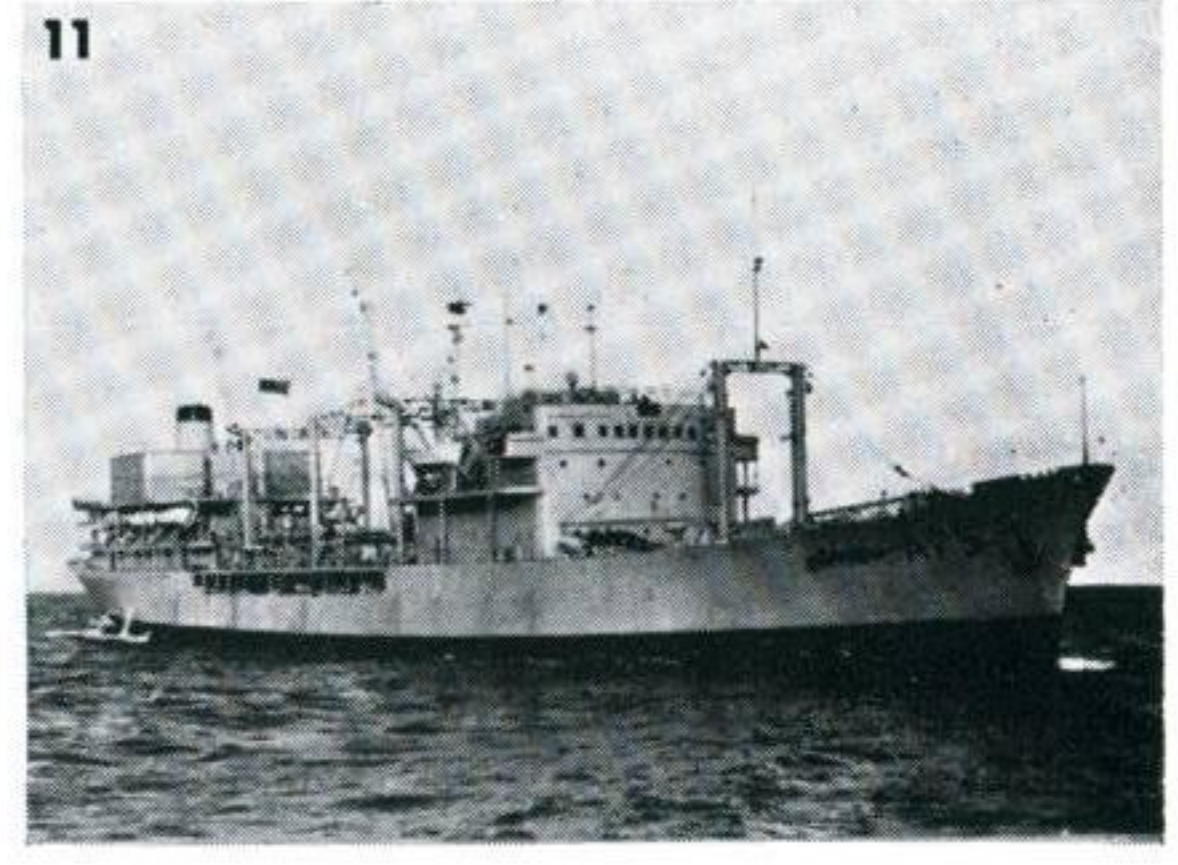
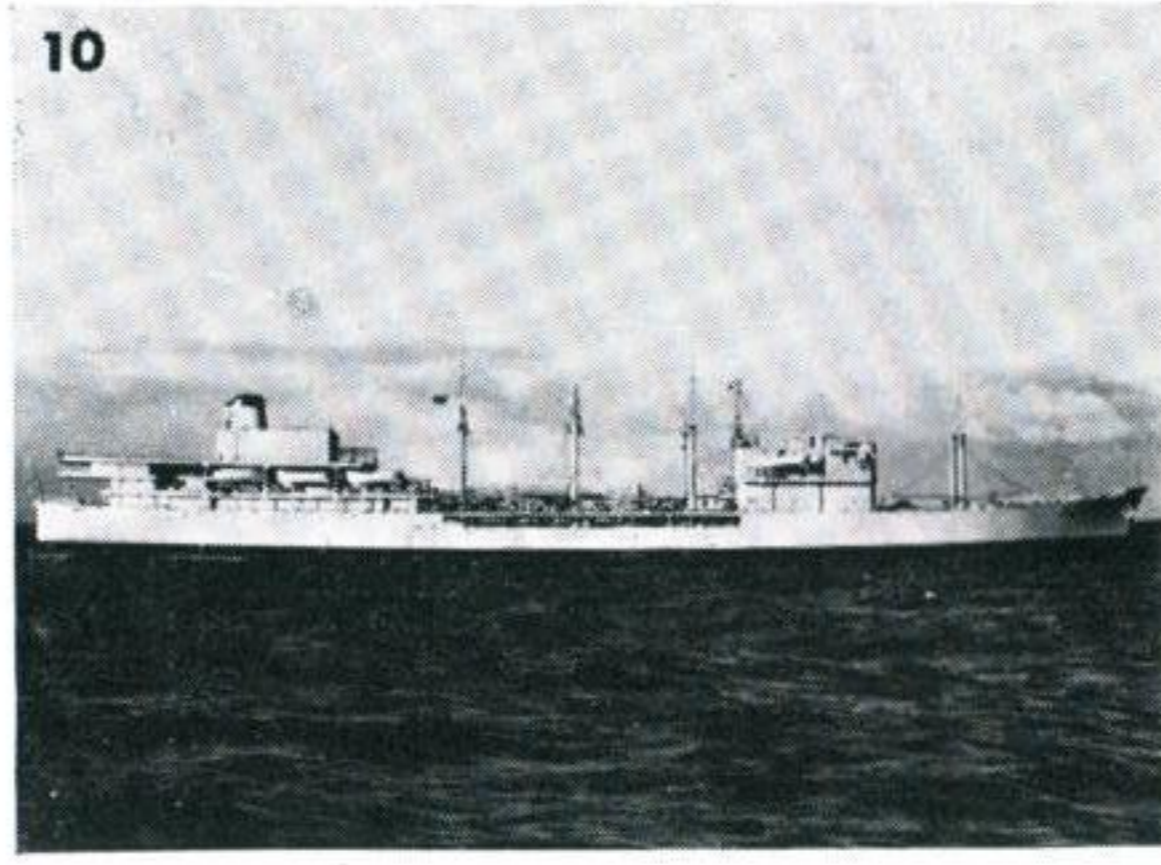
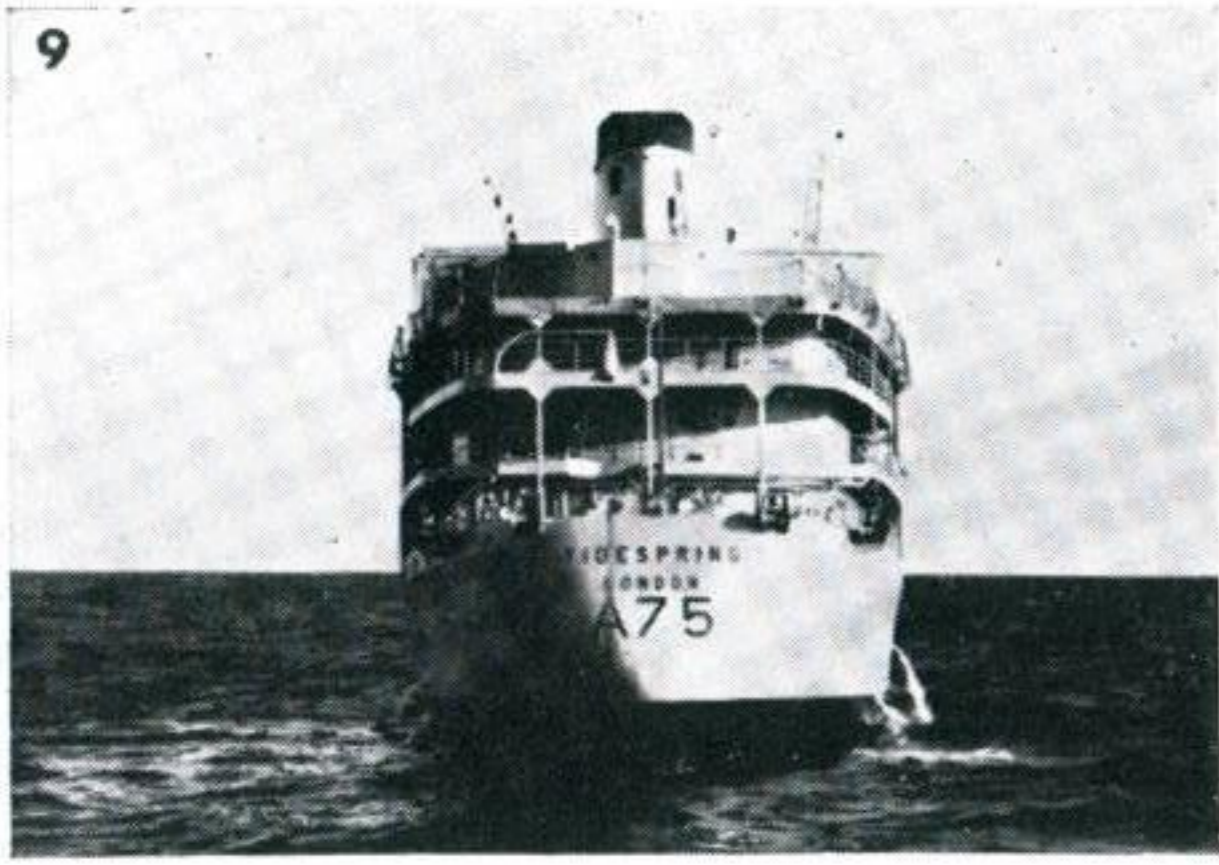
17,400 and a gross tonnage of 14,100. Her length is 589 feet overall and her beam 71 feet. Double-reduction geared turbines give a service speed of 17 knots. Complement is 30 Officers and 85 ratings.

The principal difference between these two ships and their immediate predecessors is that they have a hangar and a helicopter deck.

Ship and engines were built by Hawthorn Leslie and she entered service in 1963.

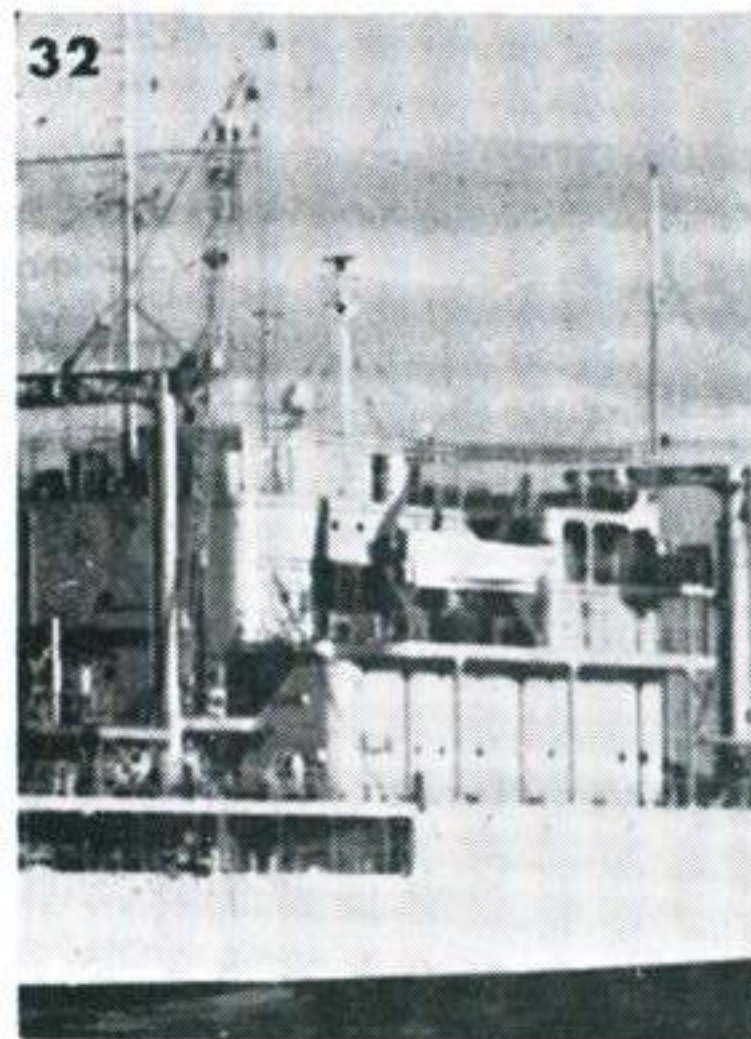
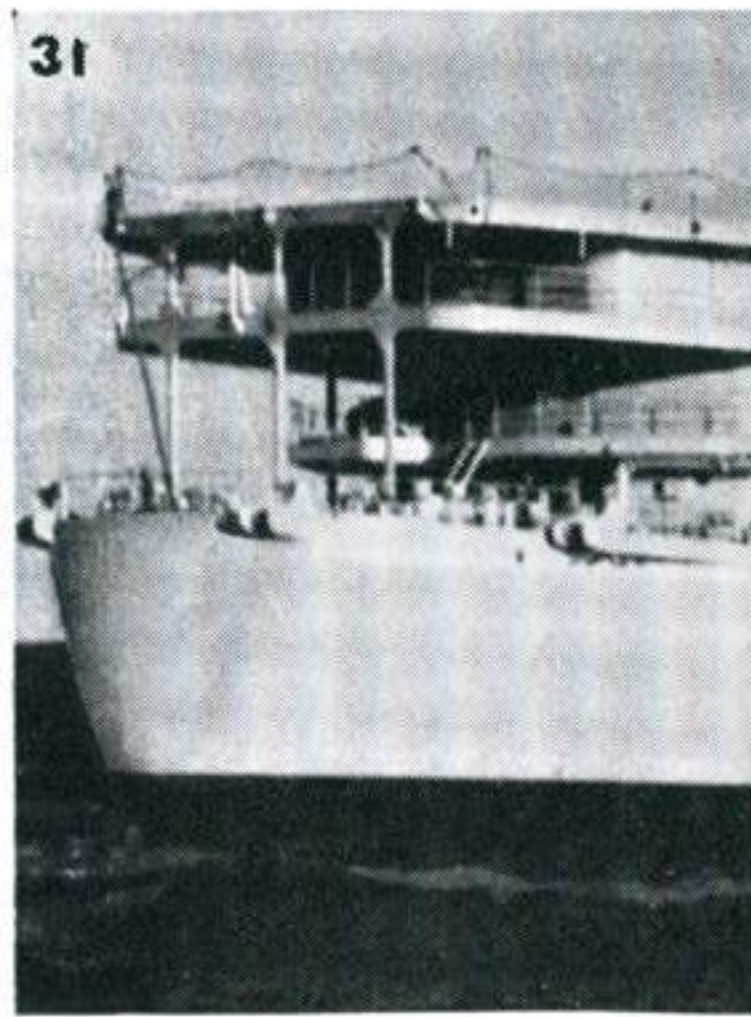
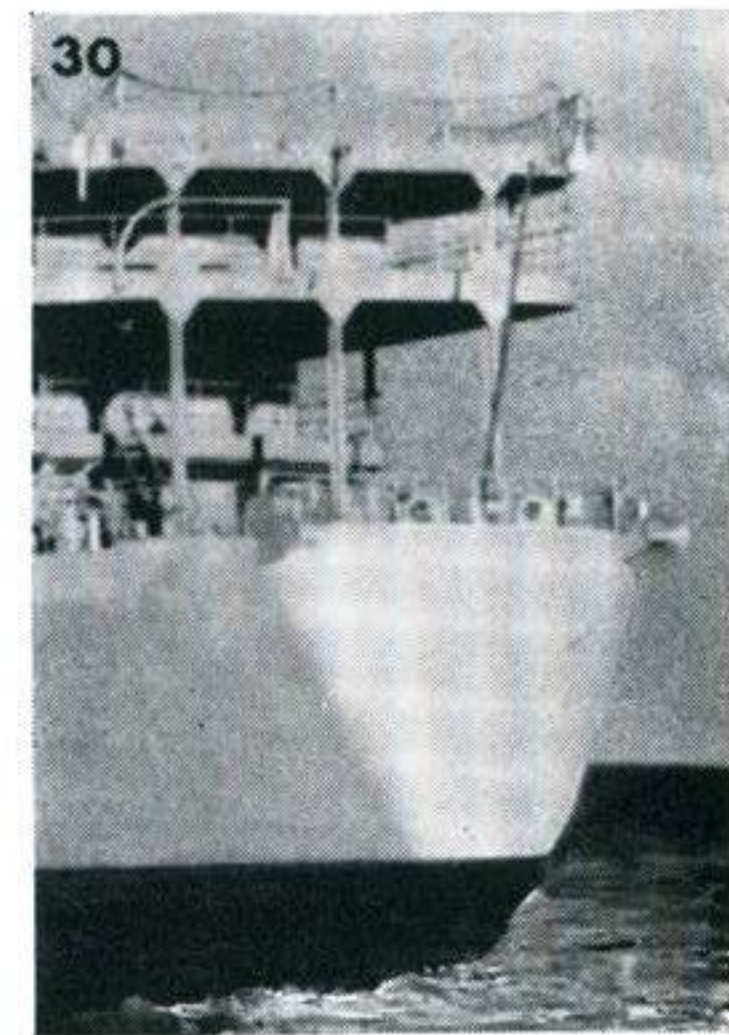
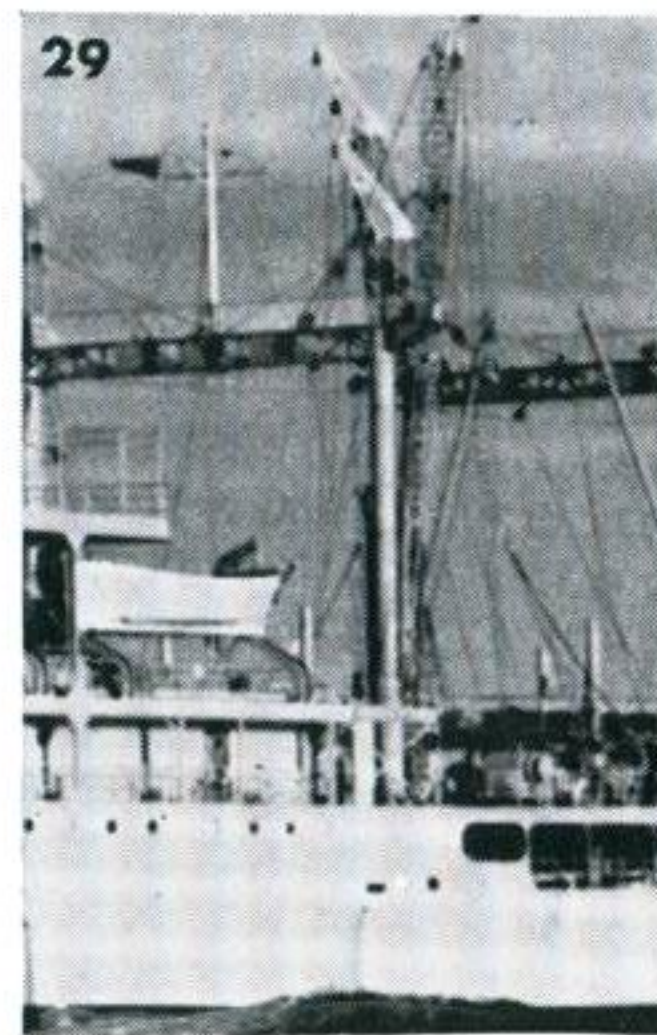
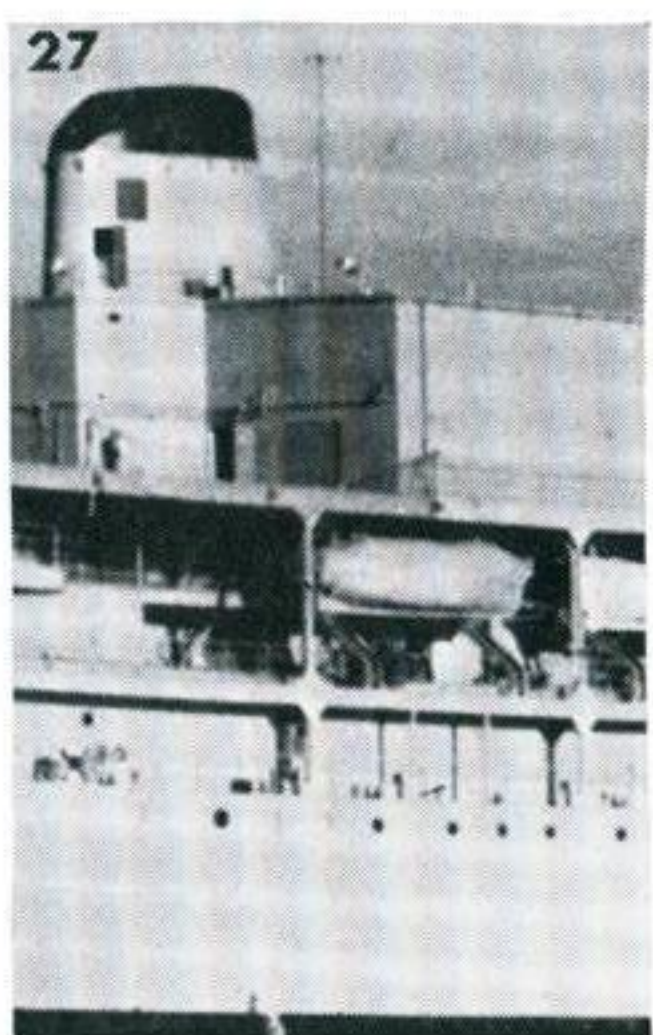
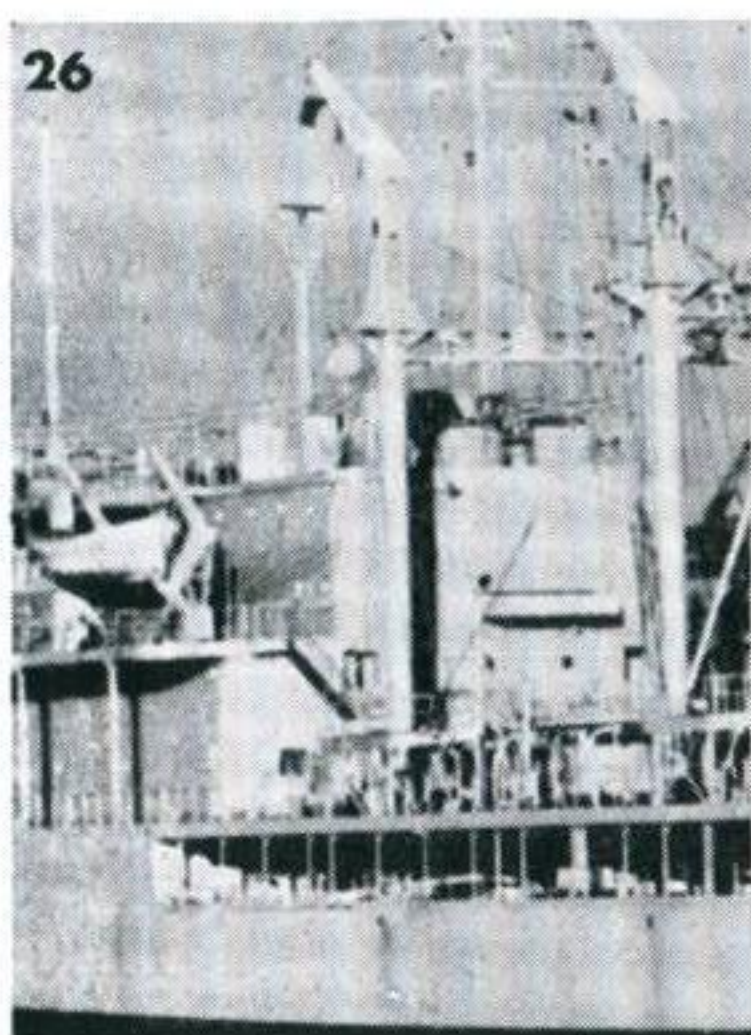
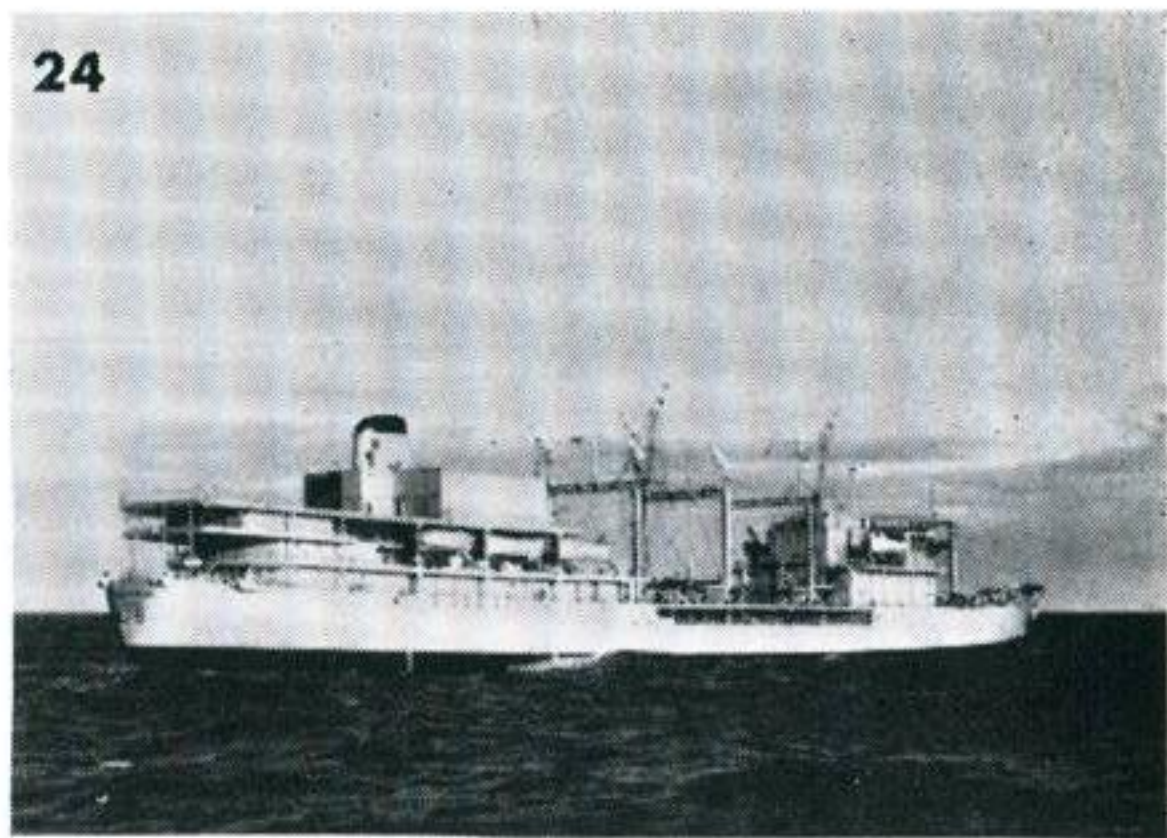
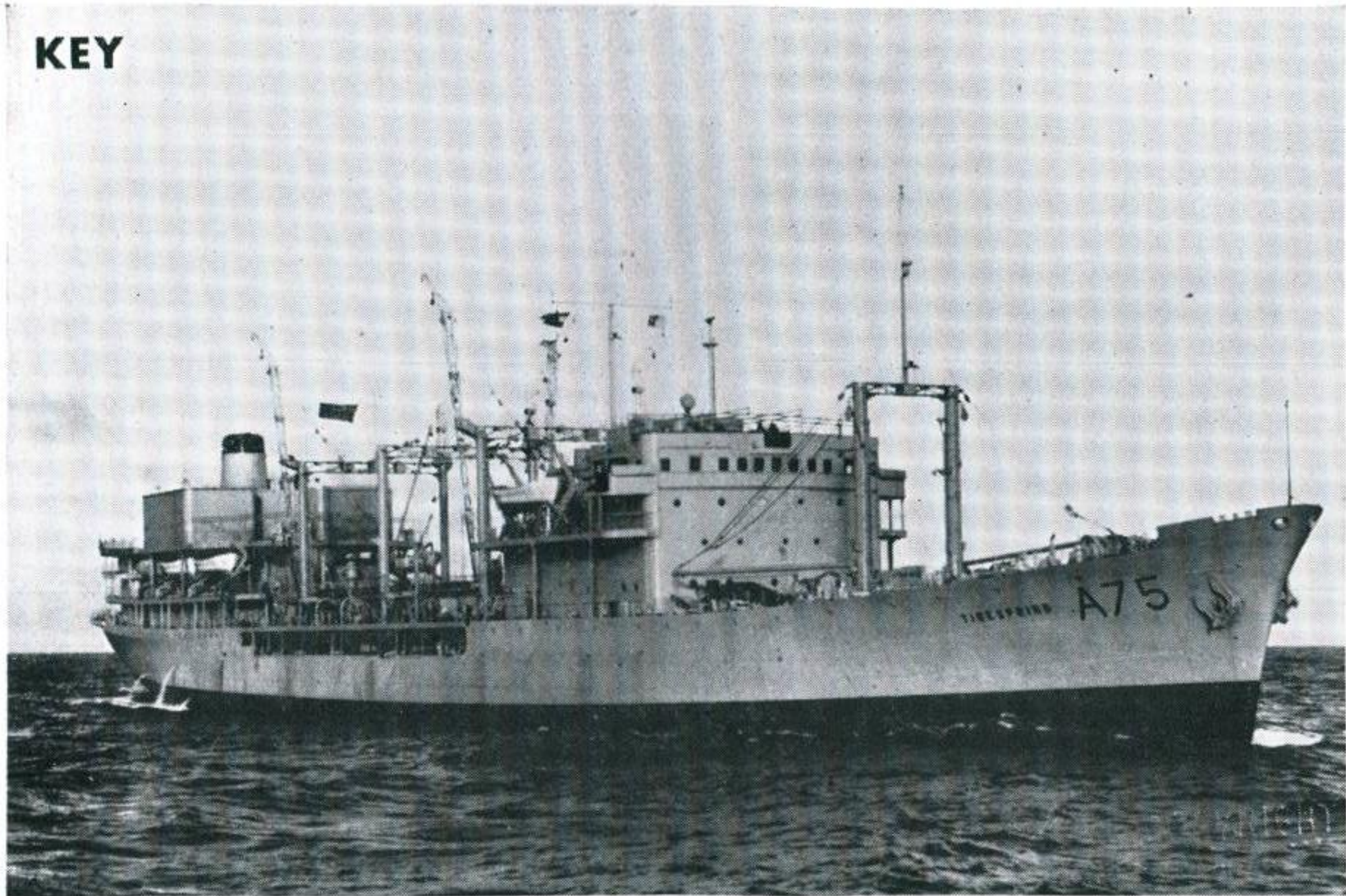
Lesson instructions are on page 33, solutions on the cover.



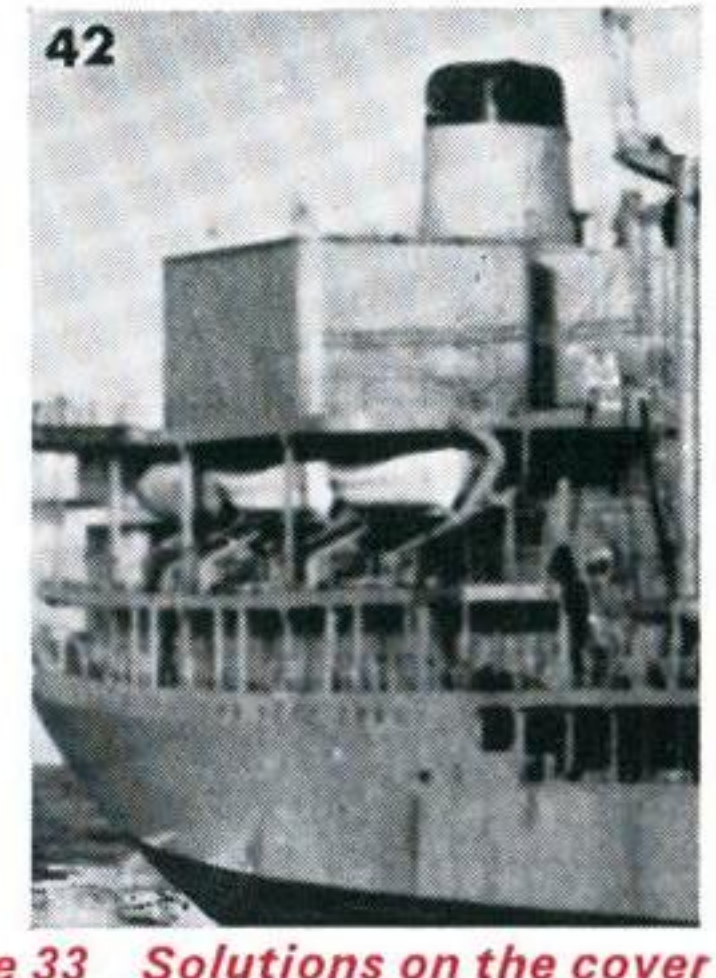
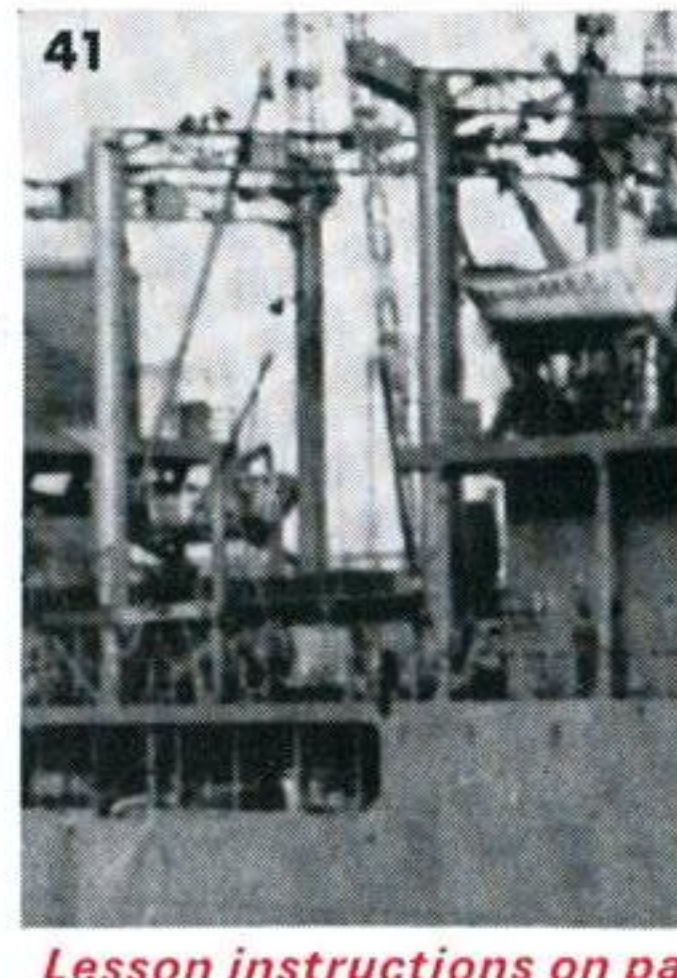
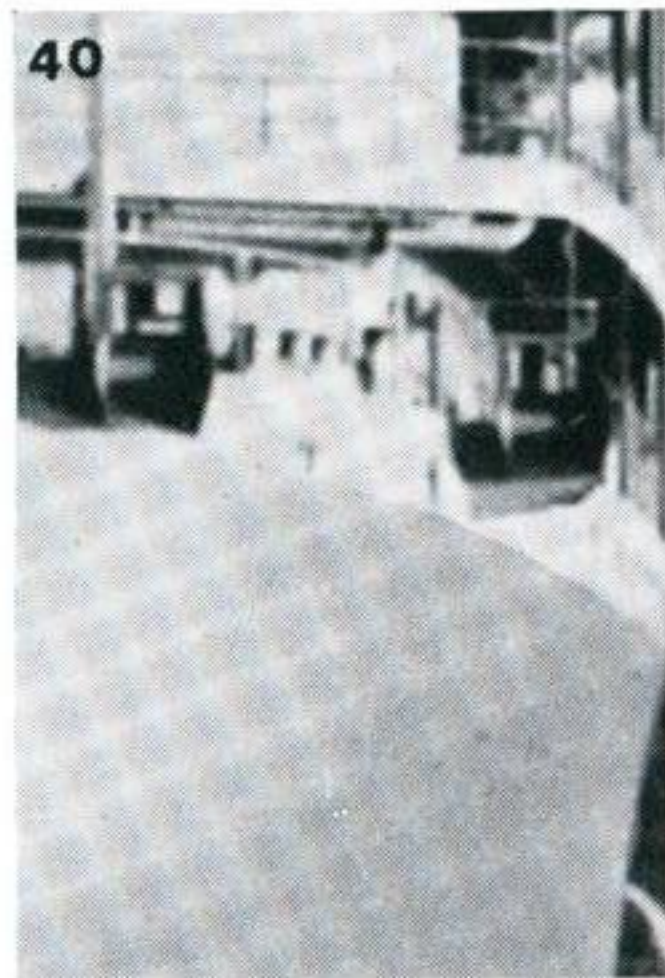
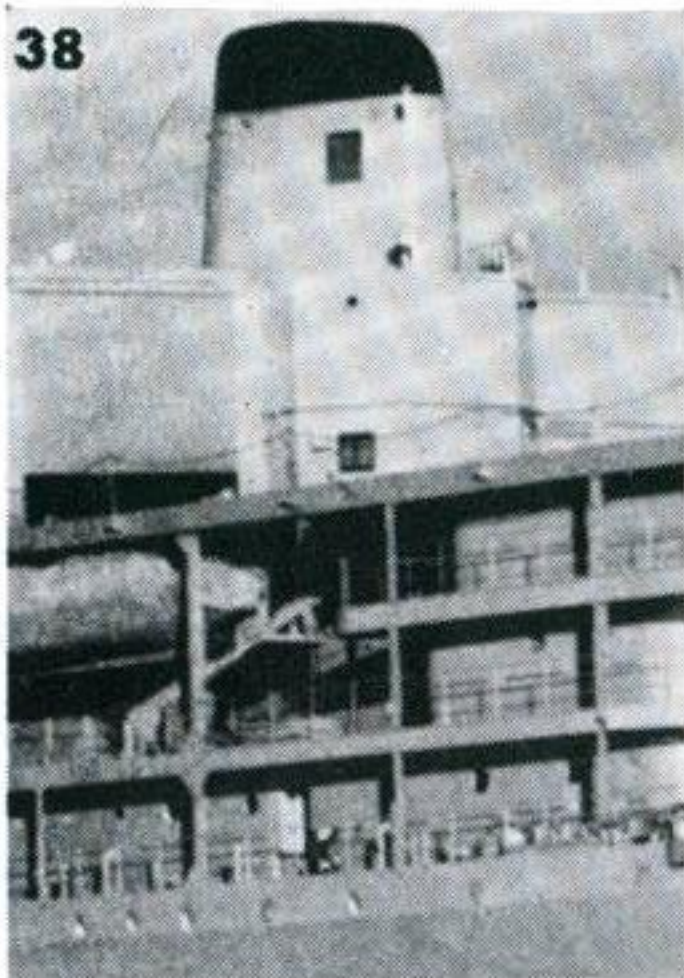
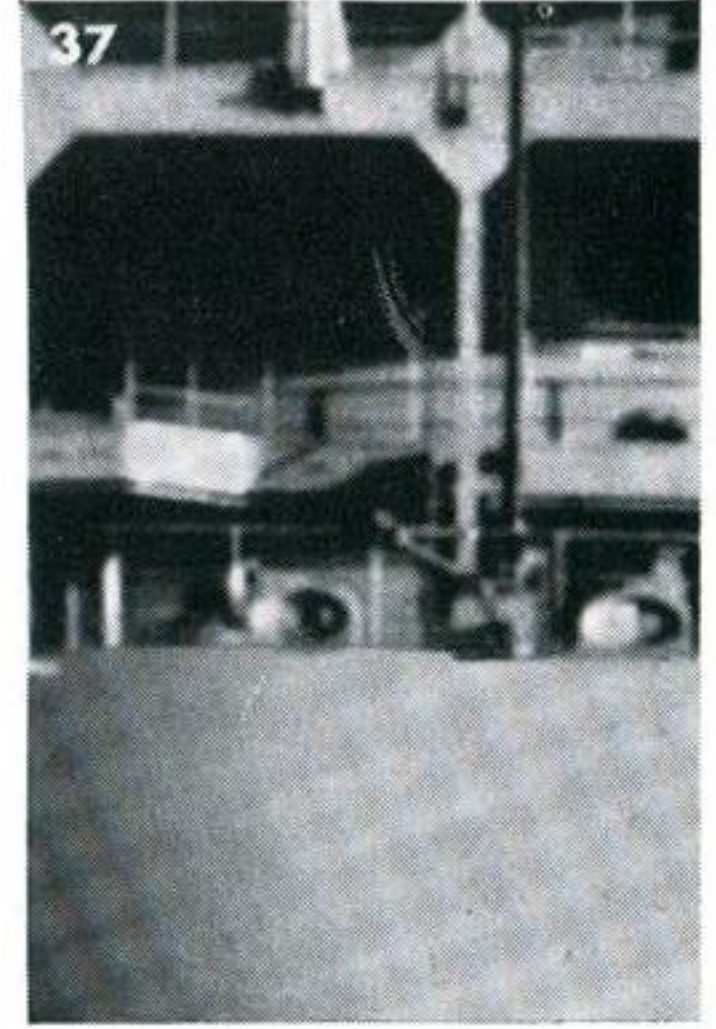
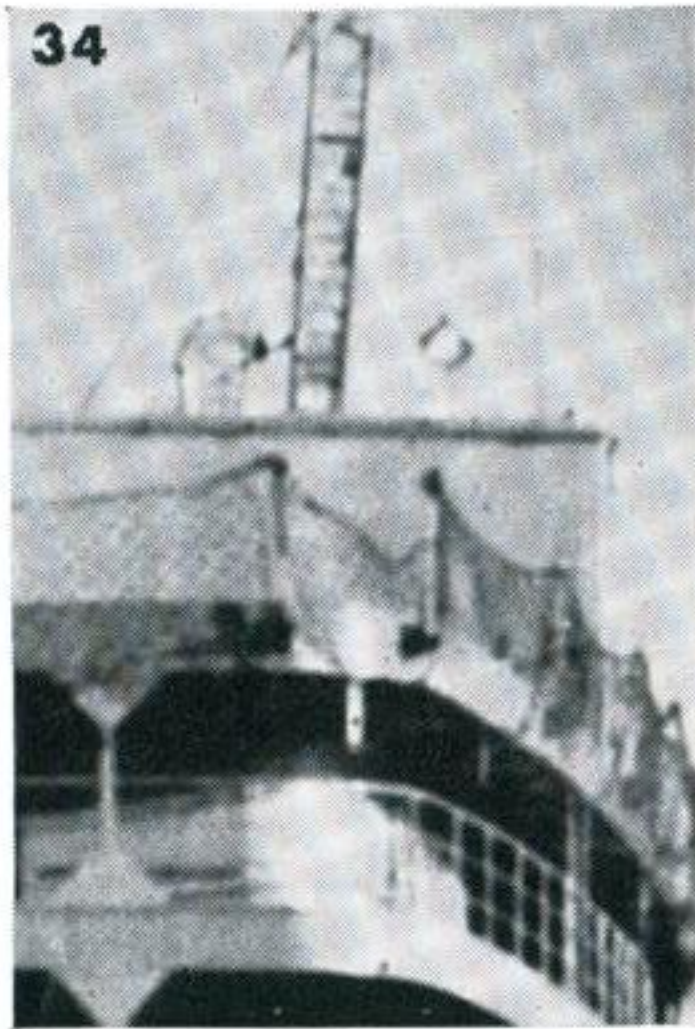
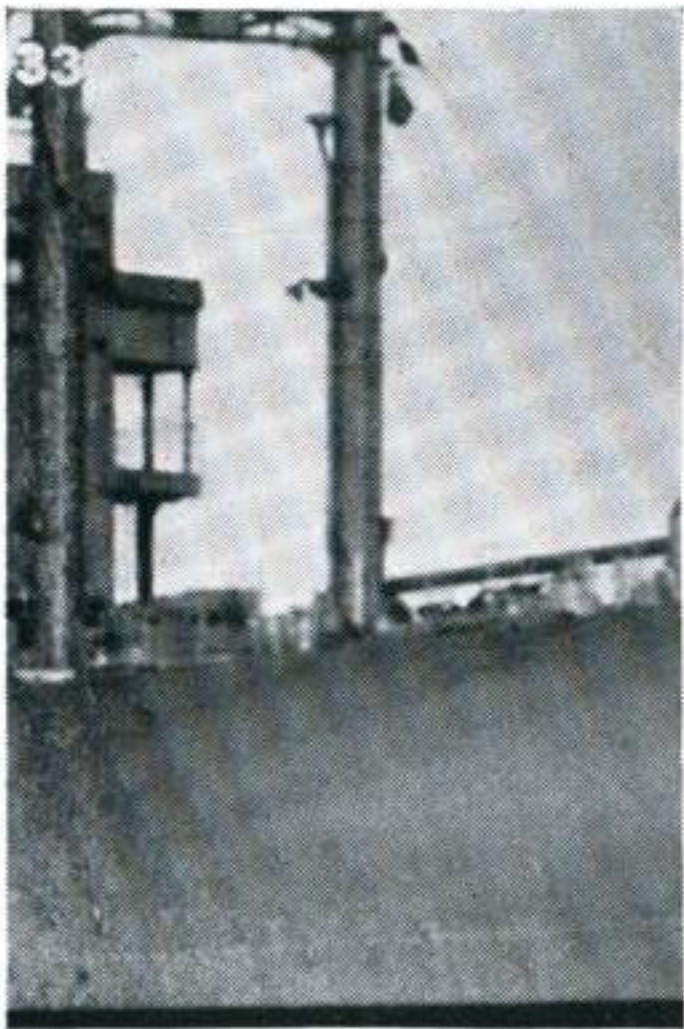
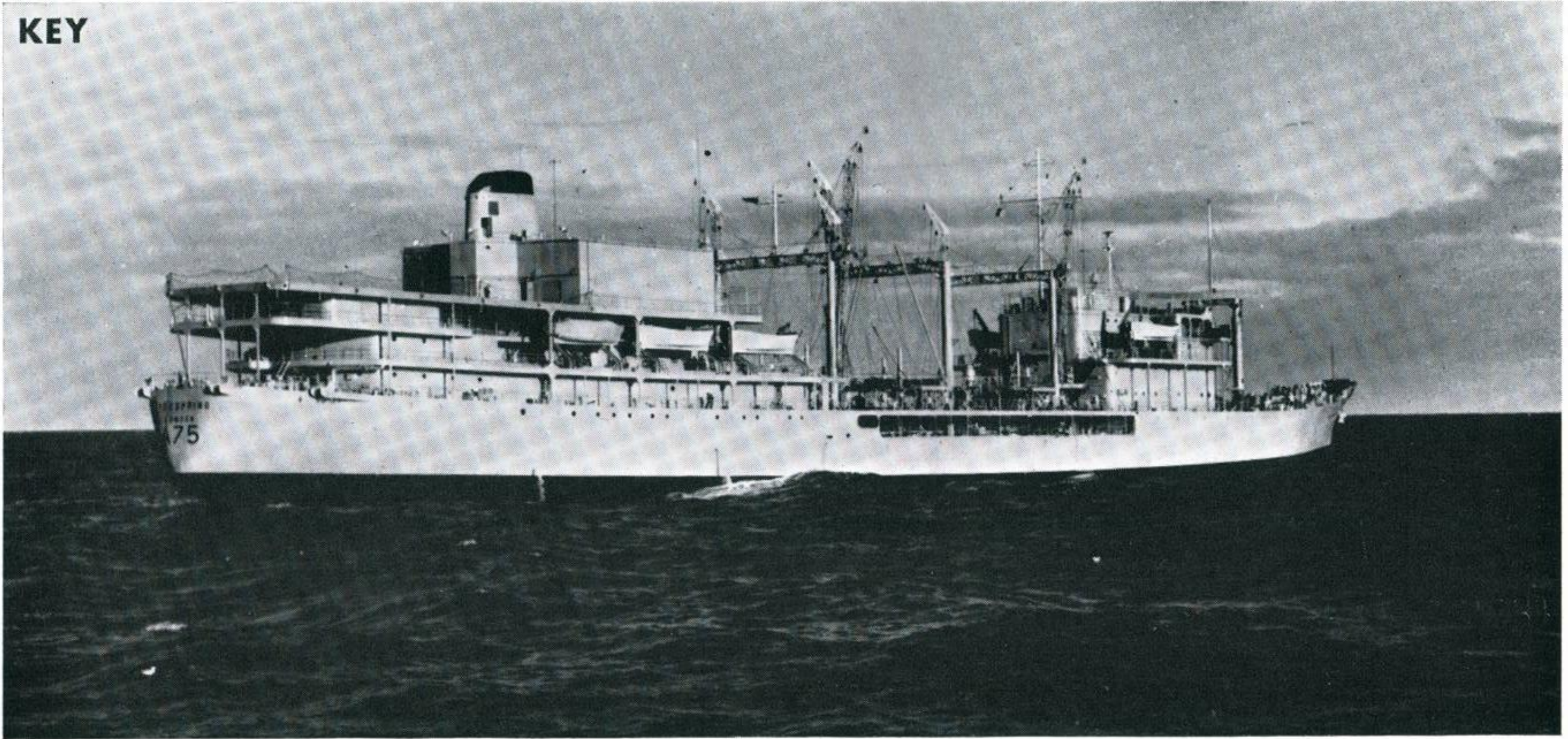


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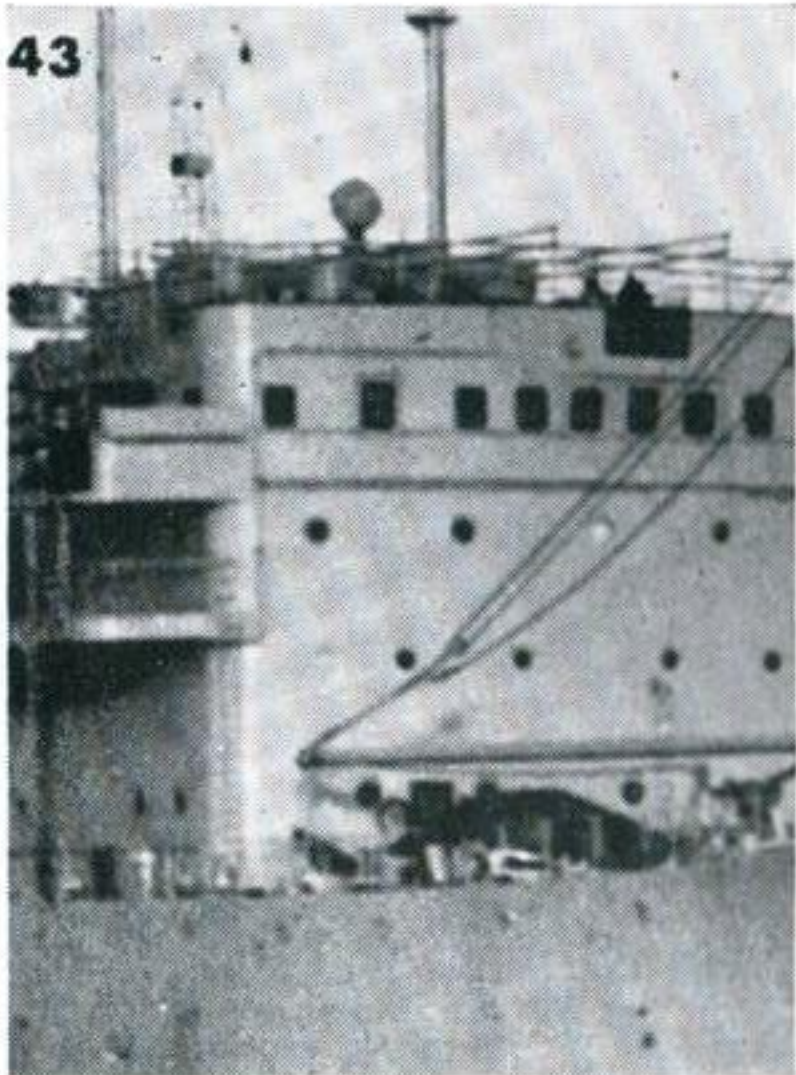
FLEET REPLENISHMENT OILER TIDESPRING *continued*



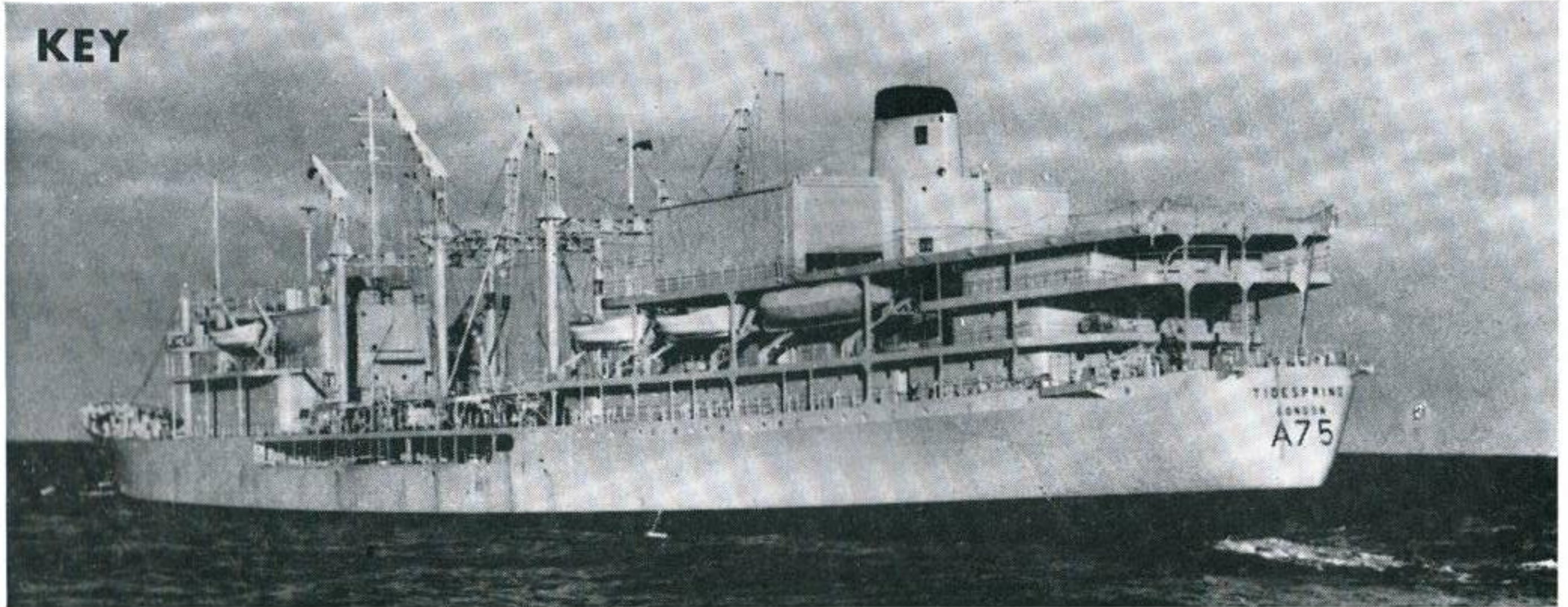
KEY



Lesson instructions on page 33 Solutions on the cover



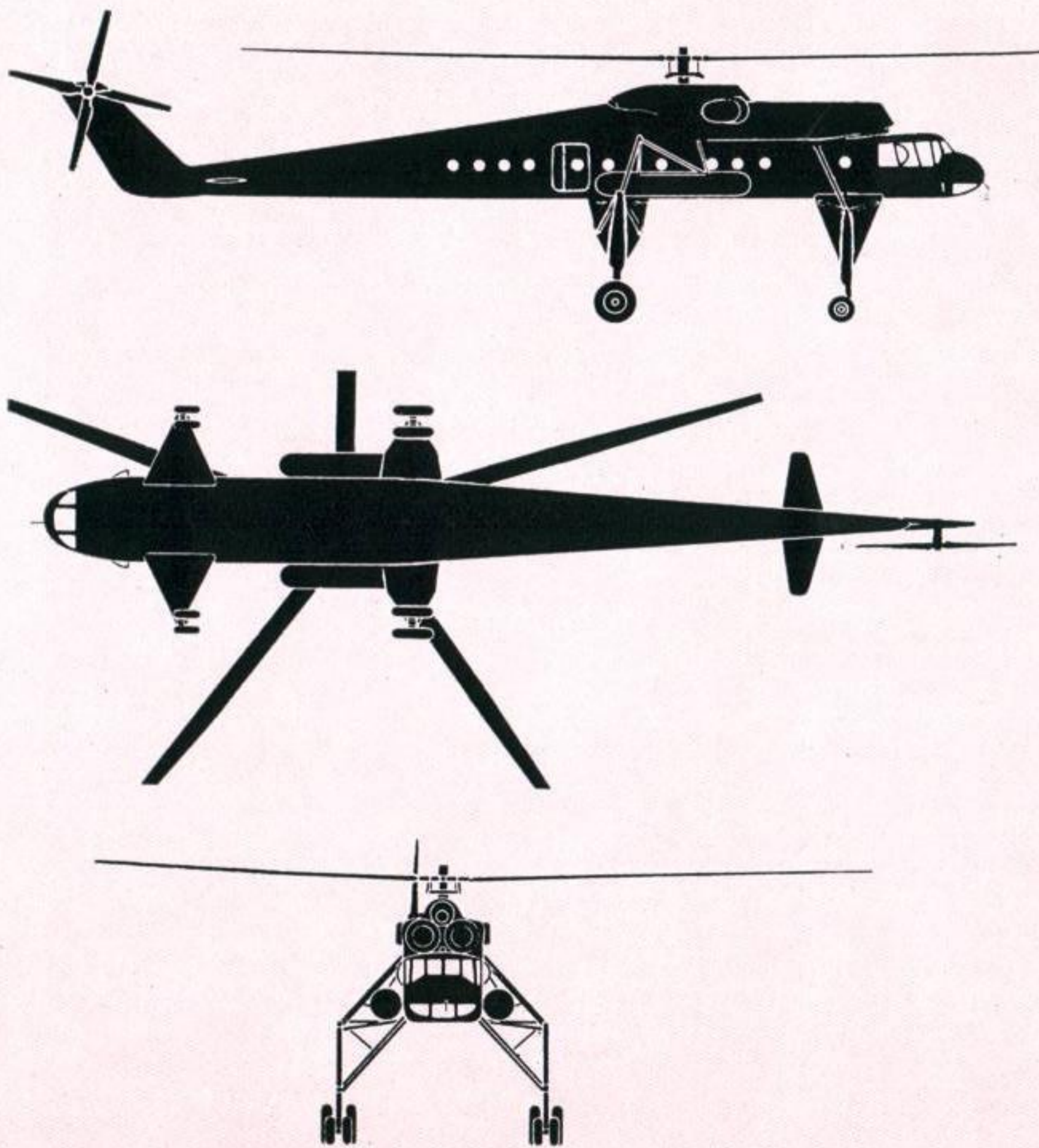
KEY





HARKE (MIL MI-10)

Fuselage length 107 ft. 10 in.

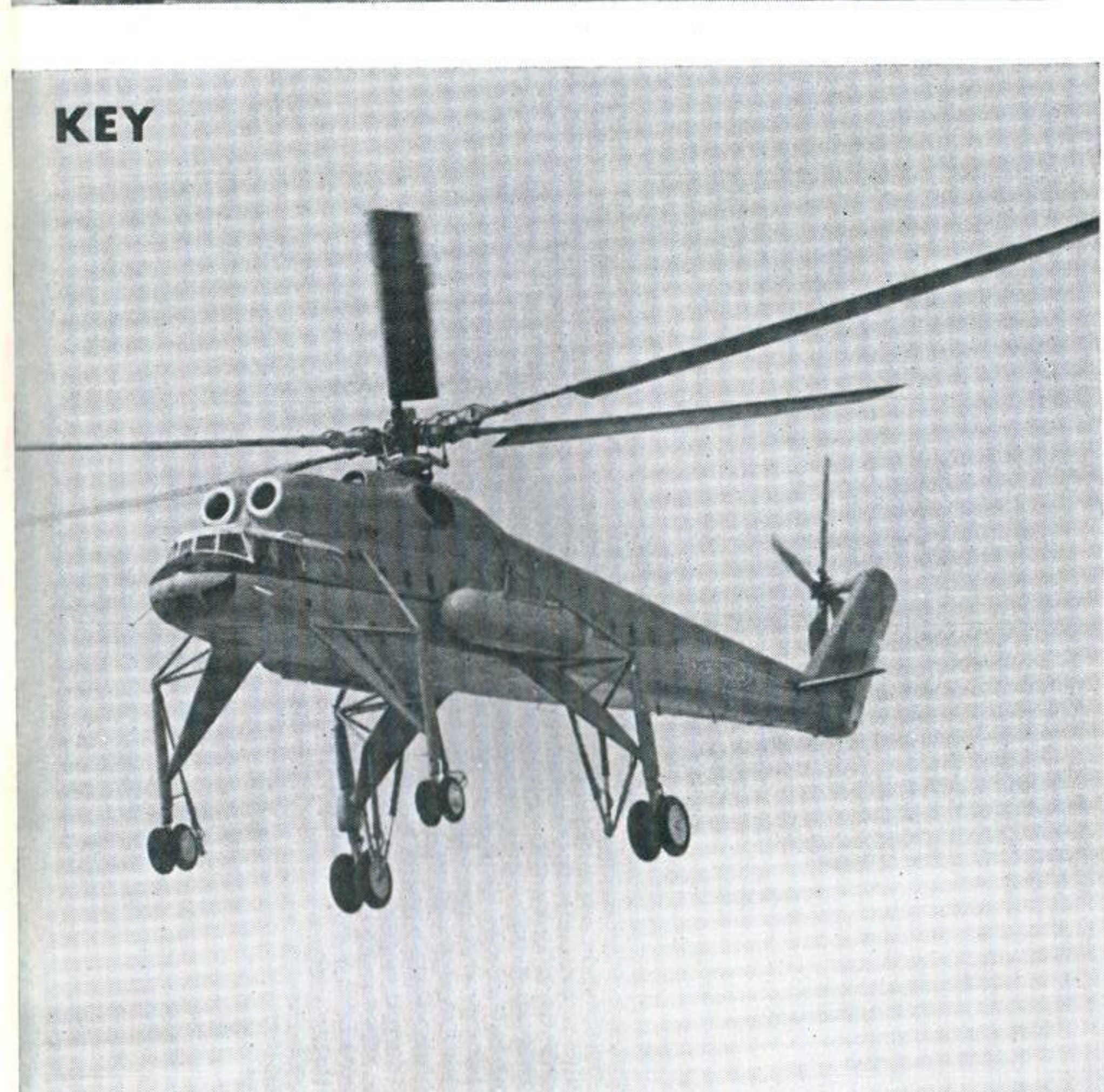


First demonstrated publicly at the 1961 Soviet Aviation Day at Tushino, Harke is a flying crane development of Hook (Mi-6) and indeed both helicopters are almost identical above the line of the cabin windows. However, the fuselage of Harke is much shallower while the tail-boom is deepened so that the flattened under-surface runs unbroken to the tail. Harke also lacks the small fixed wings of Hook. Harke is flown by a crew of three and in addition to slung loads, such as a large bus or a prefabricated building, it can carry up to 28 passengers in the cabin boom.

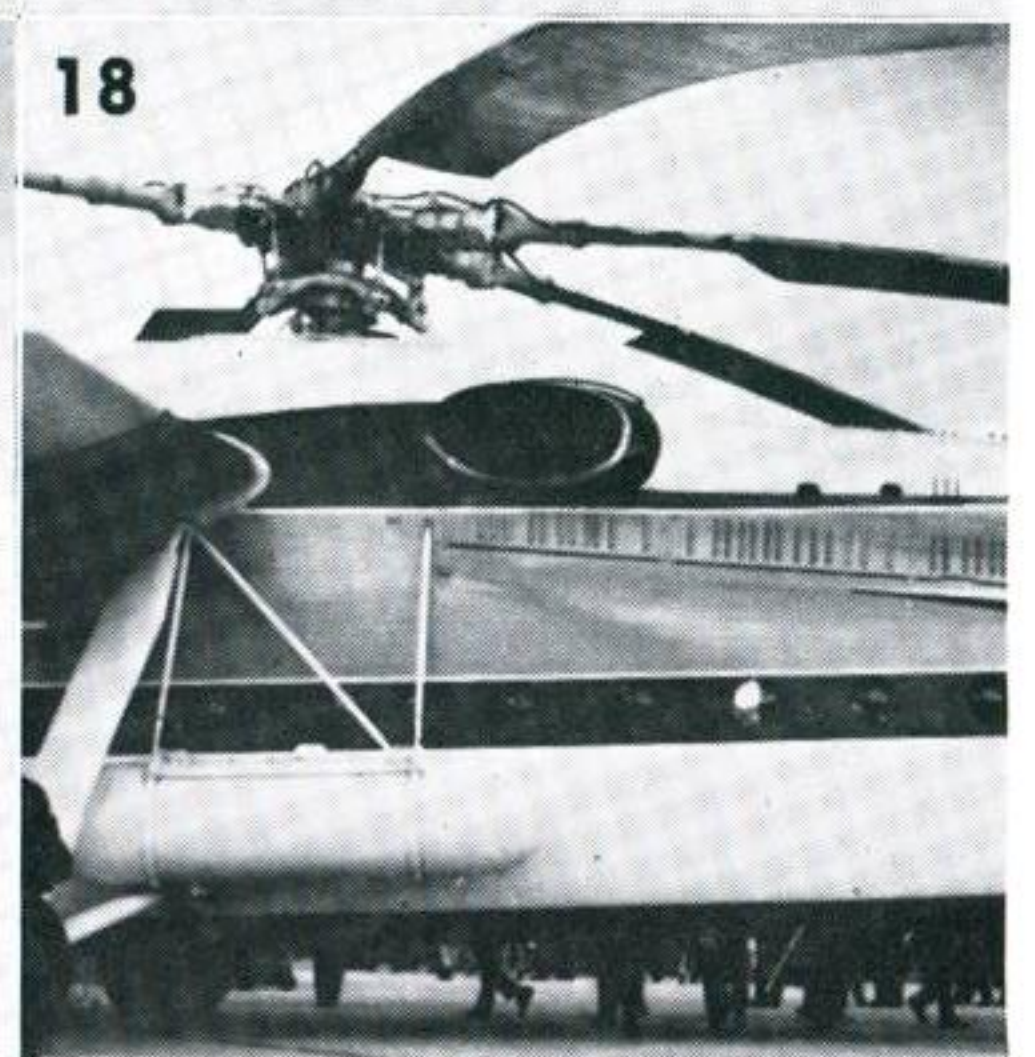
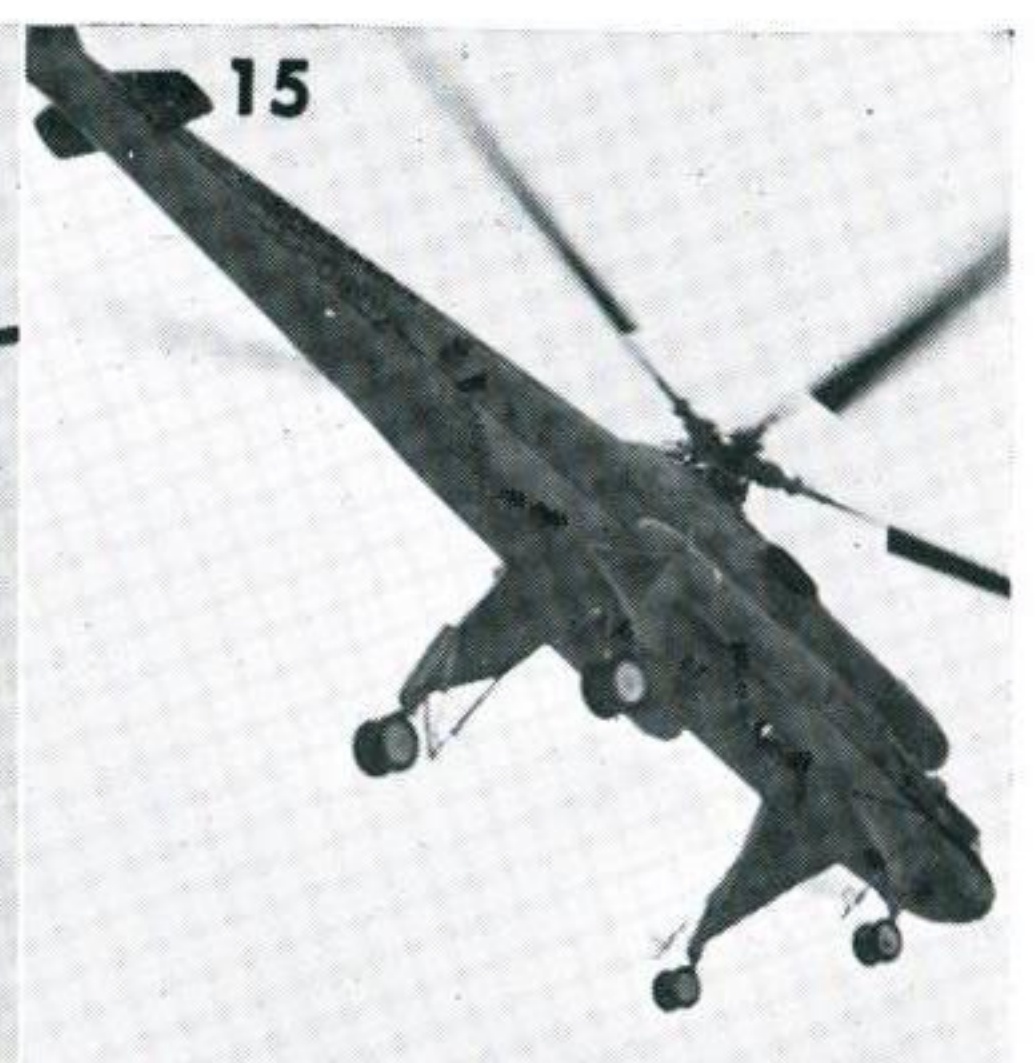
A variant known as the Mi-10K made its public appearance in March 1966 and this machine, which has an additional cockpit gondola under the front fuselage and a shorter undercarriage, can be flown by two pilots.

It is not known whether the Mi-10 is yet in service with Aeroflot and the Soviet Armed Forces. One has been purchased by a U.S. operator for servicing oil rigs. Lesson instructions are on page 33 and solutions on the cover.



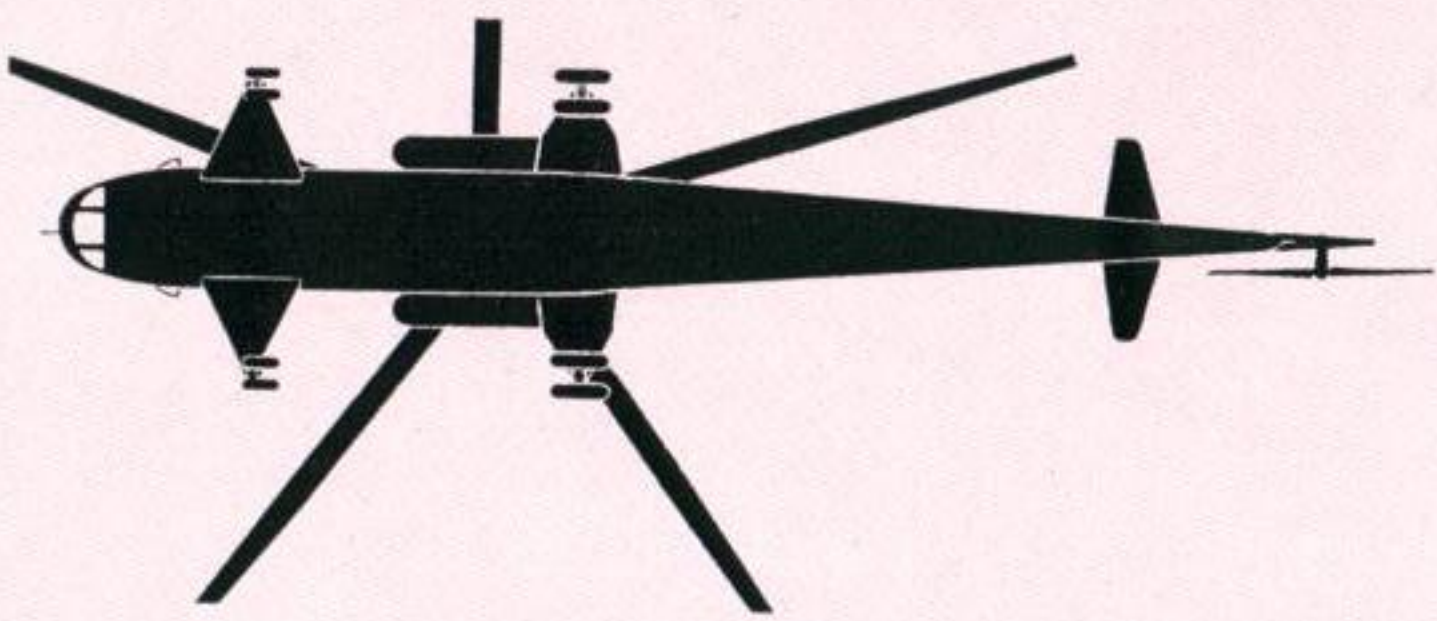
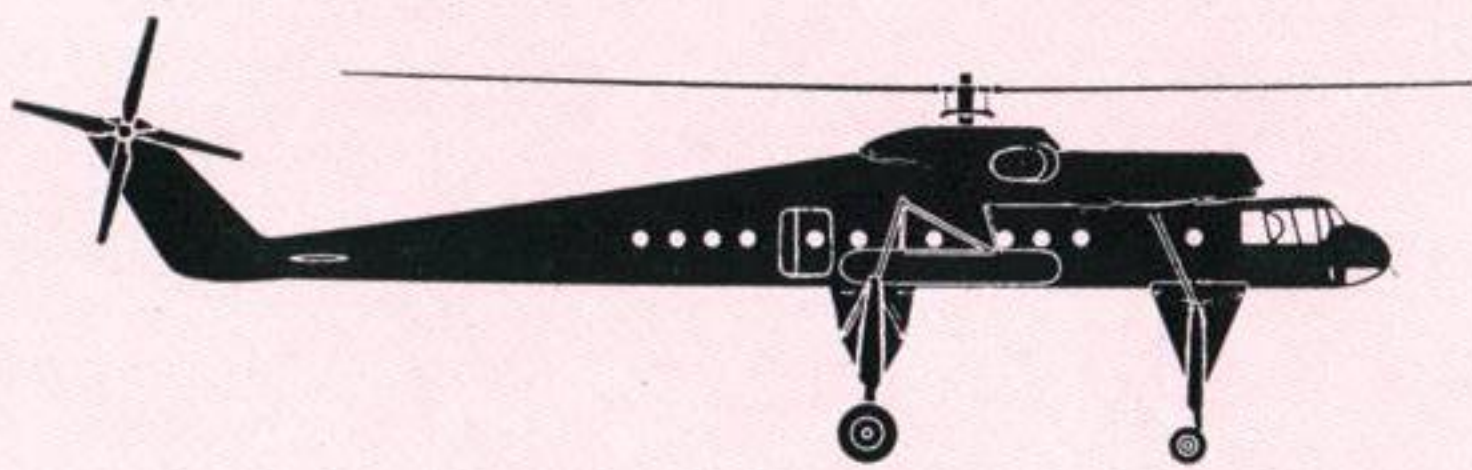


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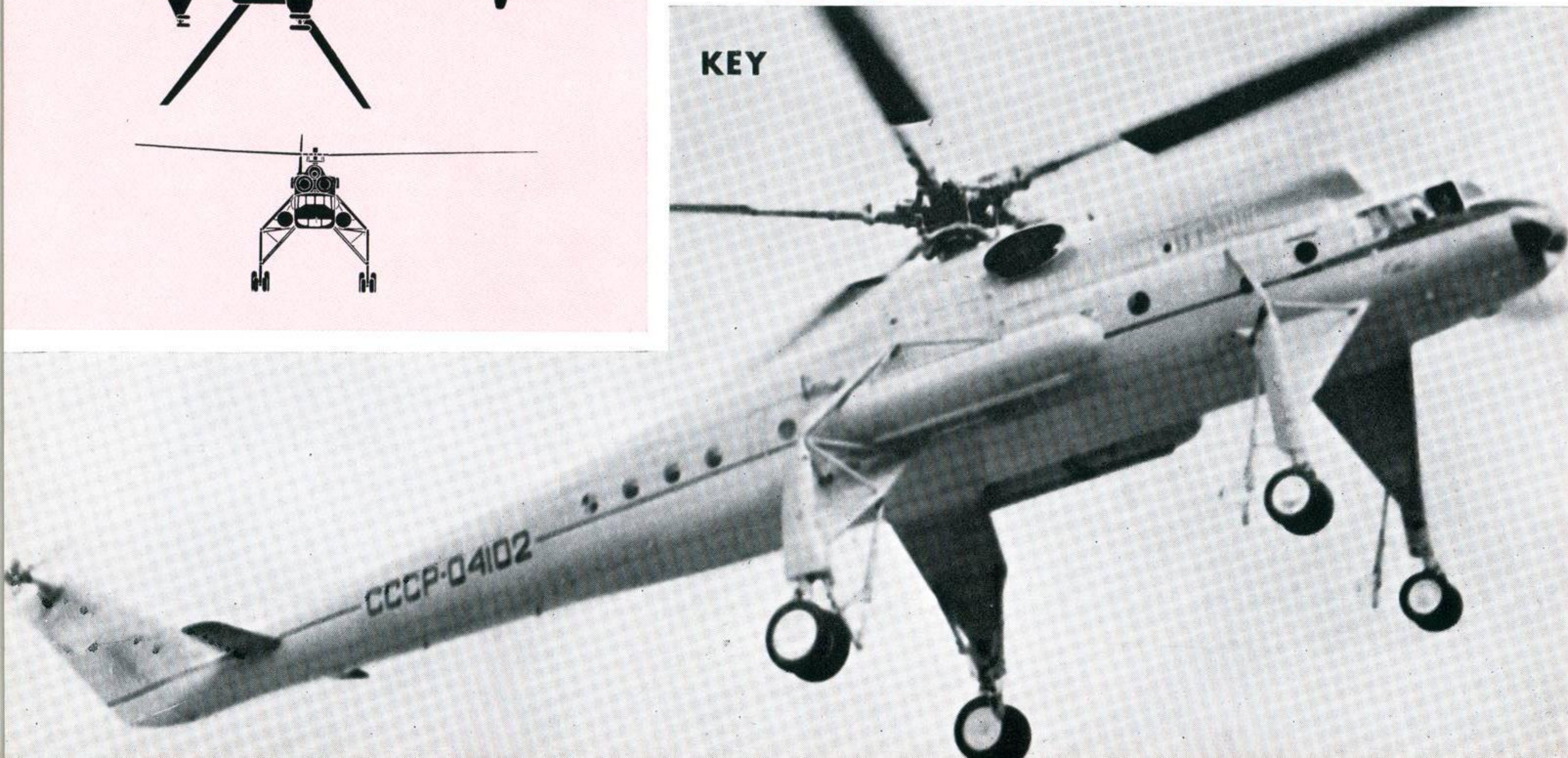
HARKE (MIL MI-10) *continued*

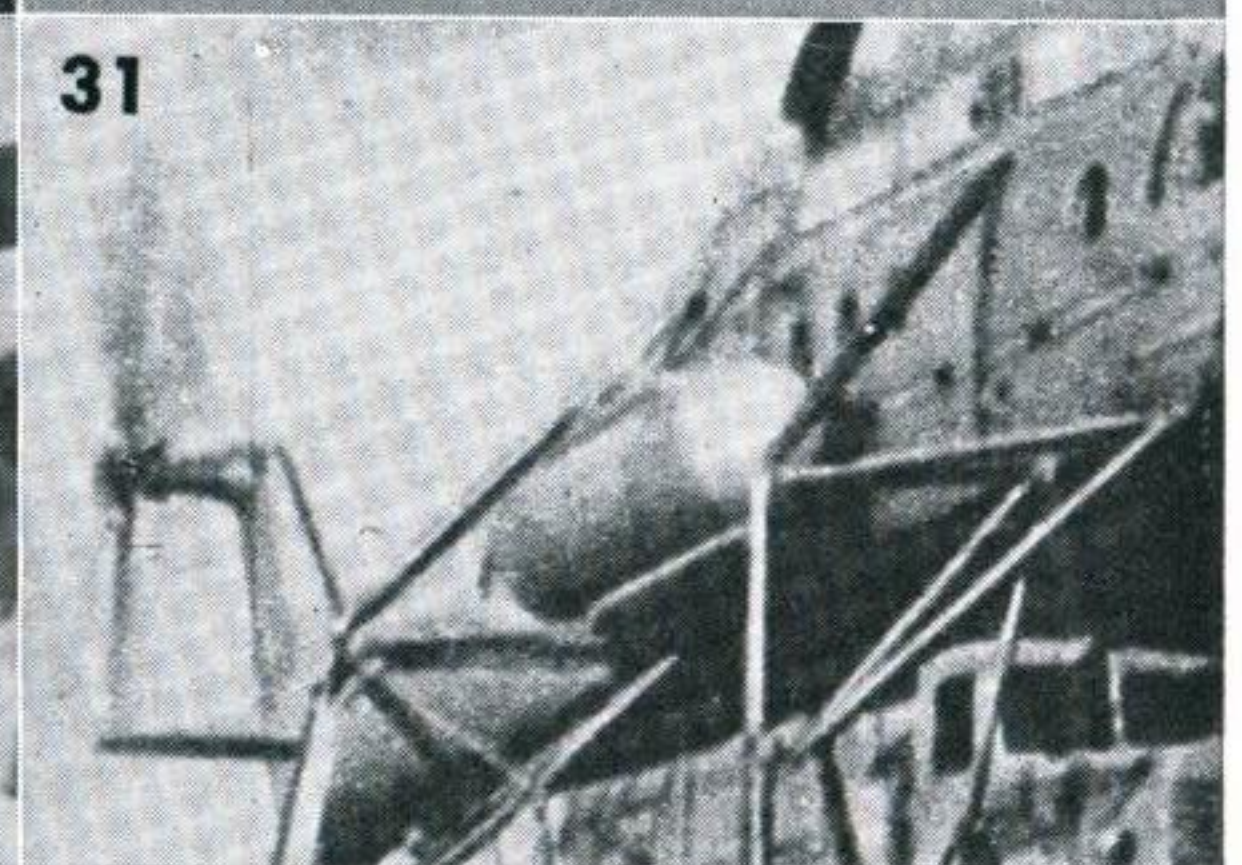
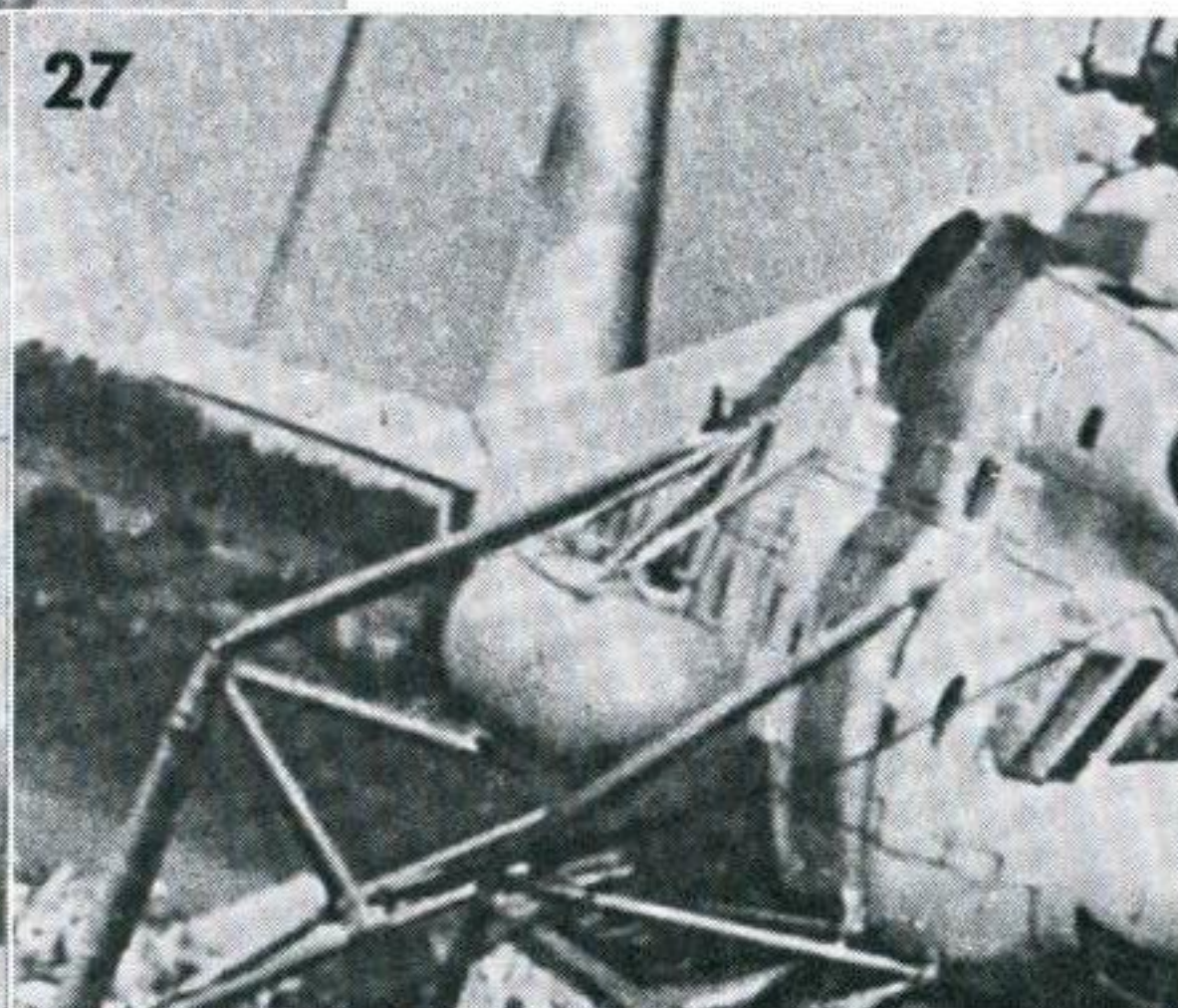
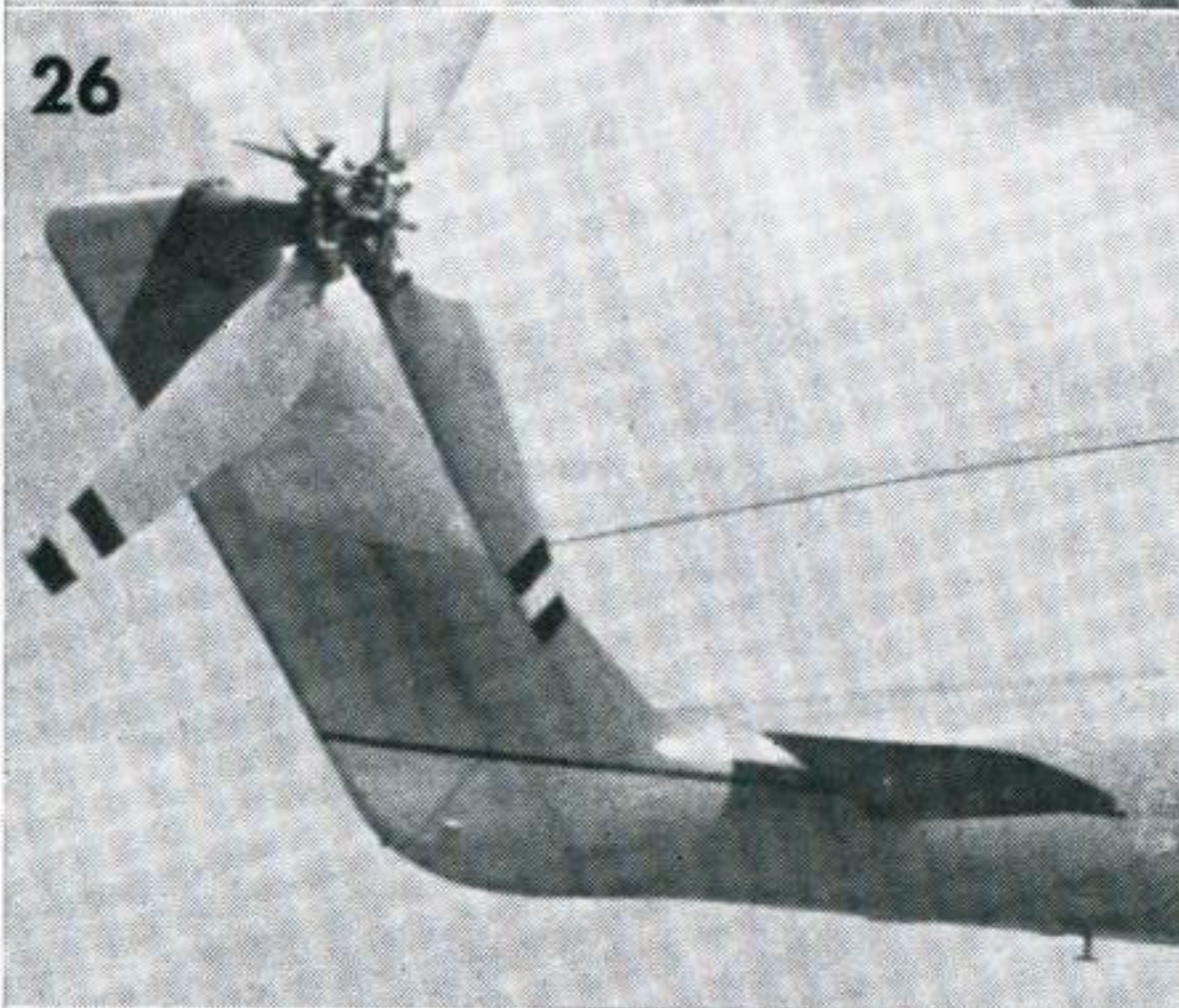
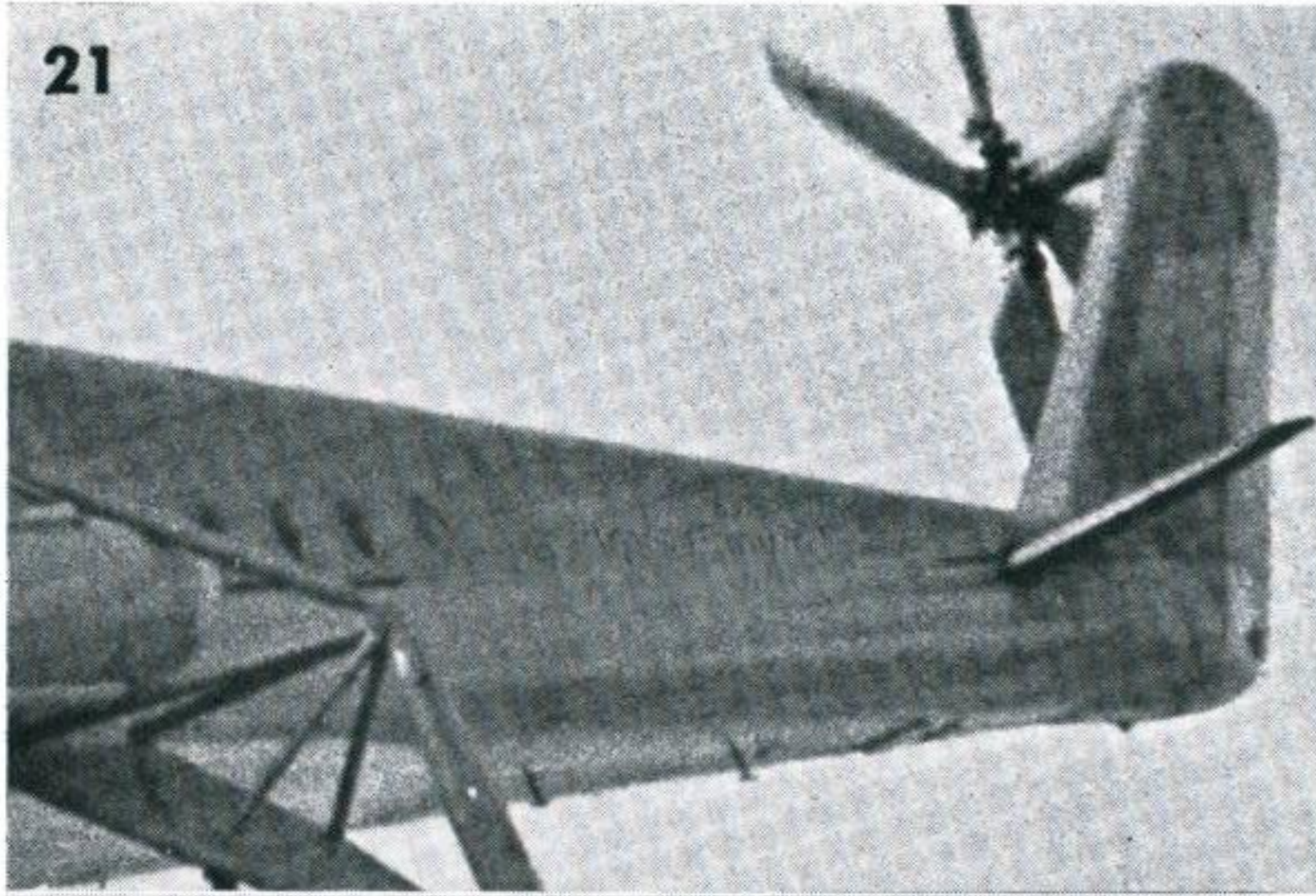
Fuselage length 107 ft, 10 in.



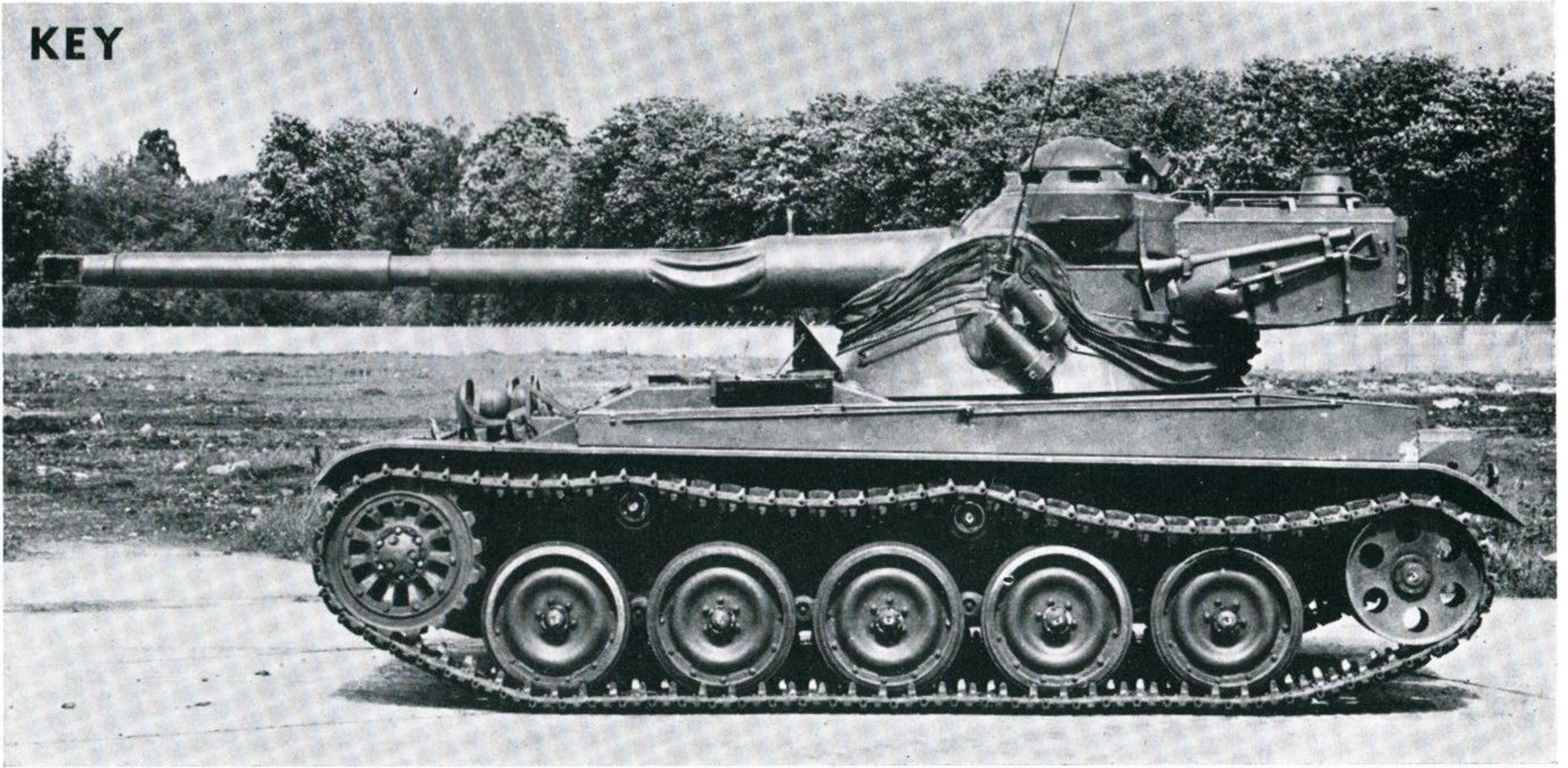
Lesson instructions are on page 33 Solutions on the cover

KEY

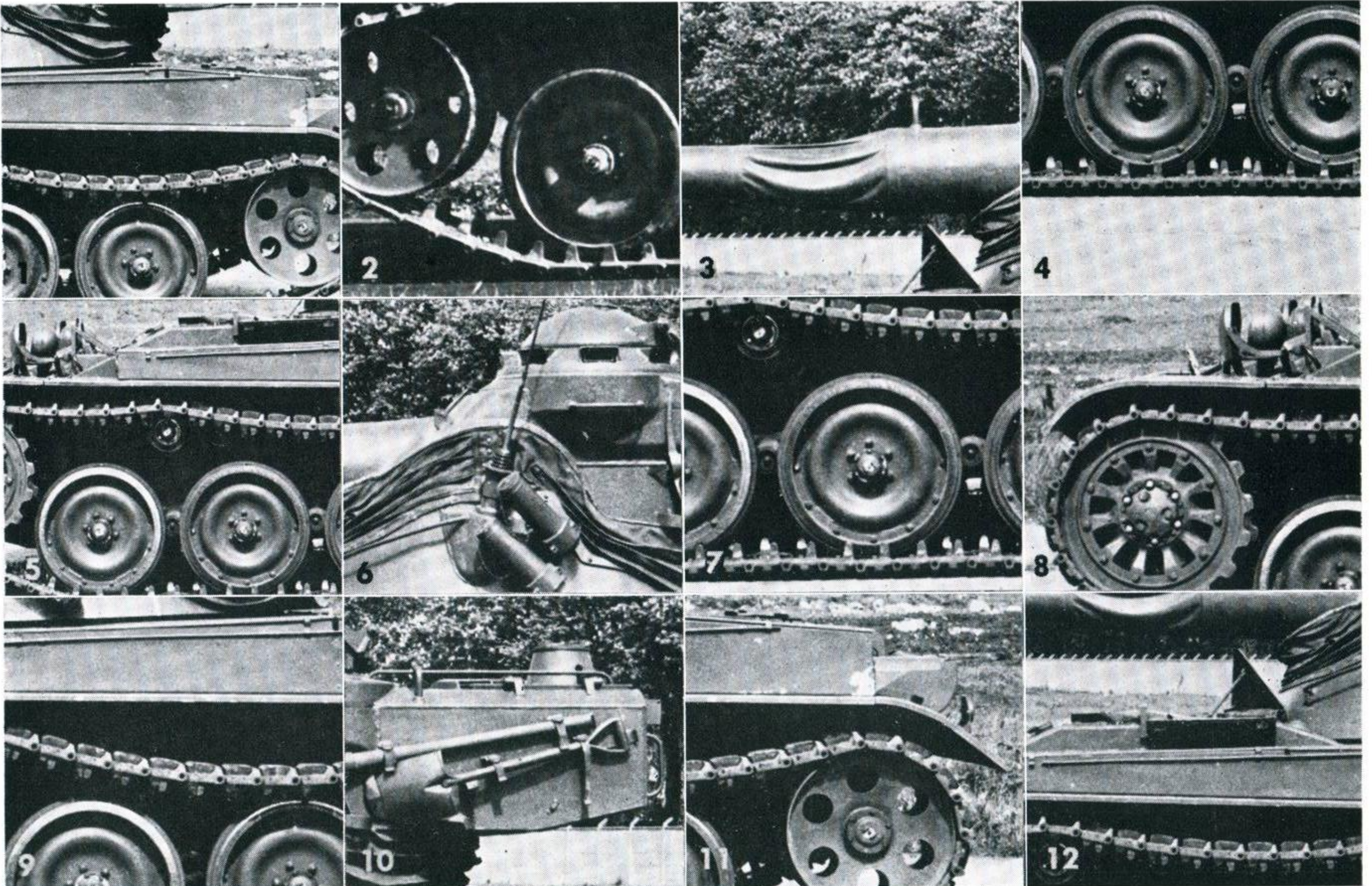
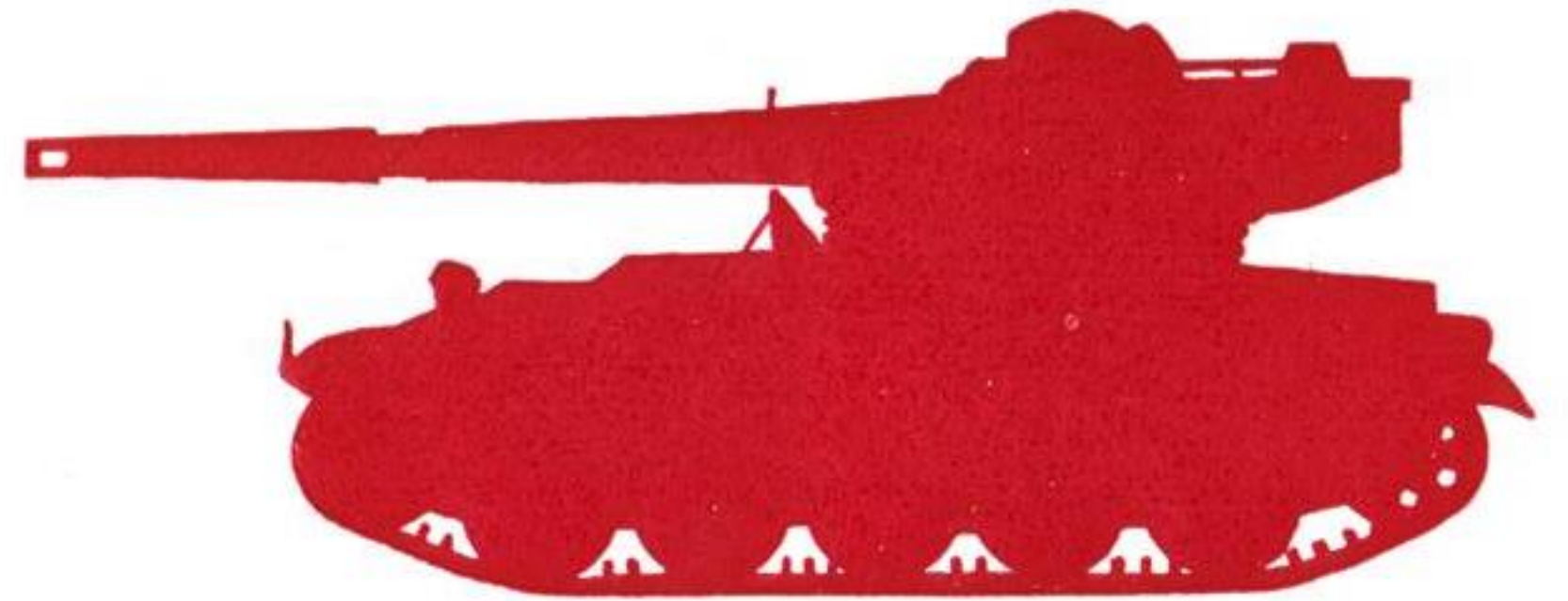




KEY



FRENCH
ARMOUR **AMX13**
LIGHT TANK



The French AMX 13 continues to be one of the most widely used tanks. It is, in fact, in service in 15 countries, including France. Moreover, it has been developed into four different versions.

The original model, designated by the French Army the *Char de 13 tonnes 75 modèle 51 (A.M.X.)*, has already been featured in the *Journal* several times, the most recent lesson on it being in the May 1958 issue. It has been followed by the *A.M.X.-SS. 11*, which is, in essence the original AMX 13 with four SS-11 anti-tank guided missiles in addition to its standard main armament of a high-velocity 75-mm. gun. This model was the subject of a lesson in the October 1967 issue of the *Journal*.

*Lesson instructions are on page 33
Solutions on the cover*



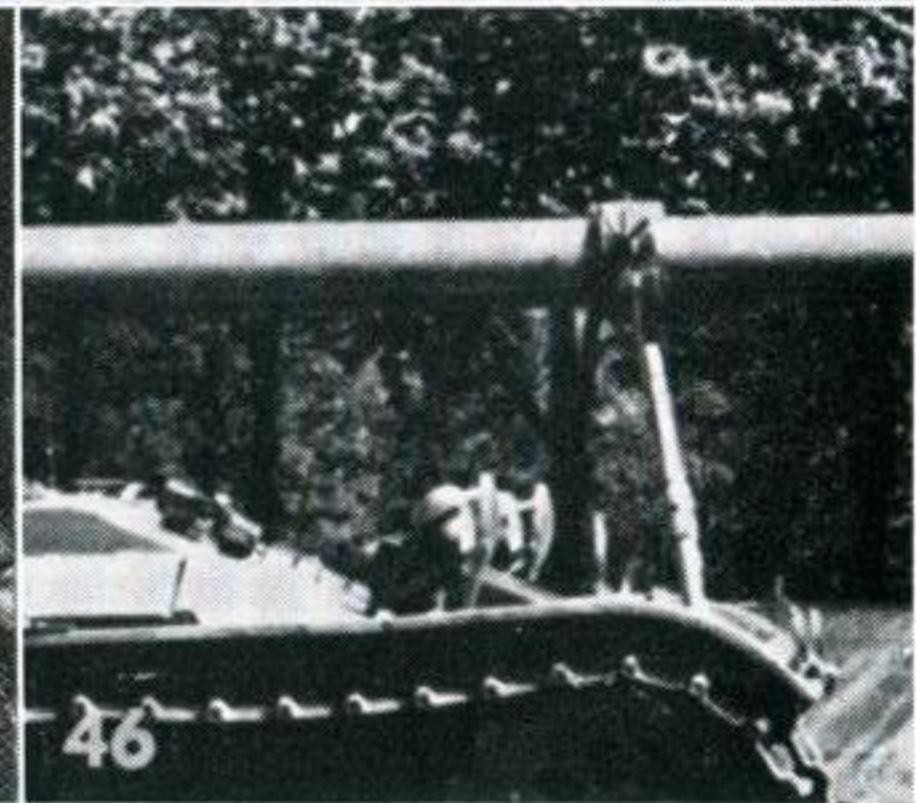
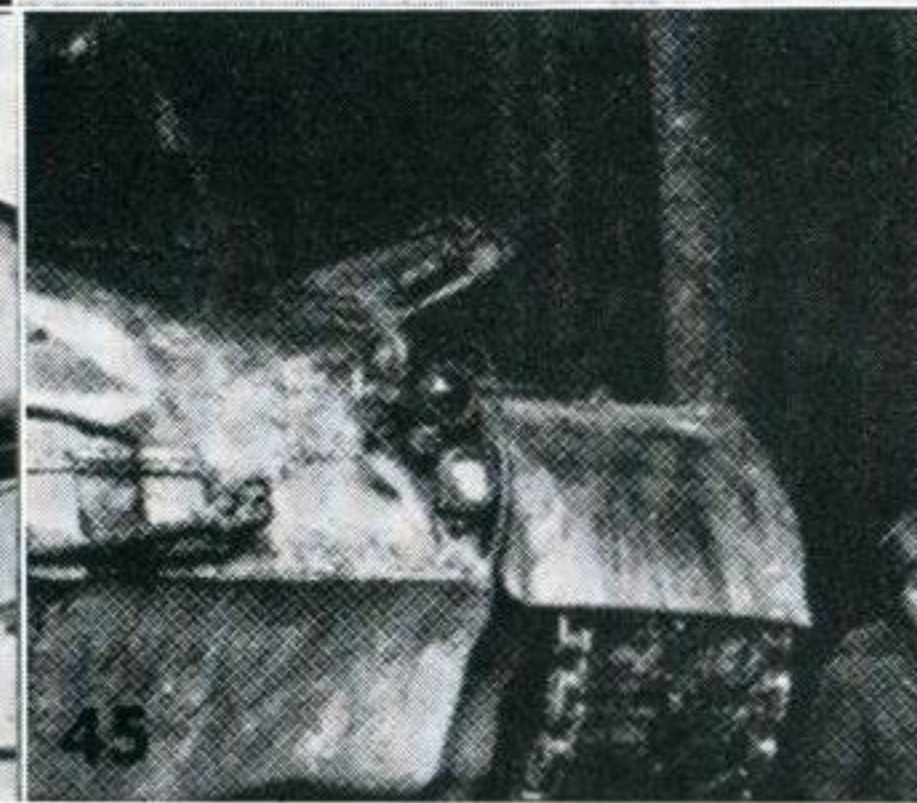
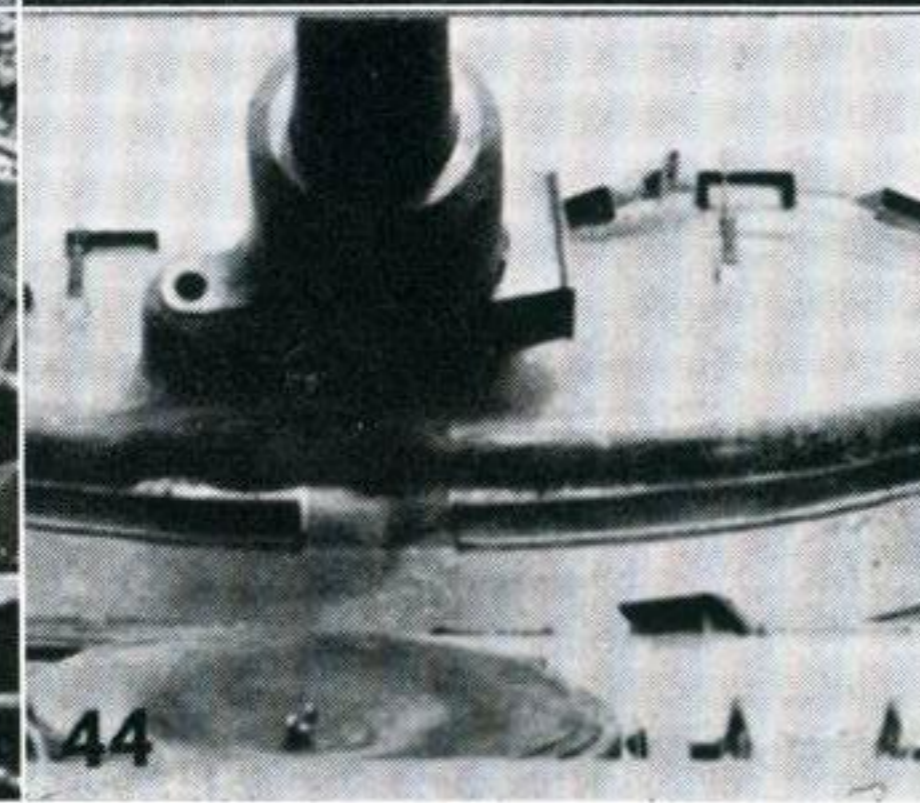
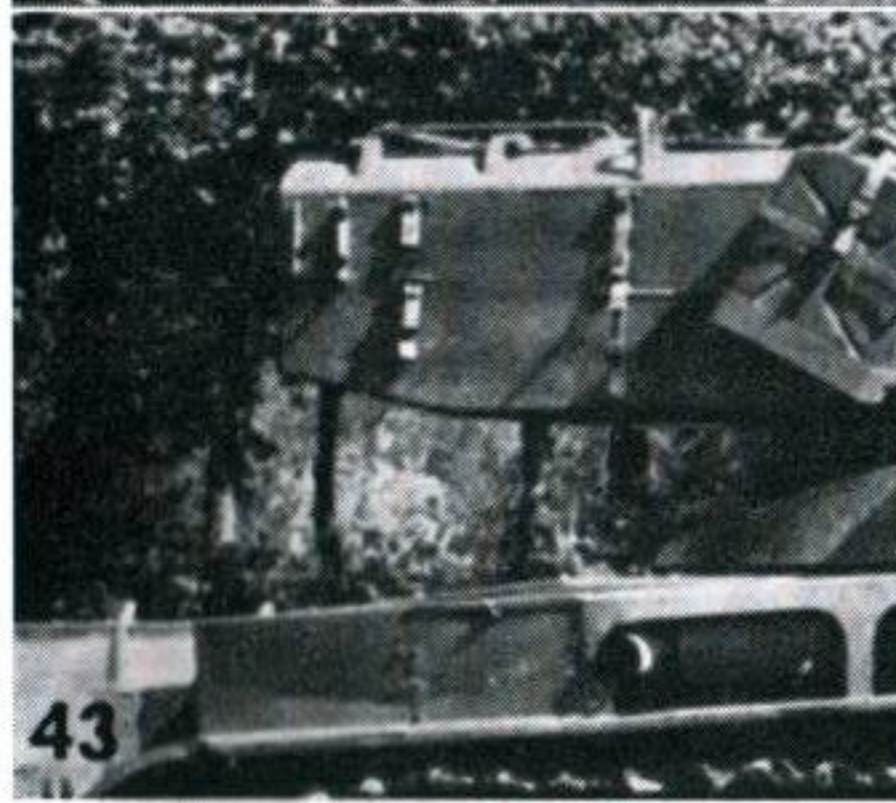
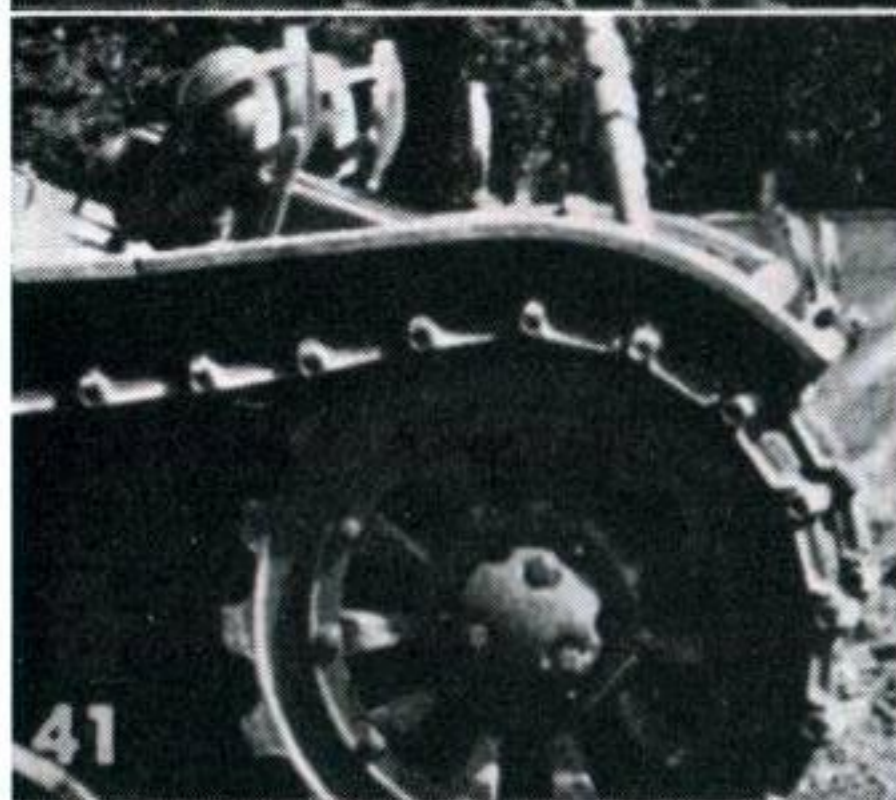
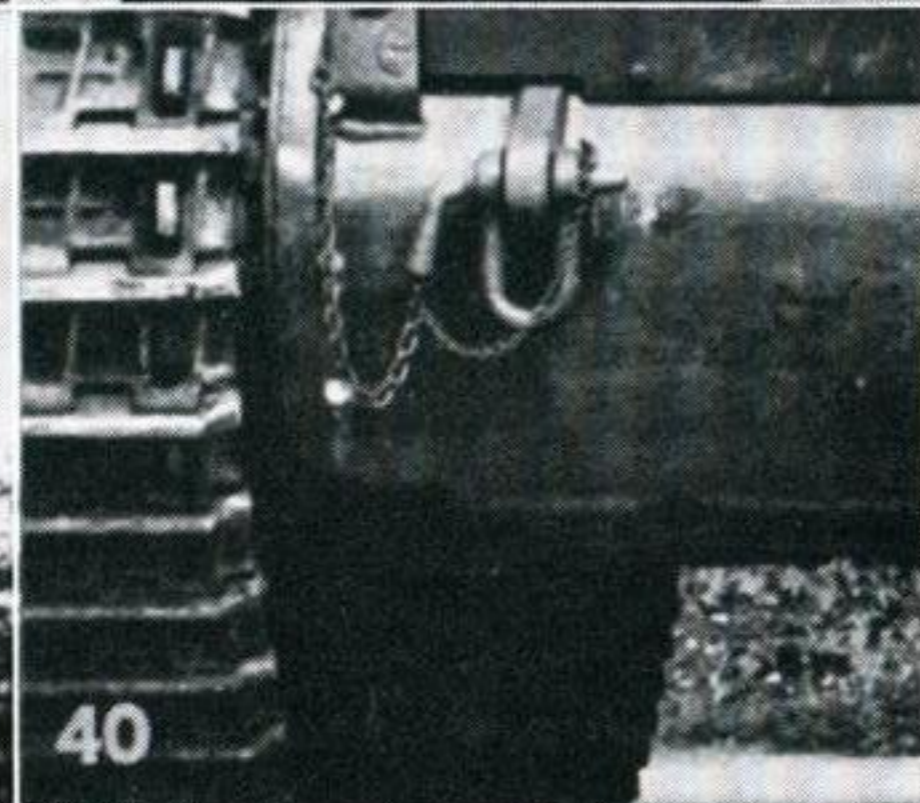
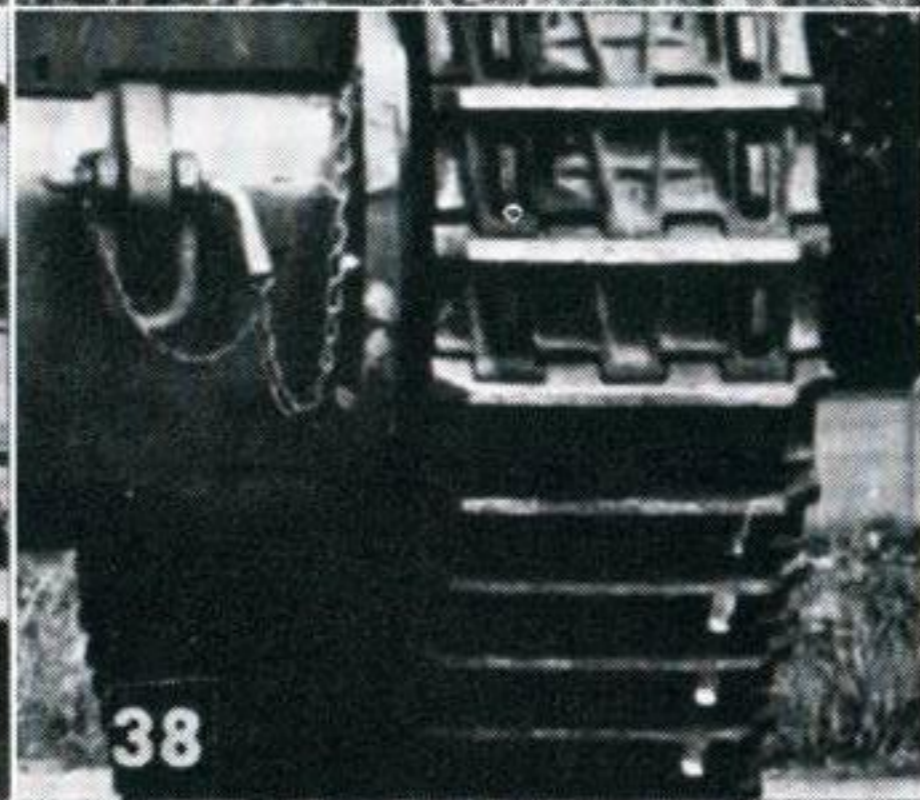
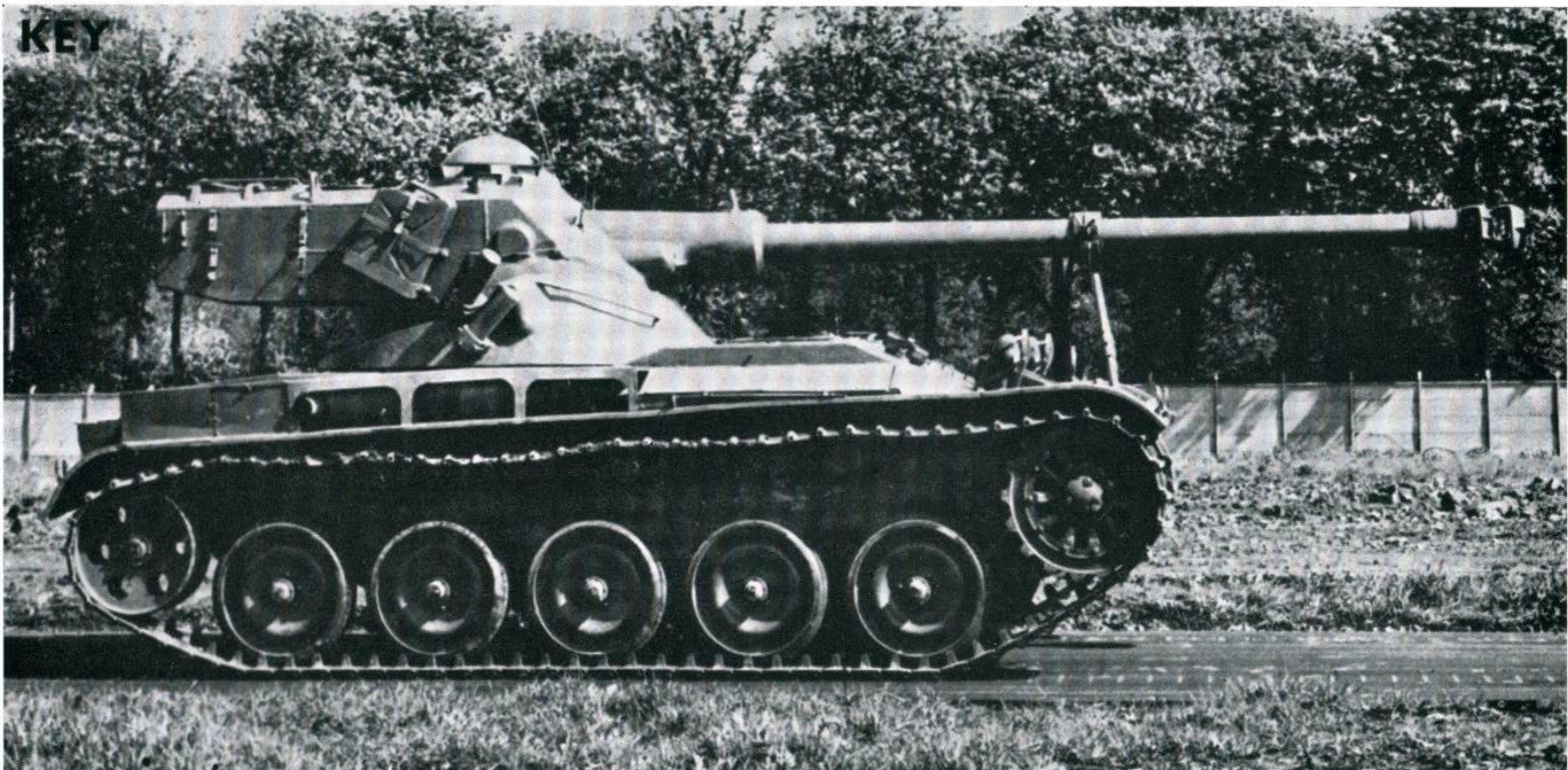
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AMX13 LIGHT TANK

Lesson instructions on page 33
Solutions on the back cover

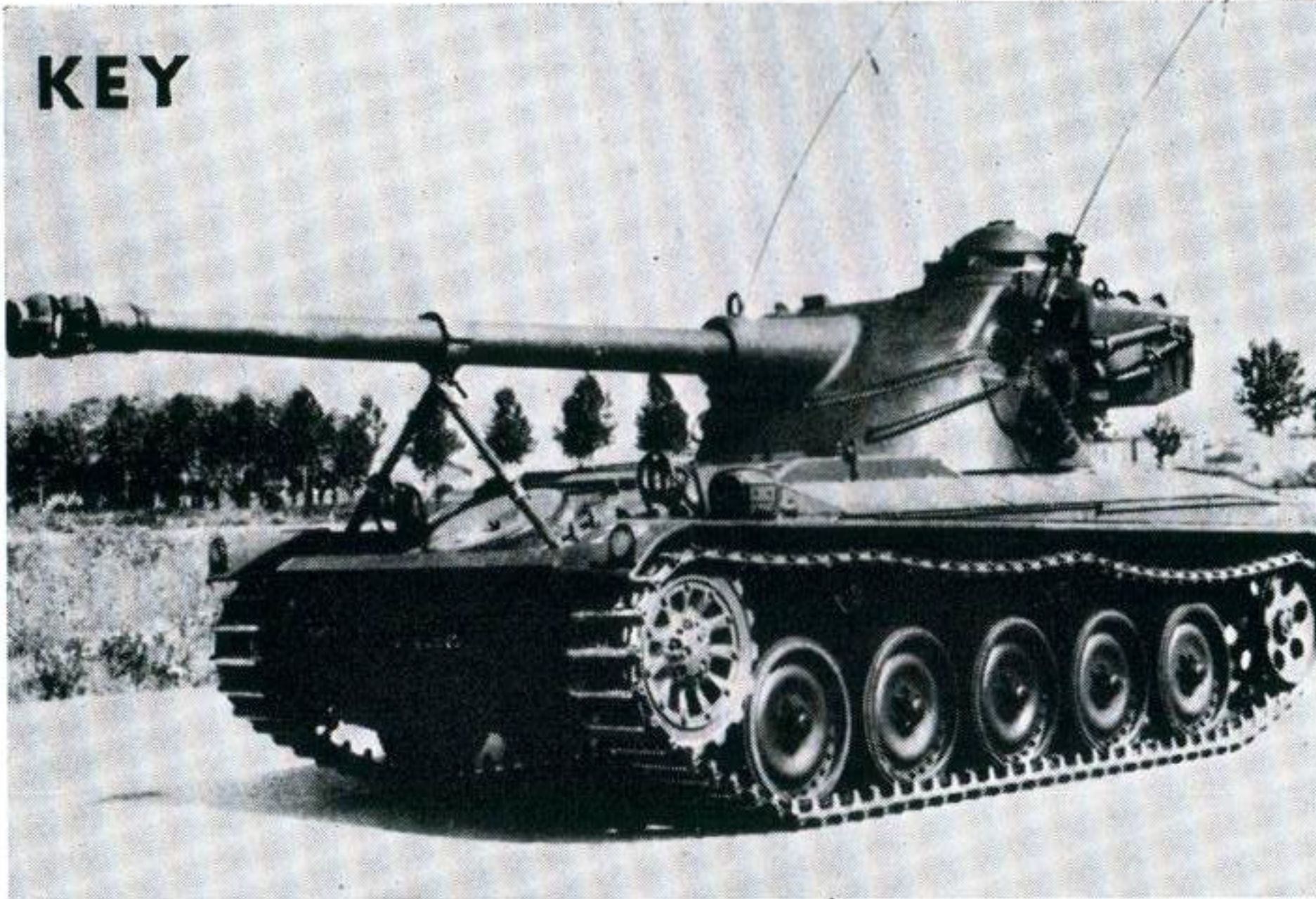
Another development of the AMX 13 is the *Modèle 58* which is in service only with the Netherlands Army. It is essentially the same as the *Modèle 51* but with a FL.12 turret mounting a 105-mm. gun, instead of the FL.10 turret of the original model. The 105-mm. gun version is one of two new models shown in the key pictures and it can be readily recognised by its double-baffle muzzle brake.





continued overleaf

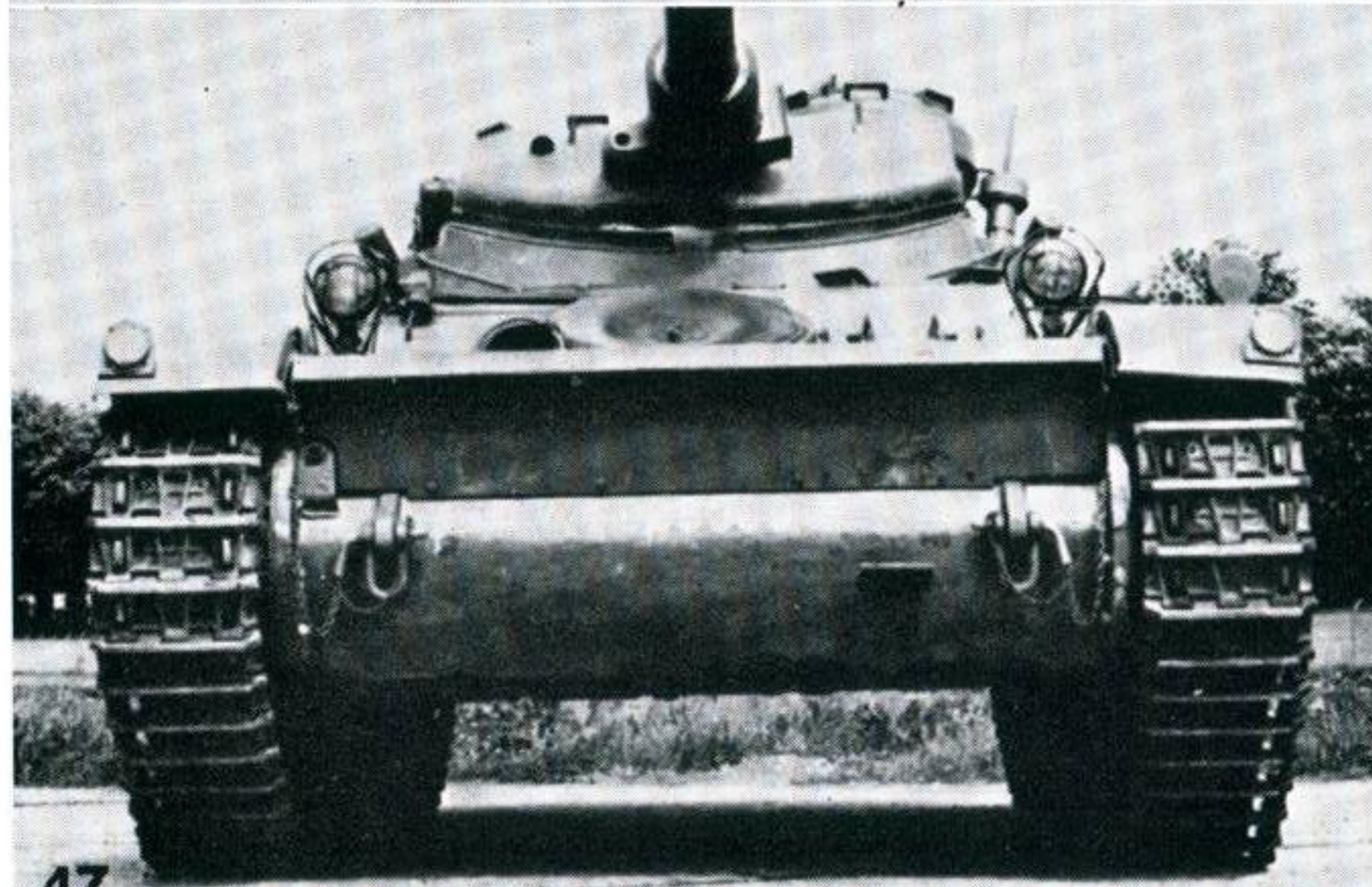
KEY



AMX13 LIGHT TANK

The second of the two new models shown in the key pictures is the latest version of the AMX 13 armed with a 90-mm. gun. The gun is a smooth bore and fires fin-stabilised projectiles instead of the more conventional, spin-stabilised projectiles fired by the rifled 75 and 105-mm. guns of the earlier models. The 90-mm. gun has a cylindrical shield over its barrel, which makes it appear larger than it is, and this together with a short waisted section half-way up the barrel distinguishes the latest version from the earlier ones.

Lesson instructions on page 33 Solutions on the cover



47



48



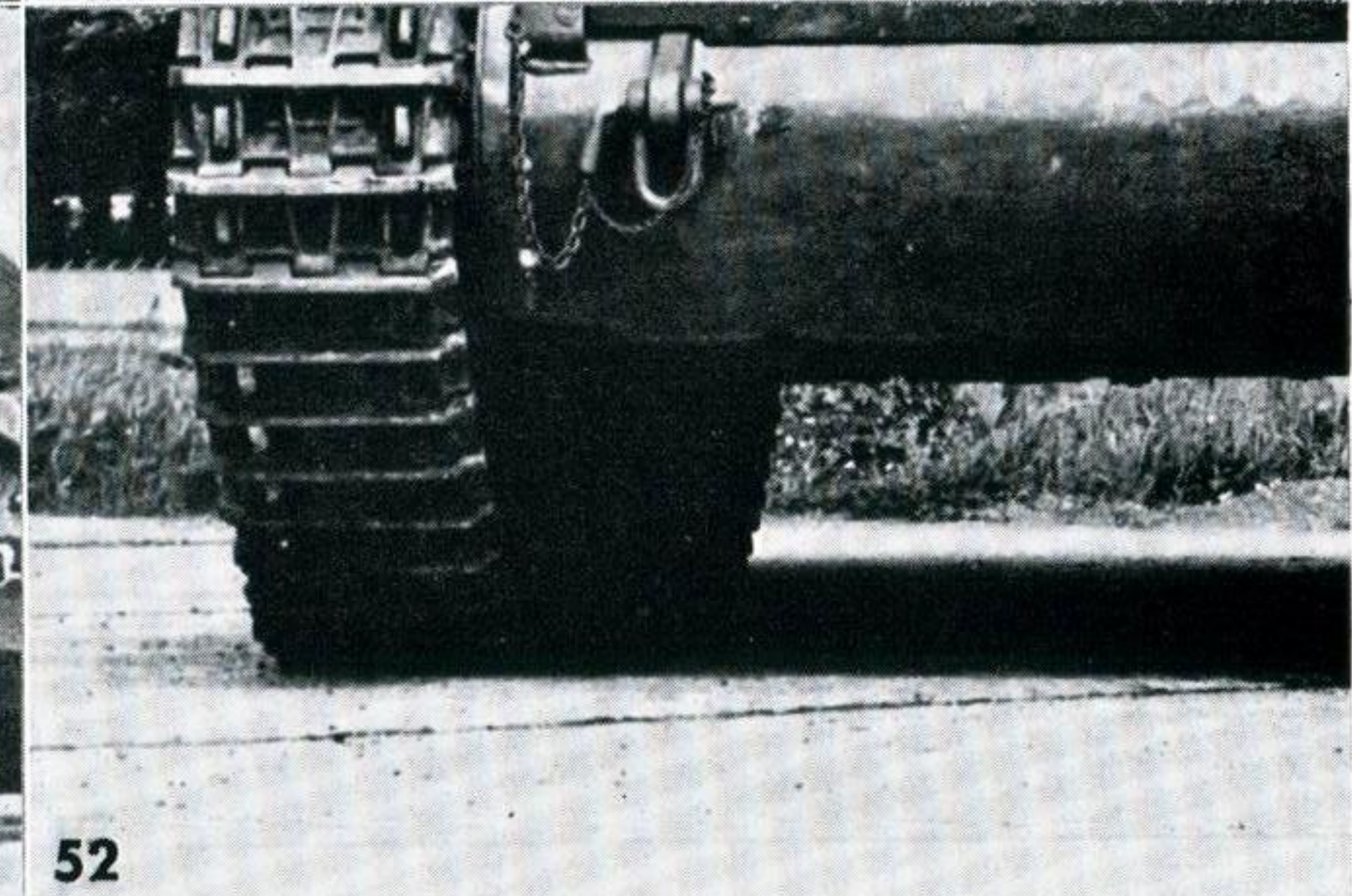
49



50

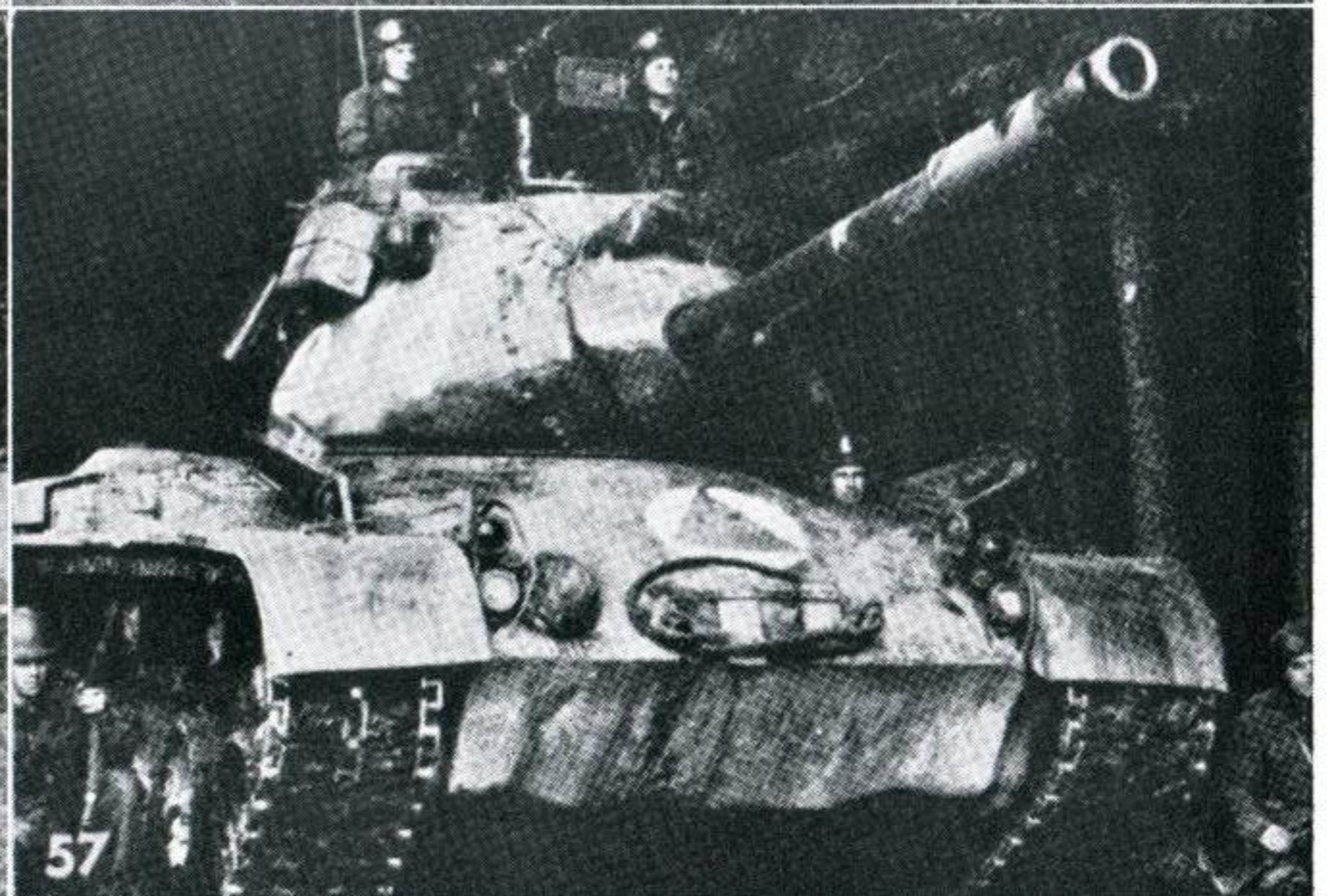
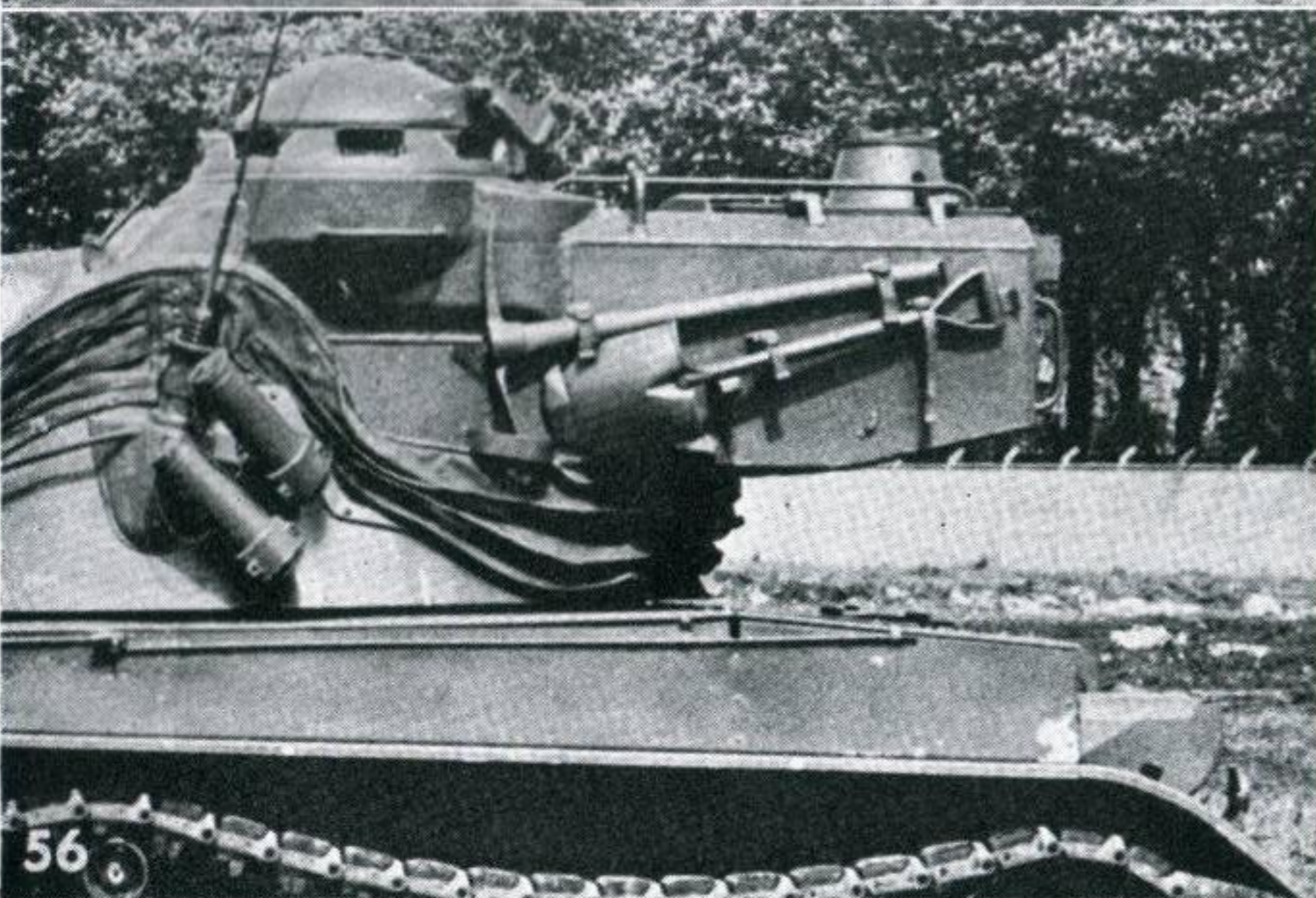
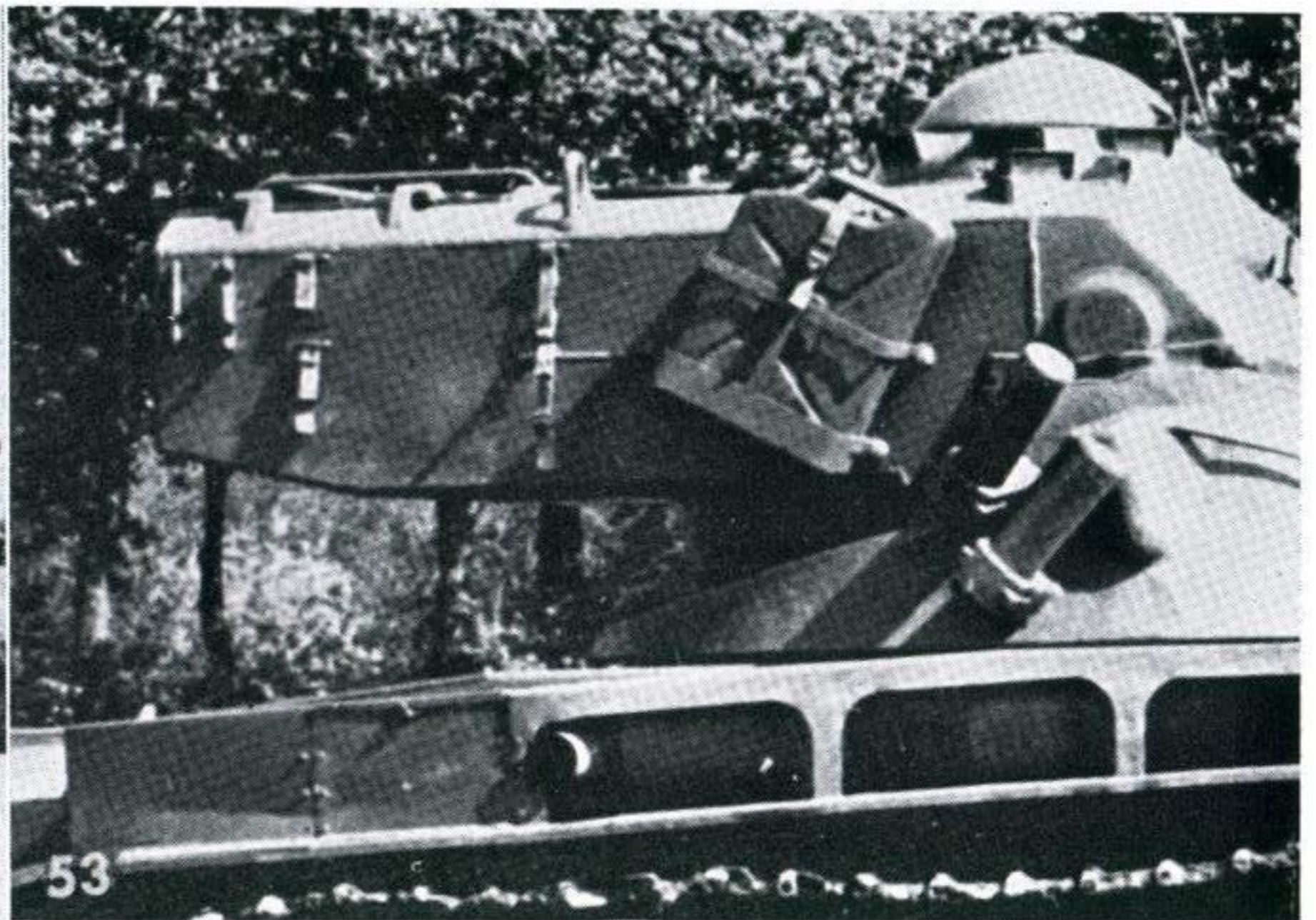
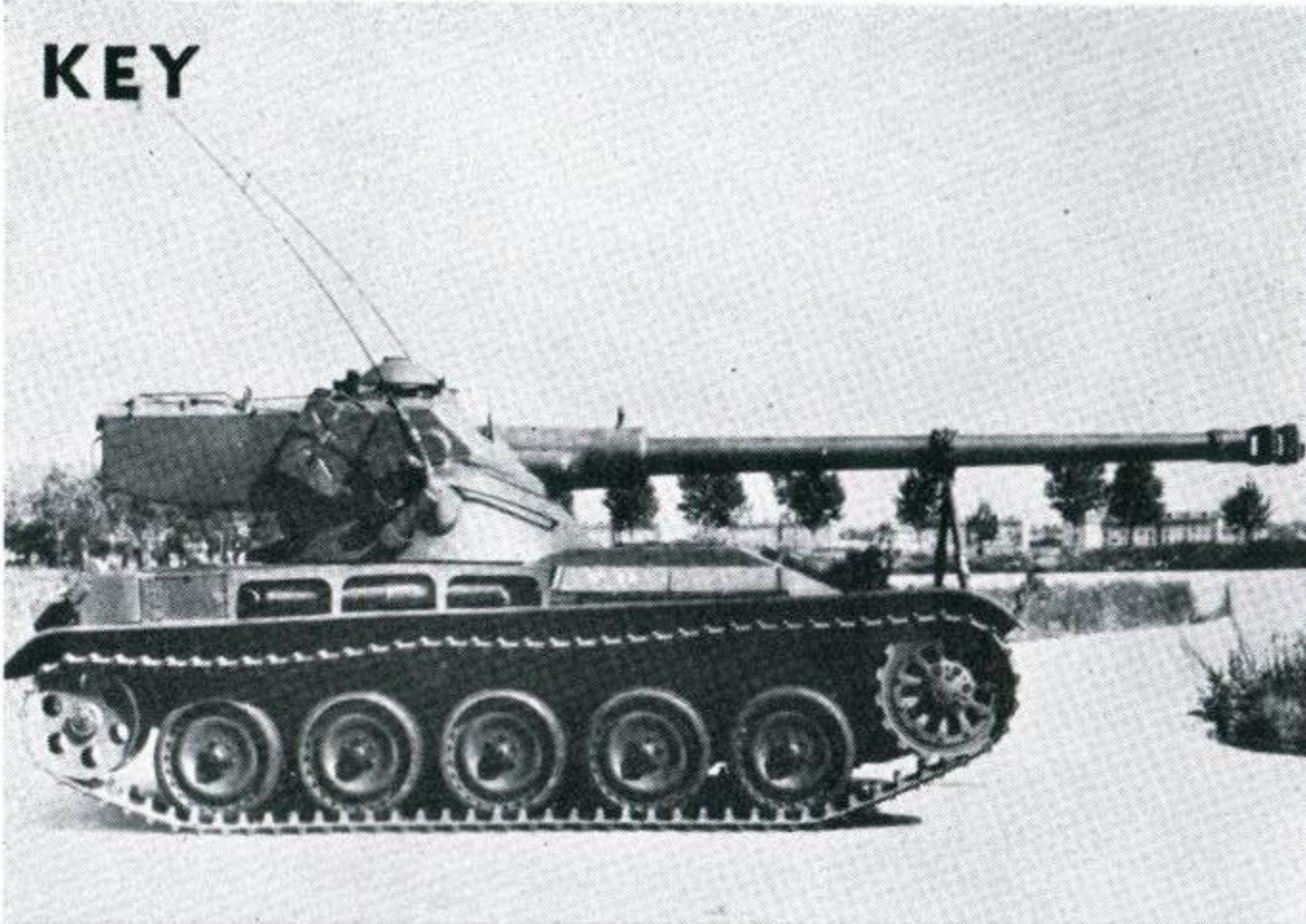


51



52

KEY





Cover Photo: Debut of quick-take-off DC-9. Taking off on its maiden flight, the new Series 20 version of the McDonnell Douglas DC-9 jetliner demonstrates its quick lift-off capability. The high-performance twin-jet required a take-off roll of less than 2,400 feet (730 metres) before climbing steeply skyward from Long Beach Municipal Airport, Long Beach, California. With a high-lift wing and two Pratt and Whitney JT8D-9 jet engines, each producing 14,500 pounds (6,575 kg.) of thrust, the Series 20 is designed for service on commercial air routes with smaller air-fields now accessible only to propeller driven airliners. Take-off weight for the maiden flight was 87,000 pounds (39,460 kg). The purpose was to prove the basic airworthiness of the twin-jet and to determine its flight characteristics. First DC-9 Series 20 was delivered to Scandinavian Air Lines System last December. Aircraft will carry up to 90 passengers over ranges of more than 1,800 statute miles (2,900 kilometres) at speeds exceeding 550 m.p.h. (885 km/h).

SOLUTIONS TO TESTS AND EXERCISES

Page 34

ALOUETTE II

All targets are of **Alouette II** except Nos. 3, 22 and 28 which are **Sioux**.

Page 38

QUEEN ELIZABETH 2

All targets are the **Queen Elizabeth 2**.

Page 40

SIKORSKY S-65

All targets are **S-65** except Nos. 6 and 8 which are **Super Frelon**.

Page 42

R.F.A. TIDESPRING

All targets are **R.F.A. Tidespring** except Nos. 14, 20, 28 and 35.

Page 46

HARKE (MIL MI-10)

All targets are **Harke** except Nos. 18 and 33 **Hook** and No. 22 **Skycrane**.

Page 50

FRENCH ARMOUR AMX 13 LIGHT TANK

All targets are **French Armour AMX 13 Light Tank** except Nos. 19, 21, 31, 45, 51 and 57 which are jokers.

Page 32

TEST PAPERS

FERRET SCOUT CAR:

Jokers are second line 4th picture and third line 5th picture.

PZ 61:

Jokers are second line 1st picture and third line 3rd picture.

OBERON CLASS:

Jokers are first line 5th picture and third line 2nd picture.

U.S.S.R. KYNDA CLASS:

Jokers are second line 3rd picture, third line 1st and 4th pictures.

CORRECTIONS

August 1968 edition page 210: In the caption for AMX13-SS.II delete ENTAC and substitute SS.II.

August 1968 edition back cover: In the solutions for M48A2 add number 10 to the list of targets which are M103s.



CORRECTION: In the August 1968 edition of the *Journal* the vehicle on page 213 was described as a Centurion Bridgelayar whereas it was in fact a Centurion Ark. We regret this error and now show the Centurion Ark above and the Centurion Bridgelayar (right).

