



RECOGNITION

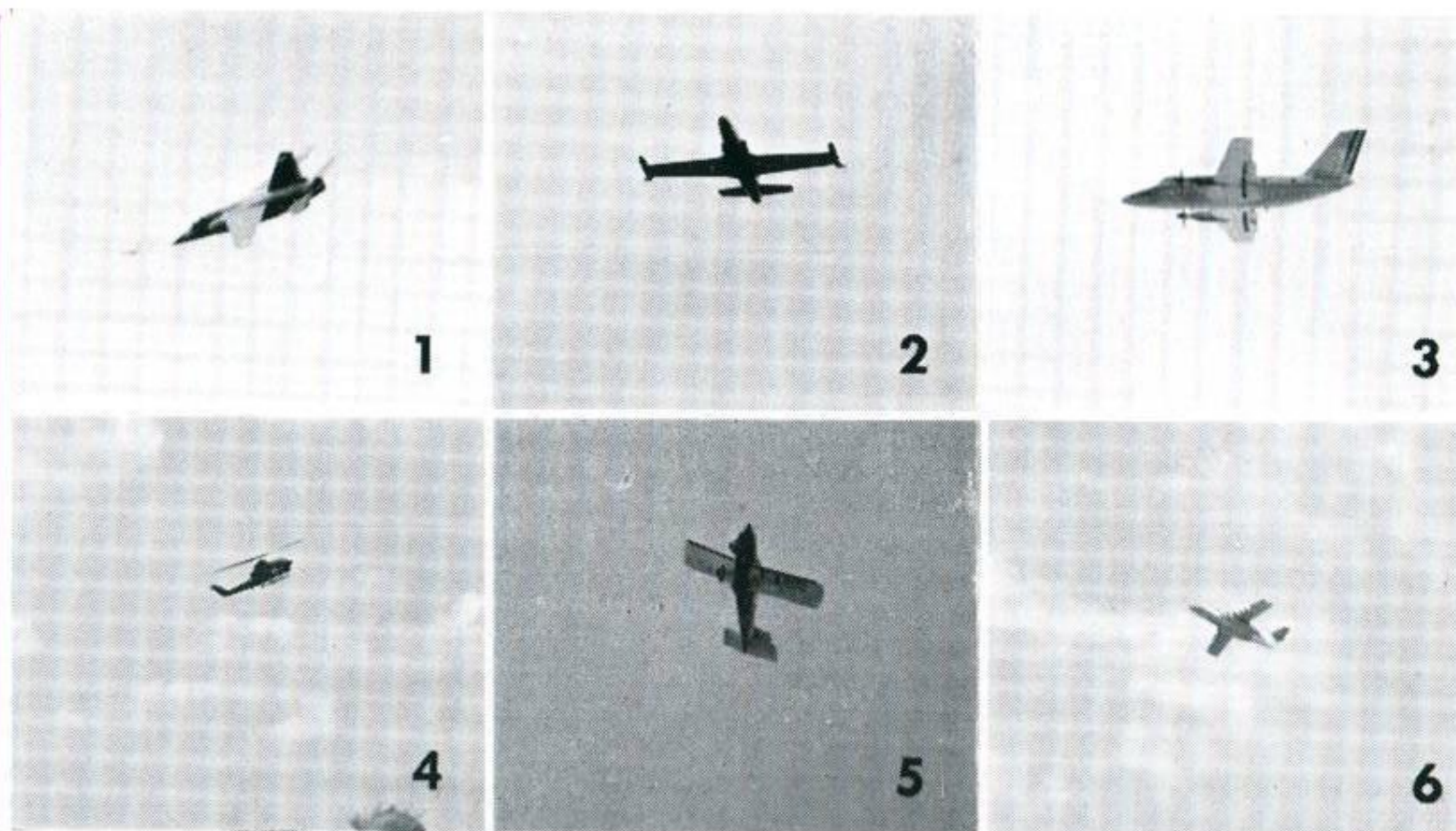
Journal



Vol. 25 MARCH 1970 No. 3

A TEST OF SKILL

An advanced test of aircraft identification posed by an official photographer at the Paris Air Show last year. The solutions appear on the back cover, but do not give in too easily; in the six lines of five photos below there is at least one aircraft in each line that should be familiar or of such distinctive shape that it should be known to all servicemen.





JOINT SERVICES

RECOGNITION JOURNAL

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

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RECOGNITION OF THE PAST



Among the latest items in the publishing world's trend to print facsimiles of first or early copies, ranging from first issues of the *Magnet* and *Boy's Own Paper* to Railway Timetables at the turn of the century and the 1913 issue of *Jane's All the World's Aircraft*, have been the world's first aircraft recognition handbooks.

Three of the original official recognition handbooks were reproduced last year by the Cornmarket Press Ltd. These are the British *Silhouettes of Aeroplanes*, first issued in 1916 and including the 1917 amendments; *Silhouettes d'Avions classes par analogie* (Aeroplane Silhouettes classified by Resemblance), first issued by the French on April 1st, 1917, with drawings on a 1/200 scale; and *Carnet de Silhouettes d'Avions Allemands* (Handbook of German Aeroplane Silhouettes) marked "Très Confidentiel" and issued in 1915 by the French military authorities.*

These books provide an interesting comparison with the aircraft recognition material of today, and on the back of each book the publishers have included an appraisal by historian J. M. Bruce, MA, FRHistS, who is Assistant Keeper of the RAF Museum. To quote from his comment on the British handbook: "The silhouettes are of considerable interest, for they represent a sensible attempt to provide illustrations of their subjects much as they would appear when seen from a distance. They are free from distracting detail and are for the most part reasonably accurate."

There is a lesson for today in these comments. The silhouette views in the *Journal* have sometimes been criticised as comparing unfavourably with arrangement views given in certain commercial journals, because of the lack of detail presented. What is not always appreciated is that lines within the silhouette not only distract the eye from an appreciation of the overall pattern, but in the case of a 100-foot span

aircraft shown in 3-inch square panel, to be visible detail lines must be thickened to a degree completely out of scale. This was as true then as now, for the Handley Page bombers of 1917 outspanned the Concorde of today.

In the aircraft identification language of today, the illustrations in the early British handbooks were not really silhouettes but sillographs, that is a blacked-out view of a flying attitude as apart from a blacked-out view of a general arrangement drawing. The sillograph has its value; its current equivalent being the actual photographs of the aircraft in flying attitudes as presented by key and target views in identification lessons. The French representations, although called silhouettes, were actually something between sillographs and tone drawings.

J. M. Bruce ended his appraisal of the British book: "Doubtless the book was produced under pressure and with difficulty, but its appearance suggests that in 1916 and 1917 aircraft recognition did not command a very high priority in the scheme of things. This book was superseded by the improved Field Service Publication 21 and its companion handbooks. It is sad that the lessons of 1918 were forgotten over the following twenty years, and in 1939 again found Britain without any sound official publication on aircraft recognition."

In 1939 there was only the AP1480 *Handbook of Aircraft Silhouettes* which, with continuous amendments, was maintained up to the fifties. The *Joint Services Recognition Journal*, first known as the *Inter-Services Aircraft Recognition Journal*, supplemented the AP1480 from 1942 and finally completely superseded it when it adopted the identification lesson style presentation using the Sargeant System. So today's handbook is the *Journal*, not just this issue but the files of issues providing continuous identity training.

* (15s, 12s 6d and 7s 6d respectively.)



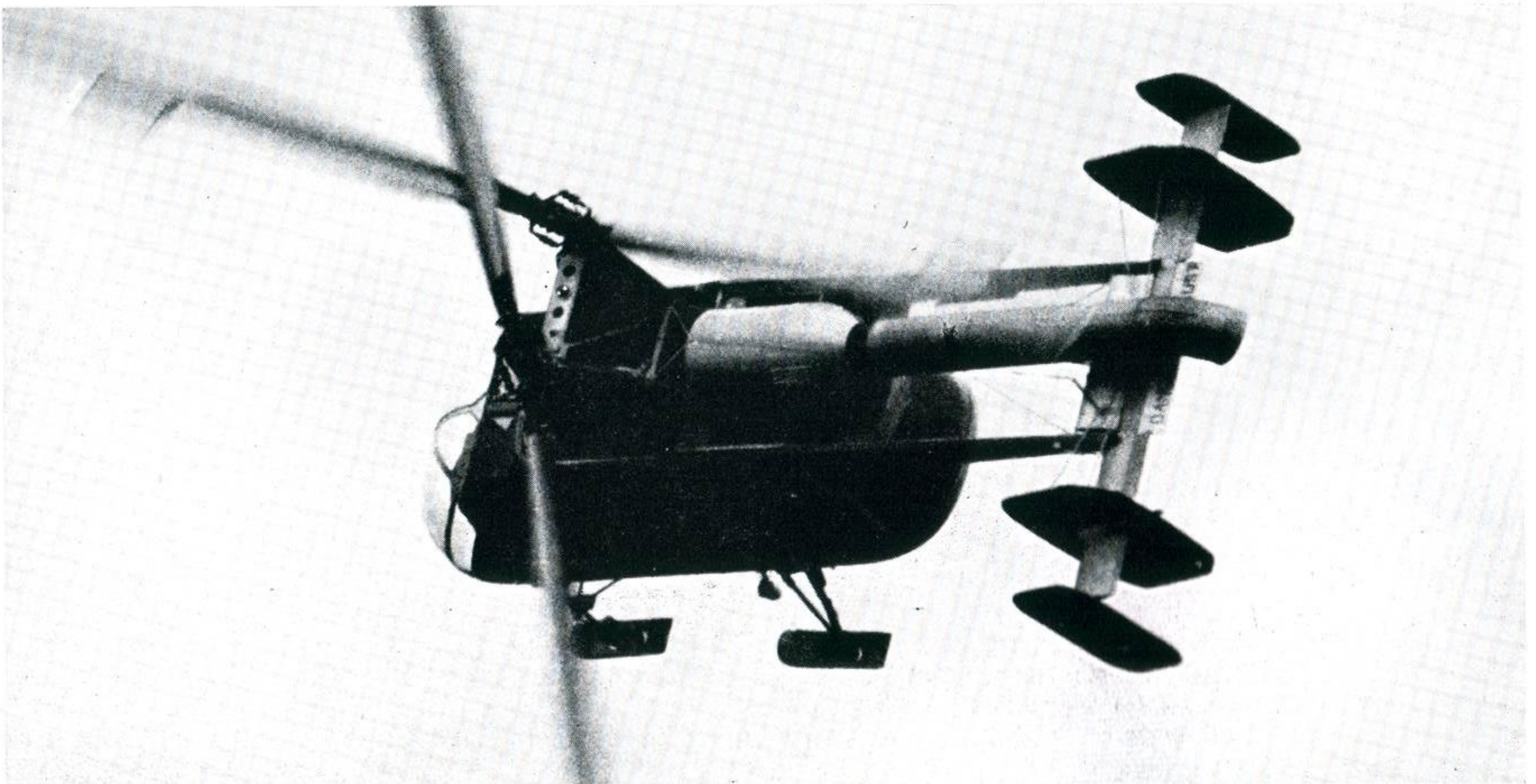
HUSKIE H-43 in US Service

Length 25 ft

An American light transport twin-rotor helicopter widely used for rescue duties, Huskie is in service in two different versions, the HH-43B and the HH-43F with more powerful engines but of the same configuration.

Distinctive as it may appear among British and American helicopters, it is not unlike its Russian counterparts. To learn to identify it, prepare a list of

numbers, 1 to 34, in order to tackle the target views in any order. Identify these views by comparing them with the key views; use targets already positively identified as additional keys. When certain of the identity of each write down Huskie against the appropriate number on your list. Beware of jokers. Solutions on the back cover.





continued overleaf



HUSKIE *continued*

In USAF service, Huskies are widely distributed at stations at home and overseas for crash rescue duties and can carry fire-fighting packs. Huskies have also been supplied to Burma, Colombia, Morocco, Iran, Pakistan, and Thailand.



MONTHLY MEMORANDUM

BEECHCRAFT HAWKER

Beech Aircraft Corporation of America and Hawker Siddeley of Britain have jointly announced that the special capabilities of the two organisations are being joined to develop, produce and market a family of next generation business/corporate jet aircraft. Beech Aircraft will assume marketing responsibility for the Hawker Siddeley 125 (Dominie) in North America and the HS125 will now become the Beechcraft Hawker BH125. For reporting purposes Dominie/BH125 will now be acceptable.

The companies plan two new aircraft, the BH200 and BH600 of which details will be given when configurations are known. Beech will now assume support facilities for the Dove and Heron, mentioned below, in the American sphere.



SKEETER

The last of the Skeeters still in service, the Skeeter AOP12s, have been declared obsolete by a Defence Council Instruction and the type is now obsolete for all British service purposes, except for a single example that may be seen flying in Army markings for exhibition purposes only. One remains on the Civil Register but it does not have a current certificate of Airworthiness. Examples used by the Federal German Forces were discarded in 1961 and numbers then sold to Portugal are no longer in use. Since there is no further operational need to identify the Skeeter all recognition material on this helicopter can be discarded.

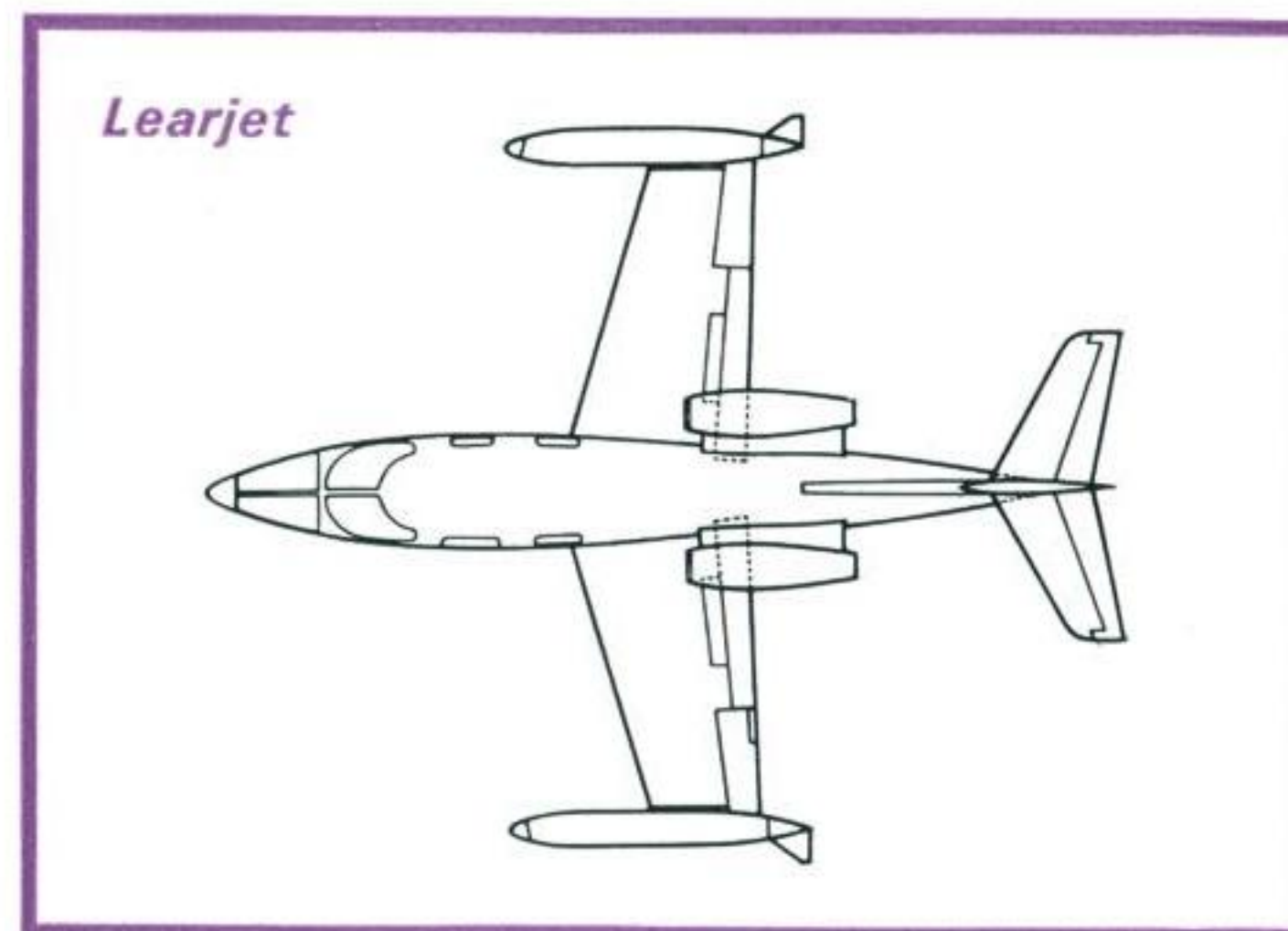
DOVES AND HERONS

A new de-icing fit for Doves and Herons led to a recent census of these aircraft currently operating. It was found that 428 Doves (including the military version, the Devon) and 115 Herons are in service. This endorses the policy of keeping at hand old copies of the *Journal*; the last lesson on the Devon was in the June 1966 edition and the last lesson on the Heron was in the October 1965 edition. Under the new Beech and Hawker Siddeley agreements mentioned above, Beech will give spares support to Doves and Herons flying in the American continent.



FROM LEAR JET TO LEARJET

Gates Aviation, distributors for the Lear Jet light jet transports, have merged with Lear Jet Industries to form the Gates Learjet Corporation. It is not proposed to change the reporting name except to adopt the new form of Lear Jet in the more convenient one-word name of Learjet. Drawing shows the standard Learjet configuration; a later model with an increase of four feet in fuselage length is also in production.



STRATOJET PHASED OUT.

Operational since 1947, the Boeing B-47 Stratojet has been phased out of USAF service. It served its final years of service modified for weather reconnaissance work under the WB-47 designation. It was recently declared obsolete and gradually phased out as a result of a US Defense Department cutback in funds.

Of the last two, one went to the Boeing Field at Seattle for preservation as a monument on the edge of the field and the other flew to join some 1000 other B-47s cocooned against any emergency.

The Stratojet may now be excluded from training lists, but while stored examples remain for possible re-use, recognition training material should not be destroyed.



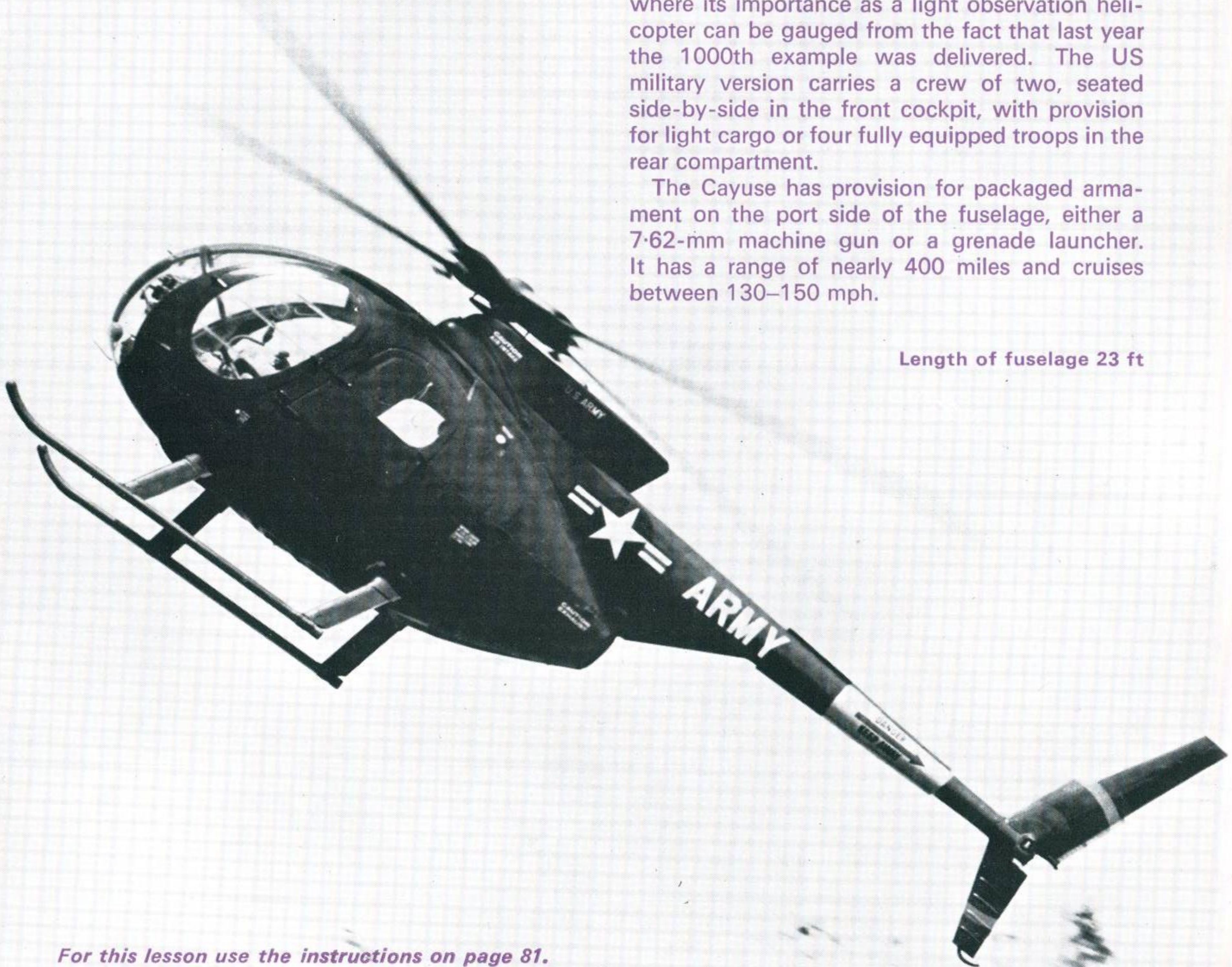
CAYUSE

The Cayuse is the US service version of the Hughes 500 helicopter produced as a five-seat executive helicopter, a utility version carrying up to six persons or equivalent freight, and a 500M military version which has been supplied to Columbia and Japan.

The American service version is the OH-6A Cayuse pronounced **Ki-use** of the US Army where its importance as a light observation helicopter can be gauged from the fact that last year the 1000th example was delivered. The US military version carries a crew of two, seated side-by-side in the front cockpit, with provision for light cargo or four fully equipped troops in the rear compartment.

The Cayuse has provision for packaged armament on the port side of the fuselage, either a 7.62-mm machine gun or a grenade launcher. It has a range of nearly 400 miles and cruises between 130-150 mph.

Length of fuselage 23 ft



*For this lesson use the instructions on page 81.
Solutions on the back cover*







SCOUT

With the Sioux AH1, the Scout AH1 currently forms the main equipment of Army Aviation Squadrons and it has been in Army service since 1963. The Scout has two seats side-by-side at the front of the cabin, and bench seats for three behind that can be removed to carry freight.

The naval anti-submarine version has the service name Wasp and is dealt with separately overleaf. Variations that can occur with the basic Scout version

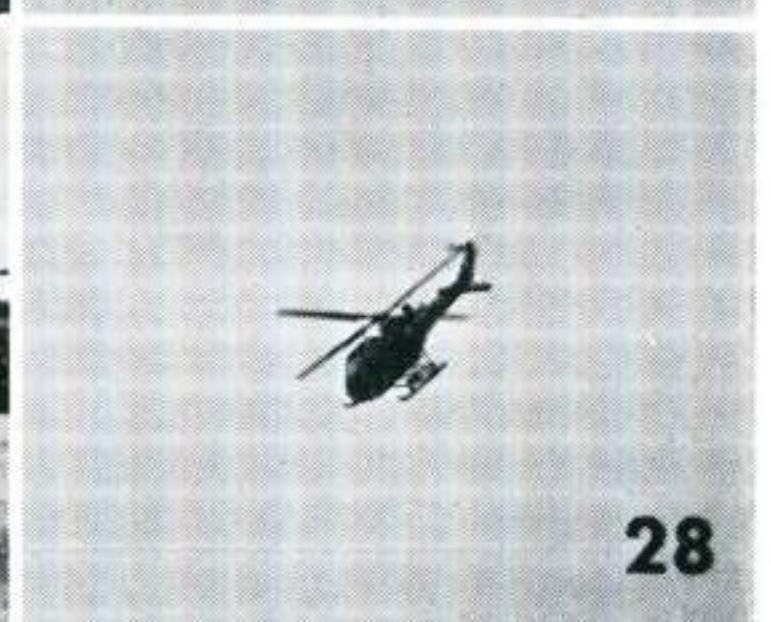
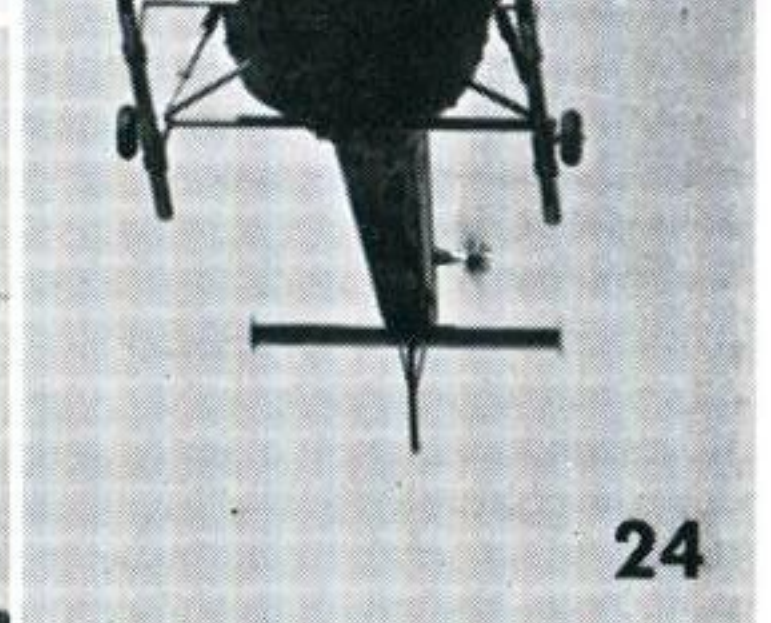
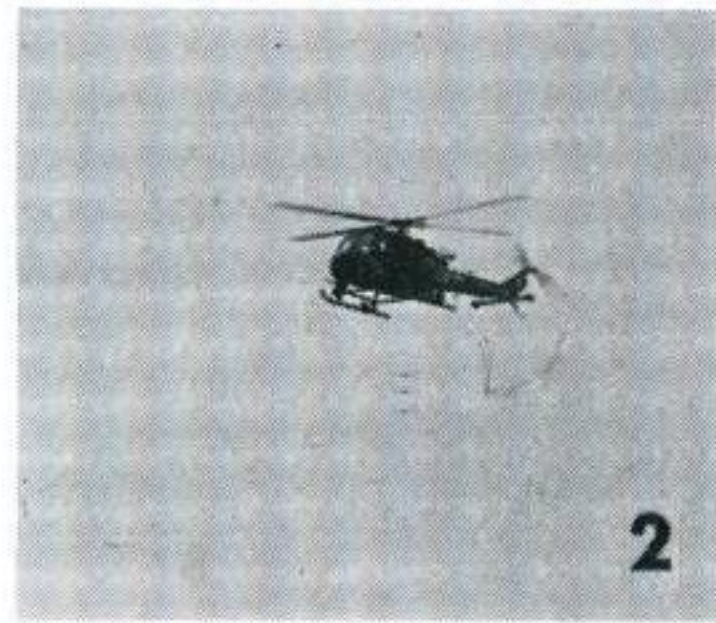
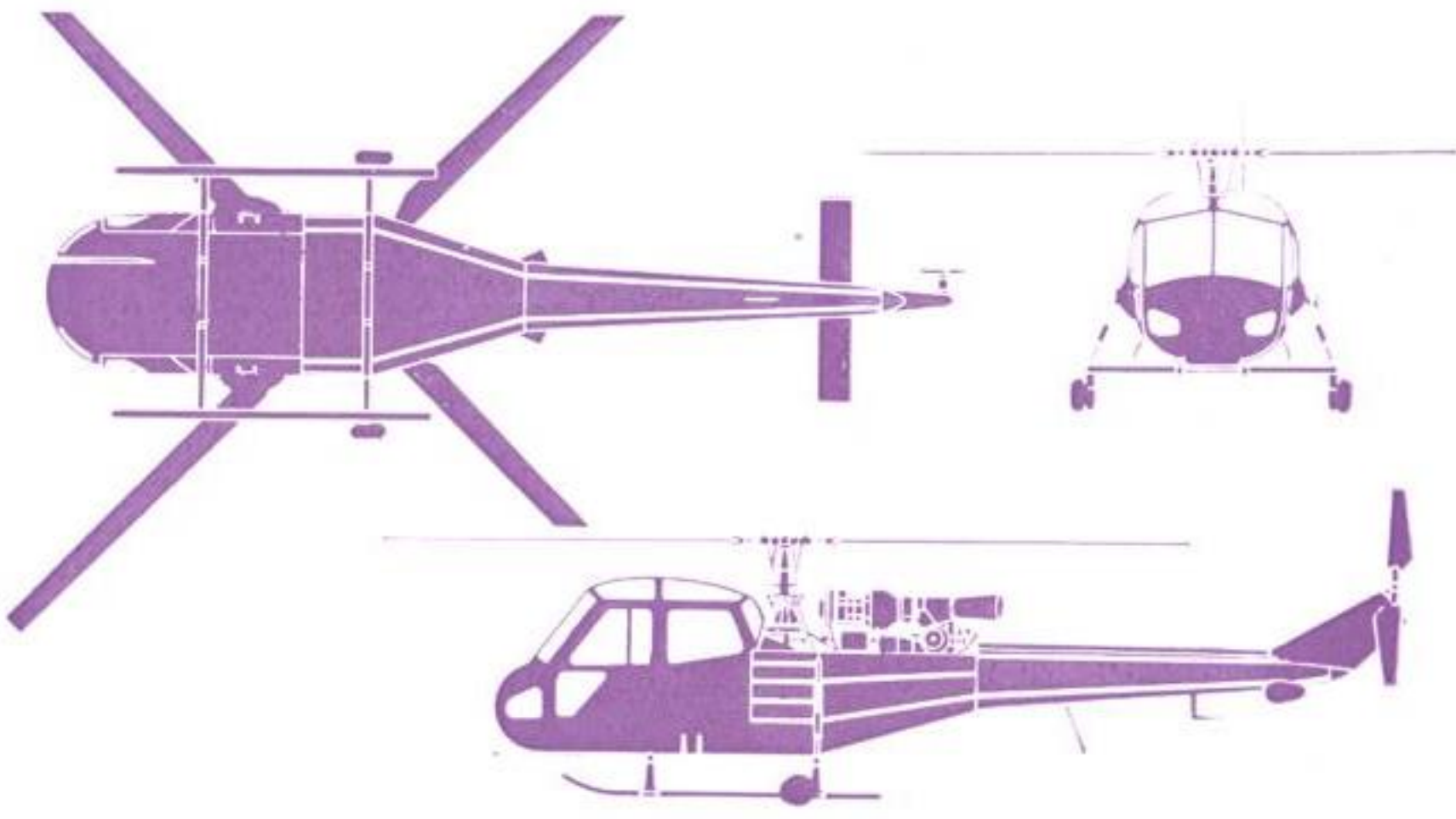
are removeable ground manoeuvring wheels and Nord SS11 missiles that may be mounted externally. The rotors can be folded for stowage.

Deliveries to other Services have included two to the Royal Australian Navy for survey work, two to the Government of Uganda and to the Bahrein State Police for policing duties, and three to the Royal Jordanian Air Force including one to VIP standard.

Lesson instructions are on page 81 and the solutions on the back cover.



Length of fuselage 30 ft





WASP

Developed directly from the Scout (see previous page) the Wasp HAS1 is used in an anti-submarine role in the Royal Navy operating from helicopter platforms on destroyers and frigates. It differs visually from the Scout by a different undercarriage having castor wheels on shock absorber struts to facilitate landings on platforms moving with the swell of the sea.

In the anti-submarine role two underslung Mk 44 torpedoes may be carried, but the Wasp is also used for general utility, survey work and training.

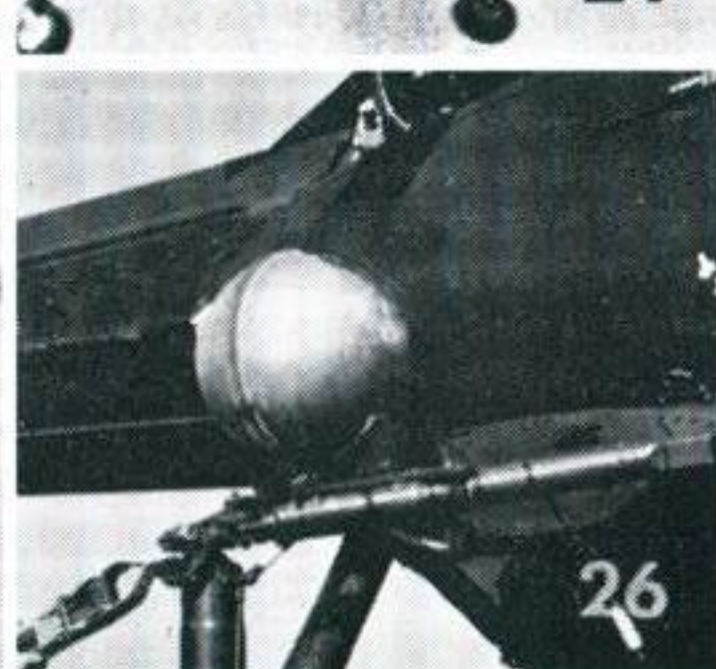
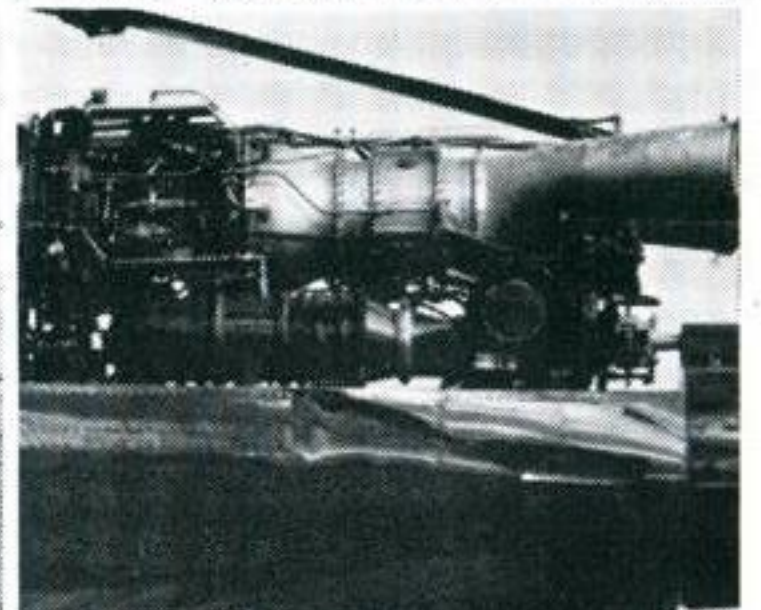
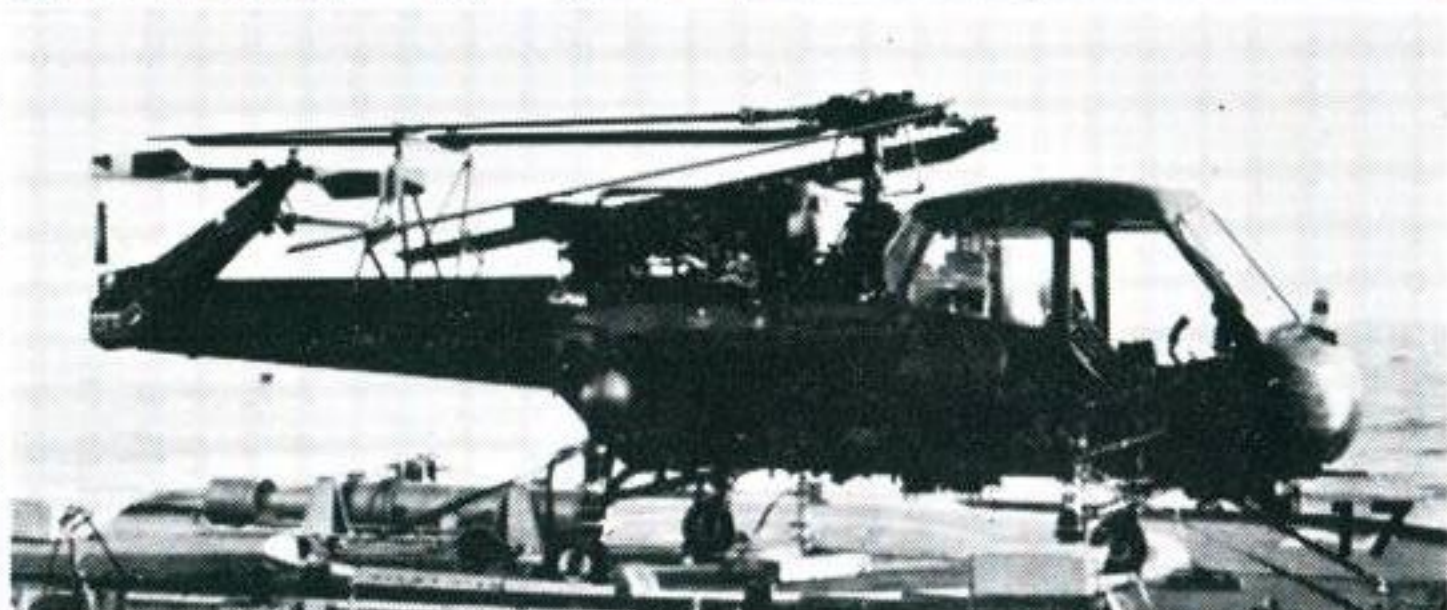
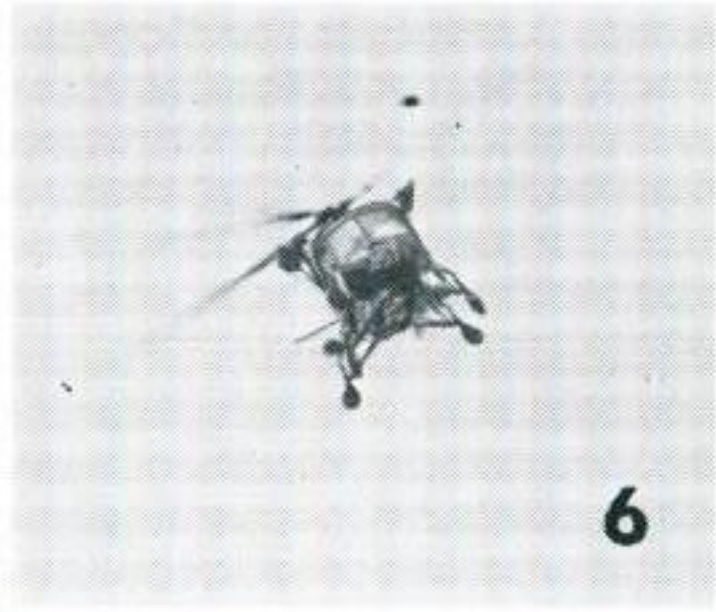
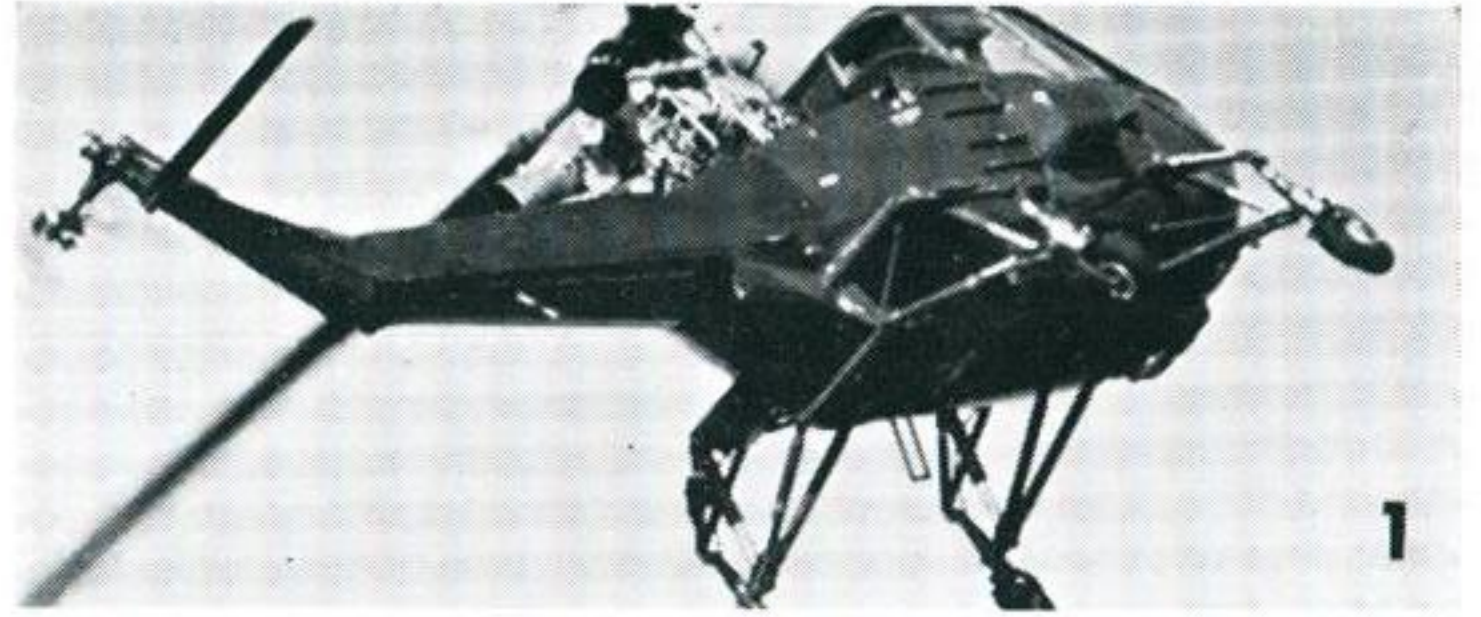
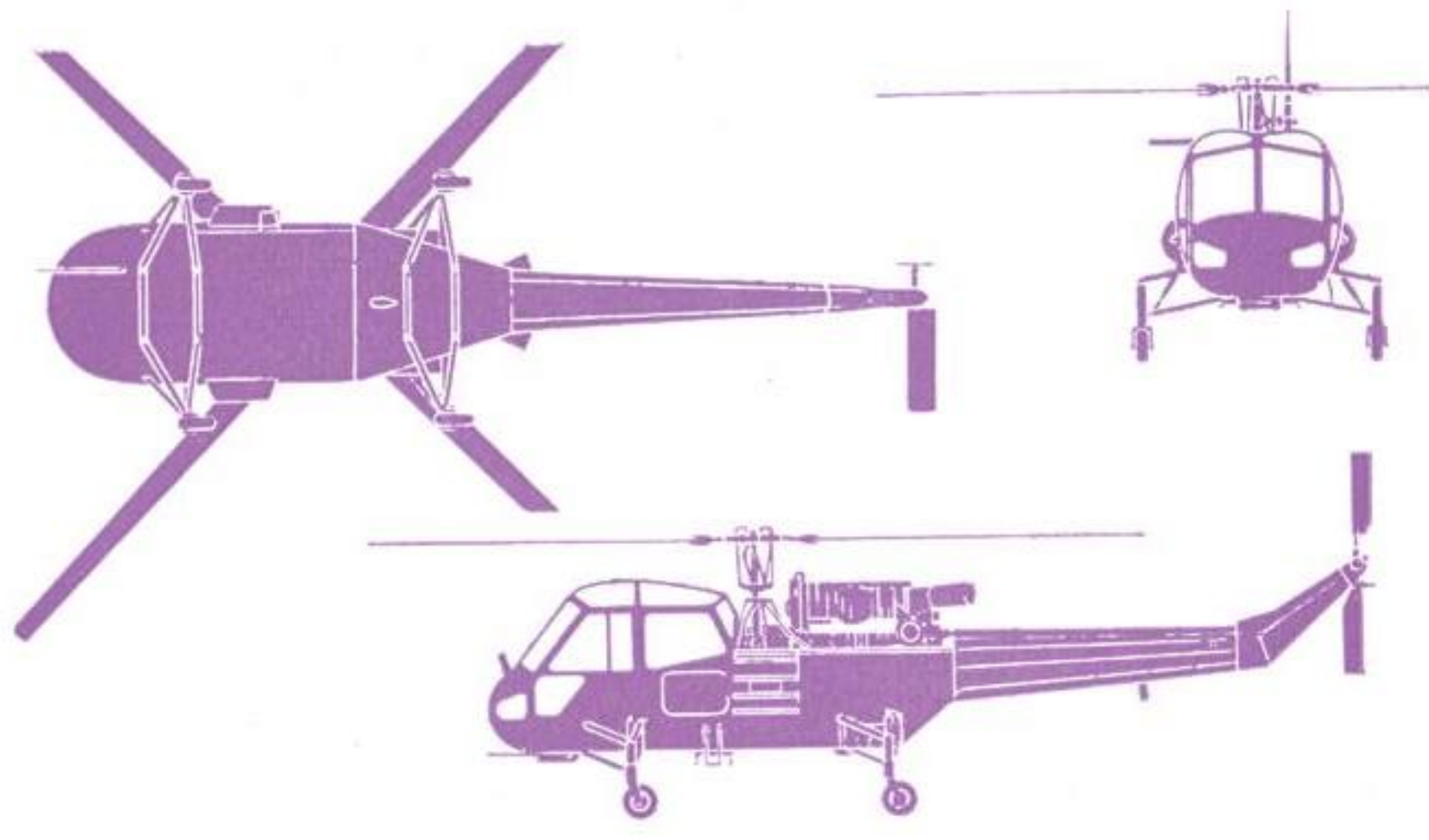
Apart from Royal Navy service, Wasps have been ordered by other countries as follows: Holland for Royal Netherlands Navy (12), South Africa (10), Brazil (3) and New Zealand (2). Work to the lesson instruction on page 81. Solutions on the back cover.



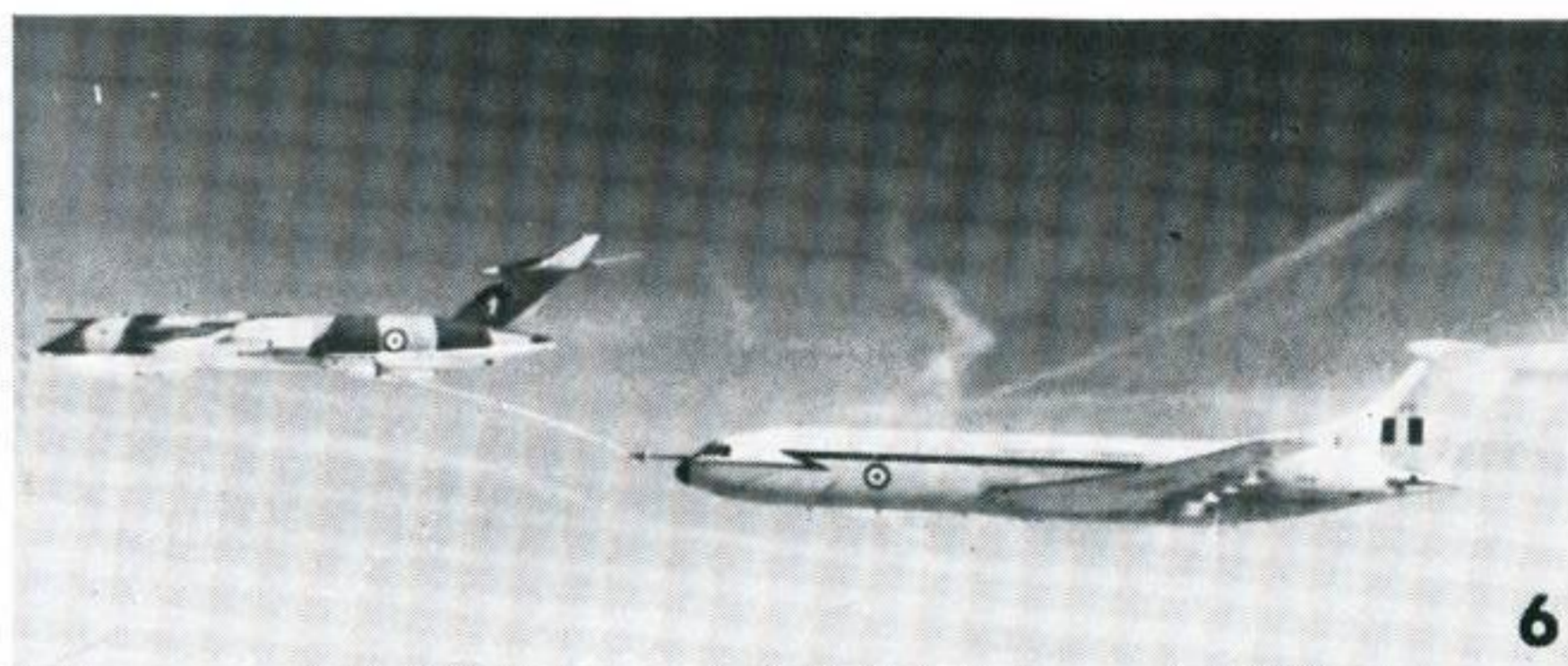
Wasp with two Mk 44 torpedoes above, and below with torpedoes and outrigger flotation gear.



Length of fuselage 30 ft

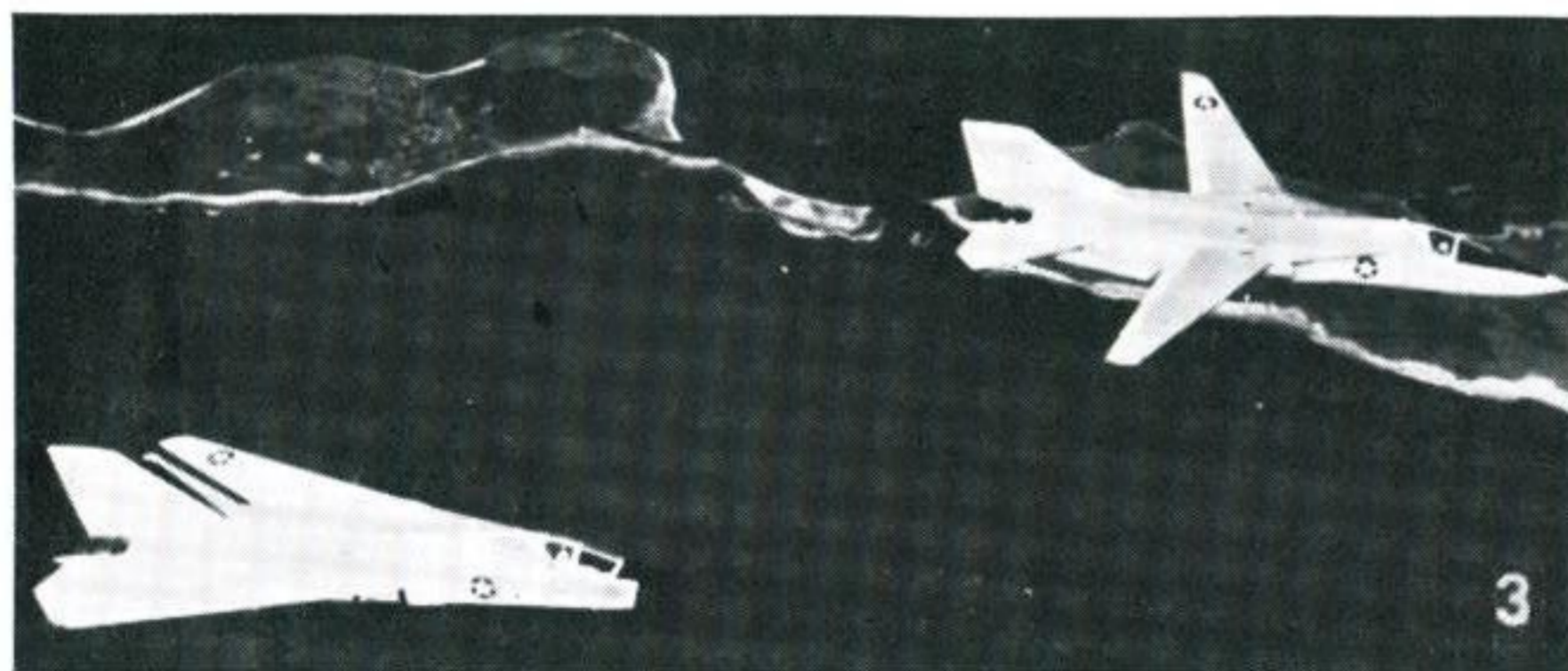


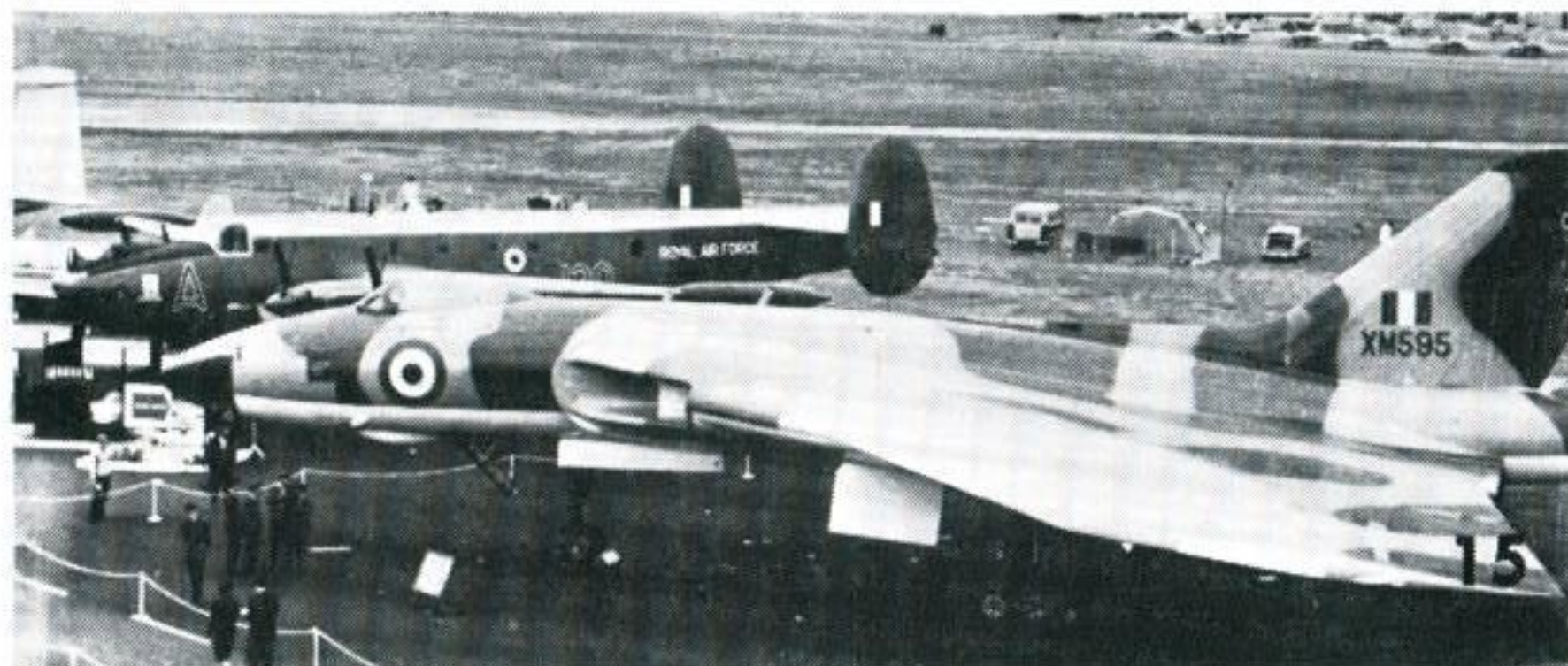
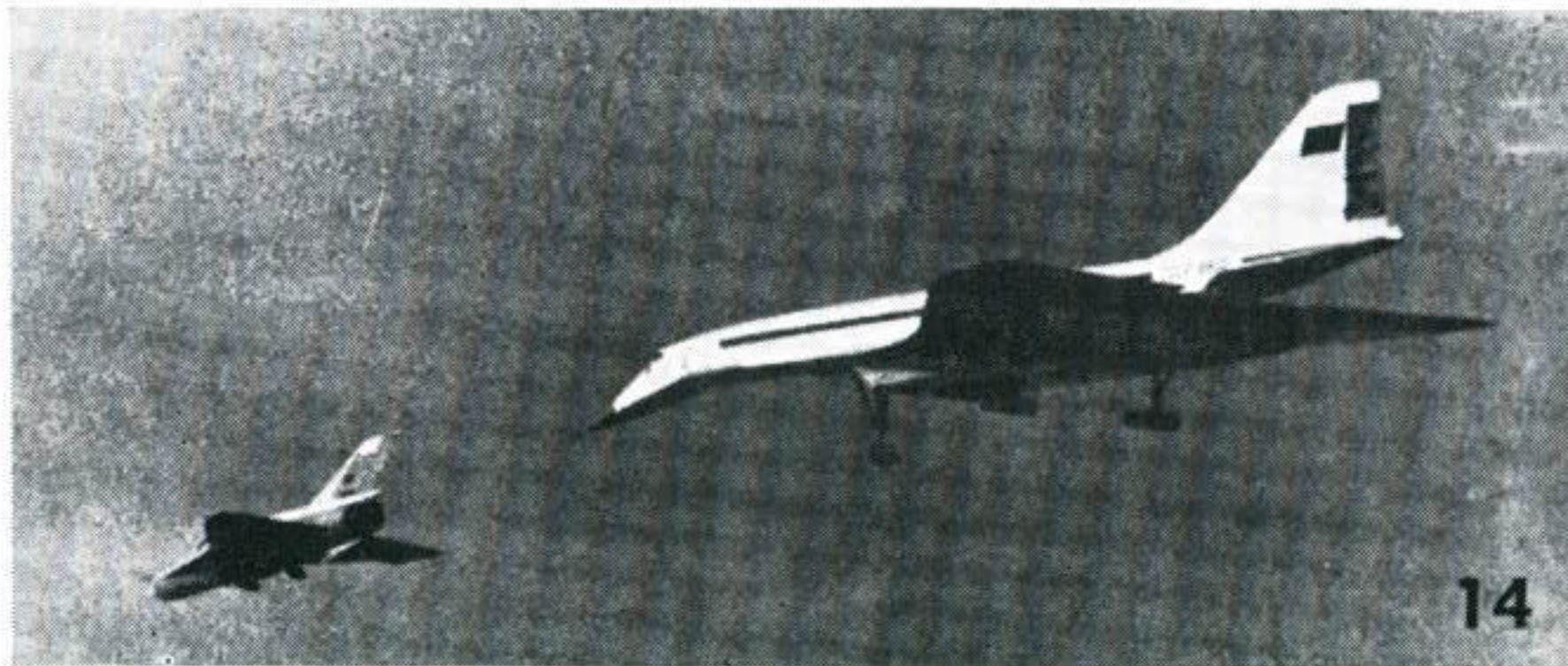
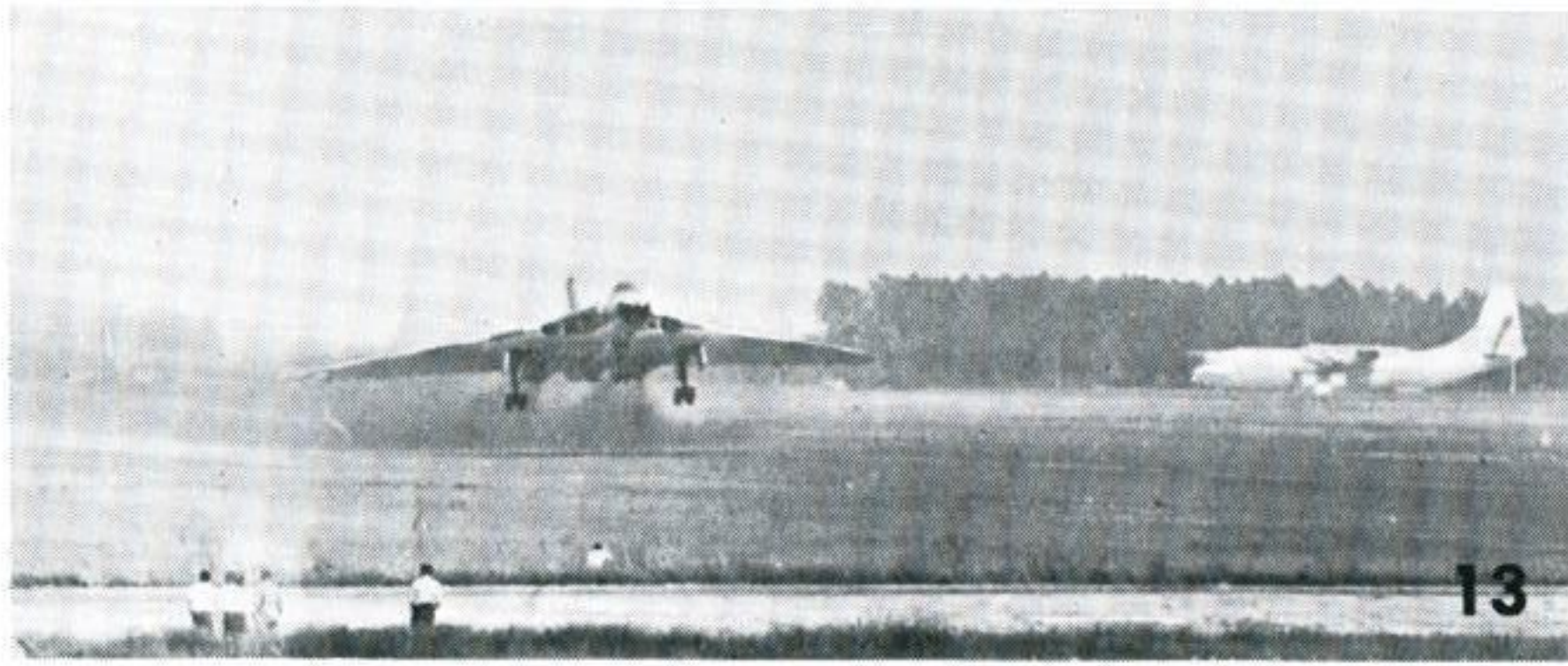
DOUBLE TEST



Test your ability to identify aircraft and keep a check on your progress. There are two or more aircraft to each target view making 45 aircraft types to identify.

Check your answers with the solutions on the back cover.







Span 222½ ft



GALAXY

(US designation C-5A)
(Lockheed Model 500)

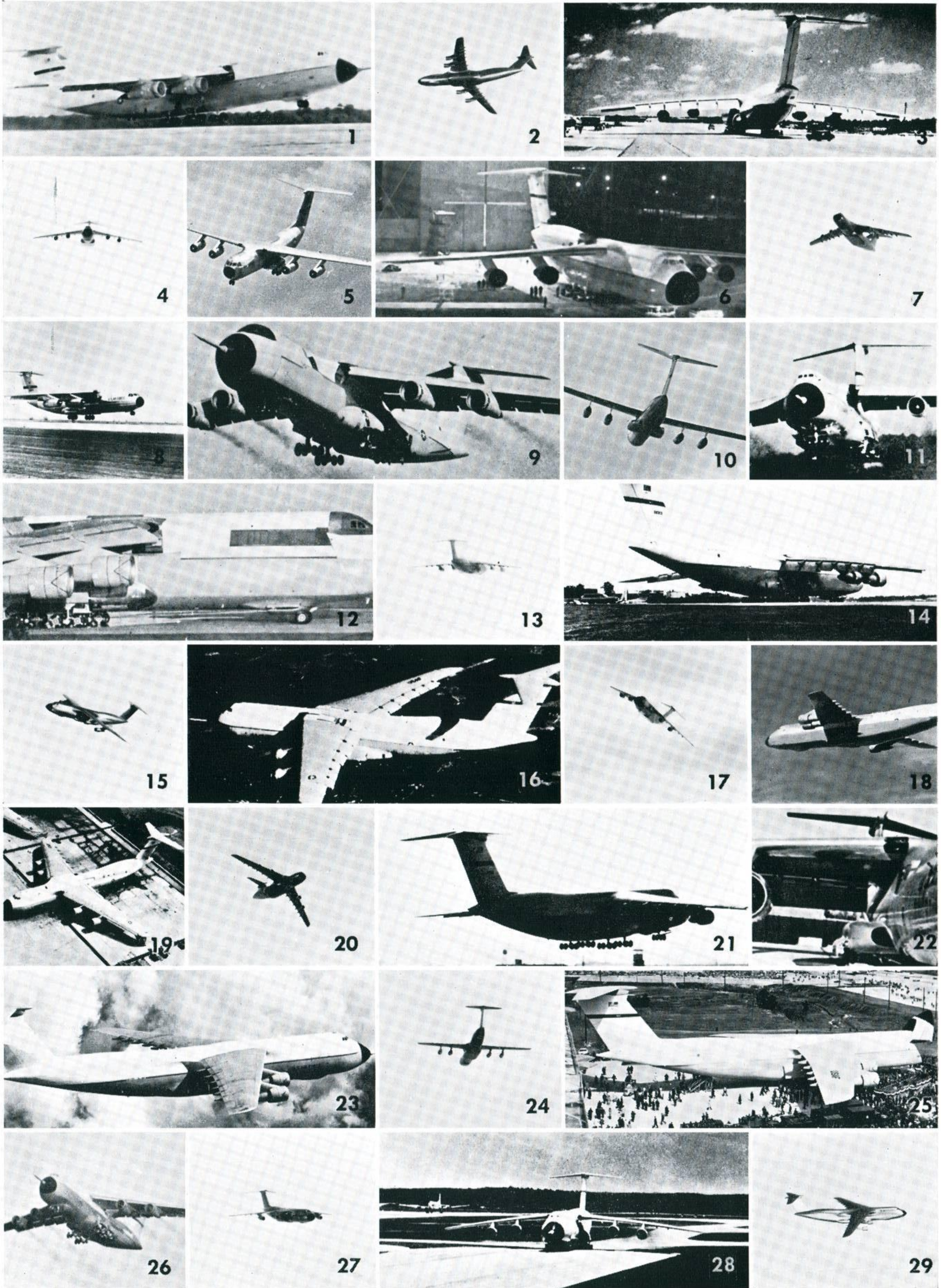
This is a provisional identification lesson on the largest of the military transports. Plans are for 81 to be built for the USAF and the first eleven have been assigned to service flying.

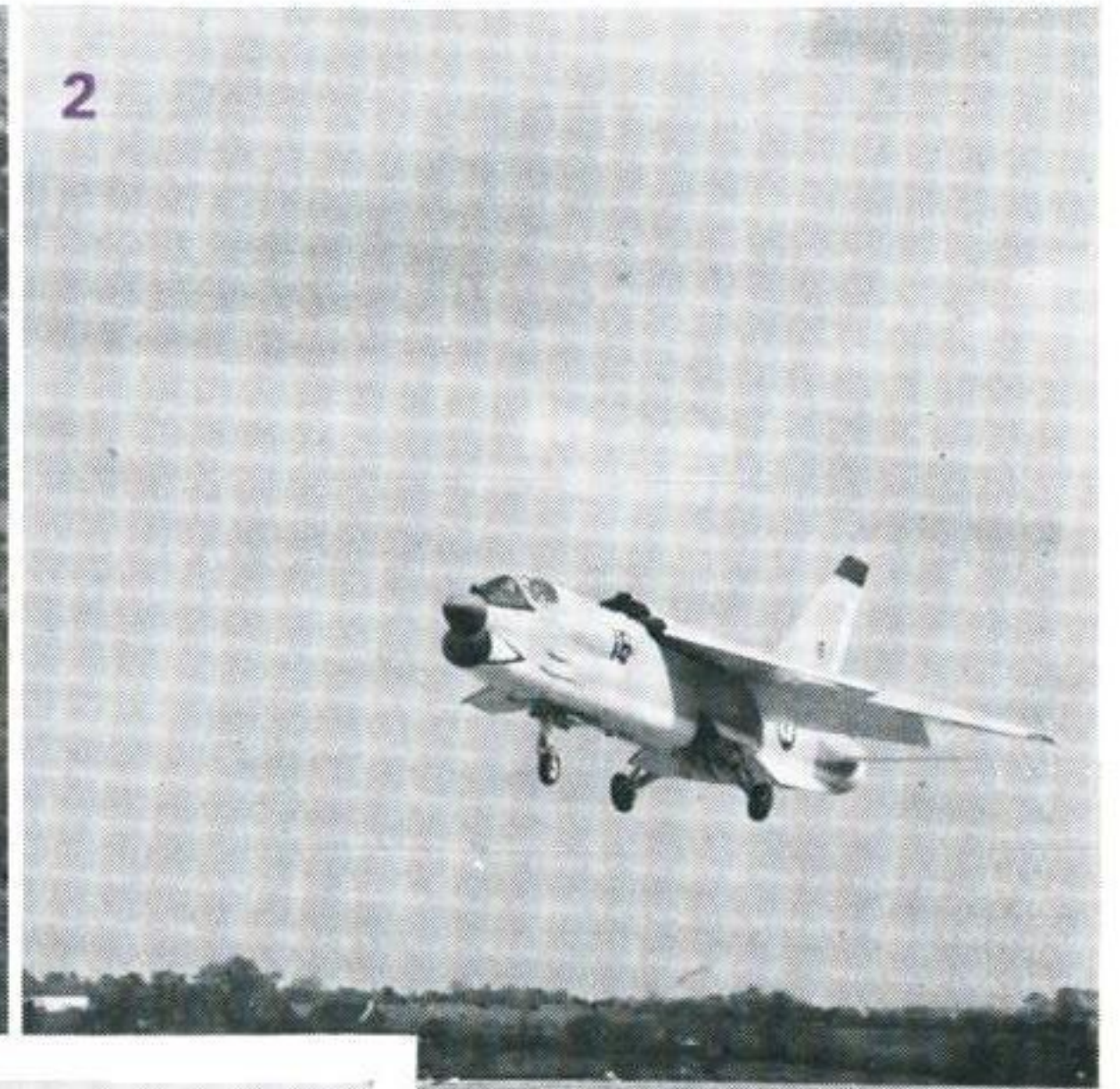
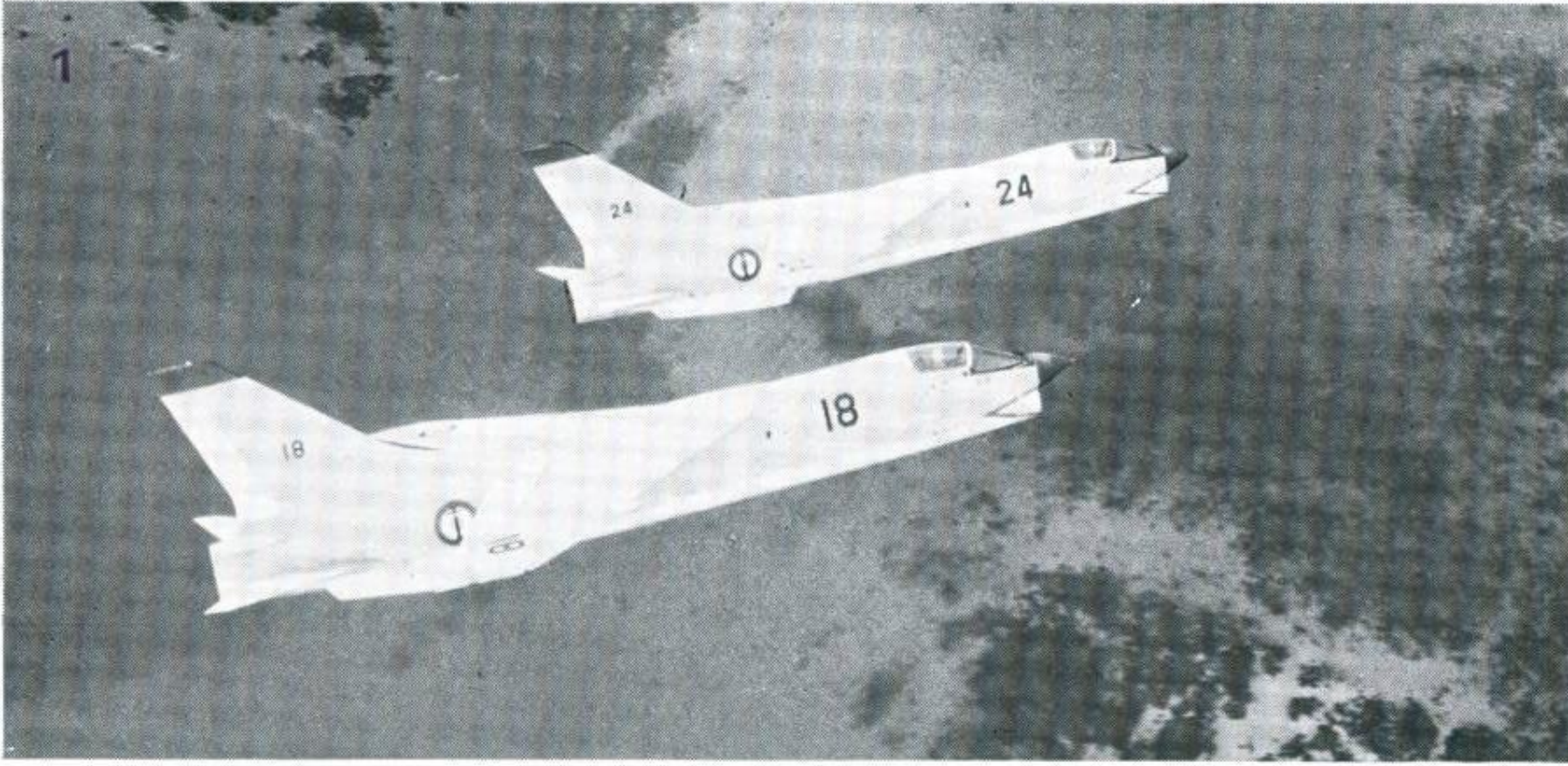
The initial versions have seating for 75 troops on an upper deck and a further 270 could be accommodated in the lower freight deck which can take alternatively $16 \times \frac{3}{4}$ -ton trucks or two M60 tanks among a variety of military loads.

Work to the instructions on page 81 to gain preliminary experience in identifying the Galaxy. A further lesson is planned when the Galaxy is in full service and to cover details, as necessary, of other versions planned—a refuelling tanker, airborne command post and a commercial model.

Solutions on the cover



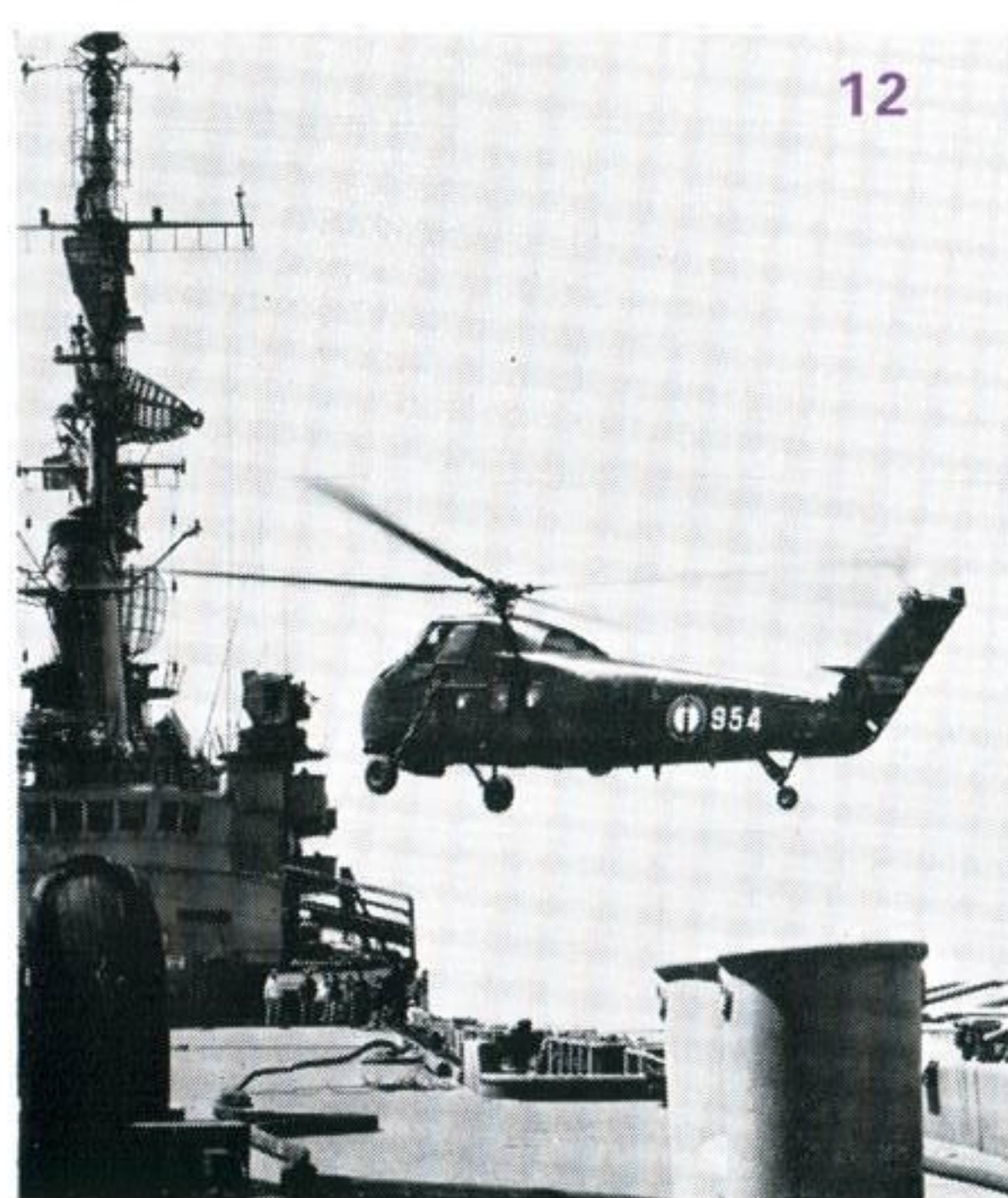




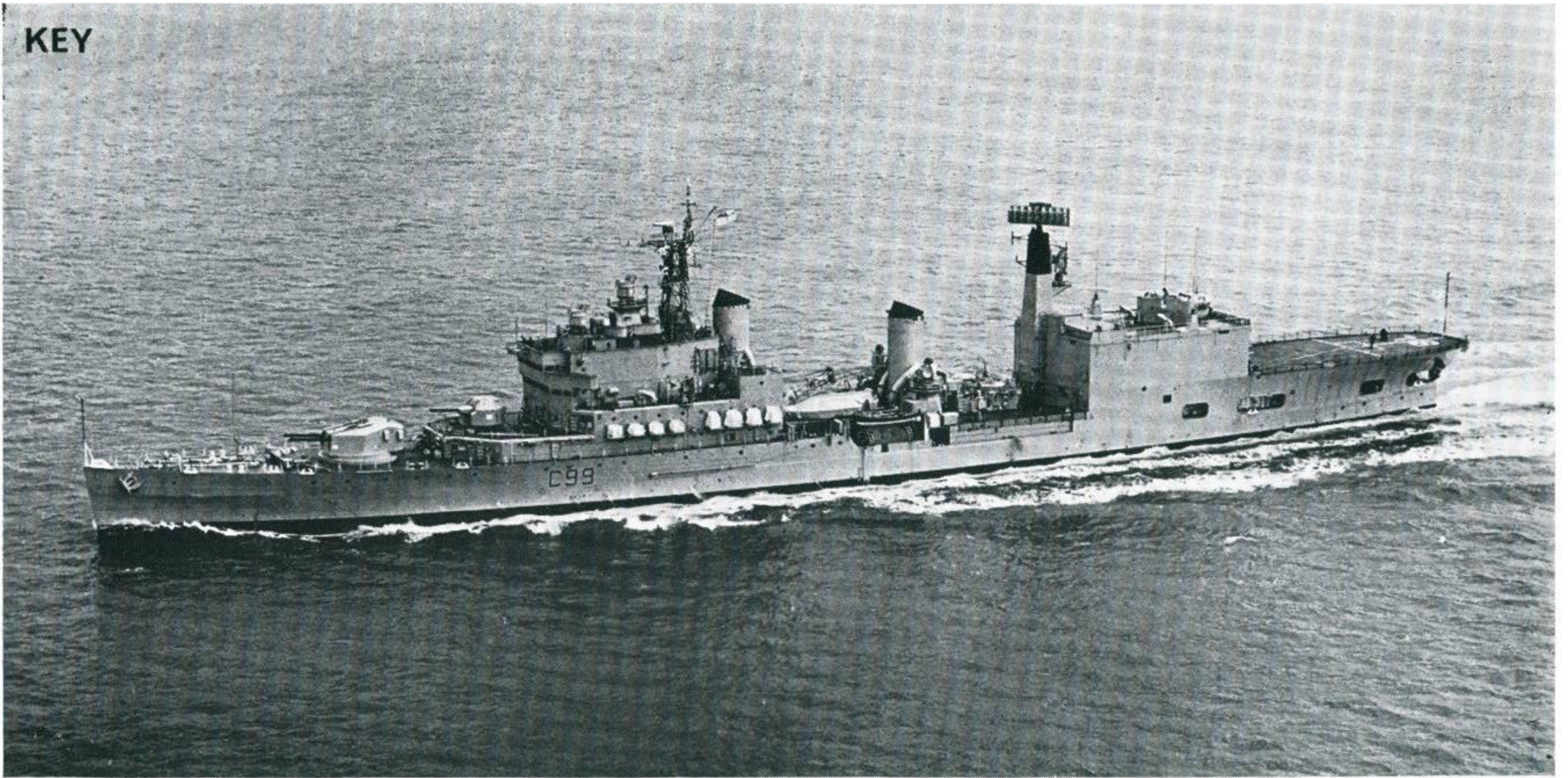
Aeronavale is a force of some thirty squadrons, seventeen of them first-line with modern equipment and the remainder with a variety of training and transport aircraft, some old and some new. A forecast gave the forward planning of Aeronavale for 1970 as consisting of 38 Atlantics, 22 Neptunes, 60 Alizé, 32 Crusader (F-8Es), 45 and 15 Étendard IVM and IVP respectively, 12 Super Frelon, 50 Sikorsky SH-34Js (basic Wessex for reporting purposes) and some 150 miscellaneous types including Alouette IIs and IIIs, a Constellation for SAR work and a few Magisters and Nord 262s.

France has two Clemenceau Class carriers, *Clemenceau* and *Foch*, and has retained the *Arromanches*, an ex-British Colossus Class carrier completed during the war, as a helicopter carrier. There is also the helicopter carrier *Jeanne d'Arc* built in the sixties, and the assault landing ships *Orage* and *Ouragan* each have landing space for three heavy helicopters, but unlike the Royal Navy, in general French destroyers and frigates do not have helicopter landing decks.

Use this survey of Aeronavale as a test. The captions to the numbered pictures are given on the back cover



KEY

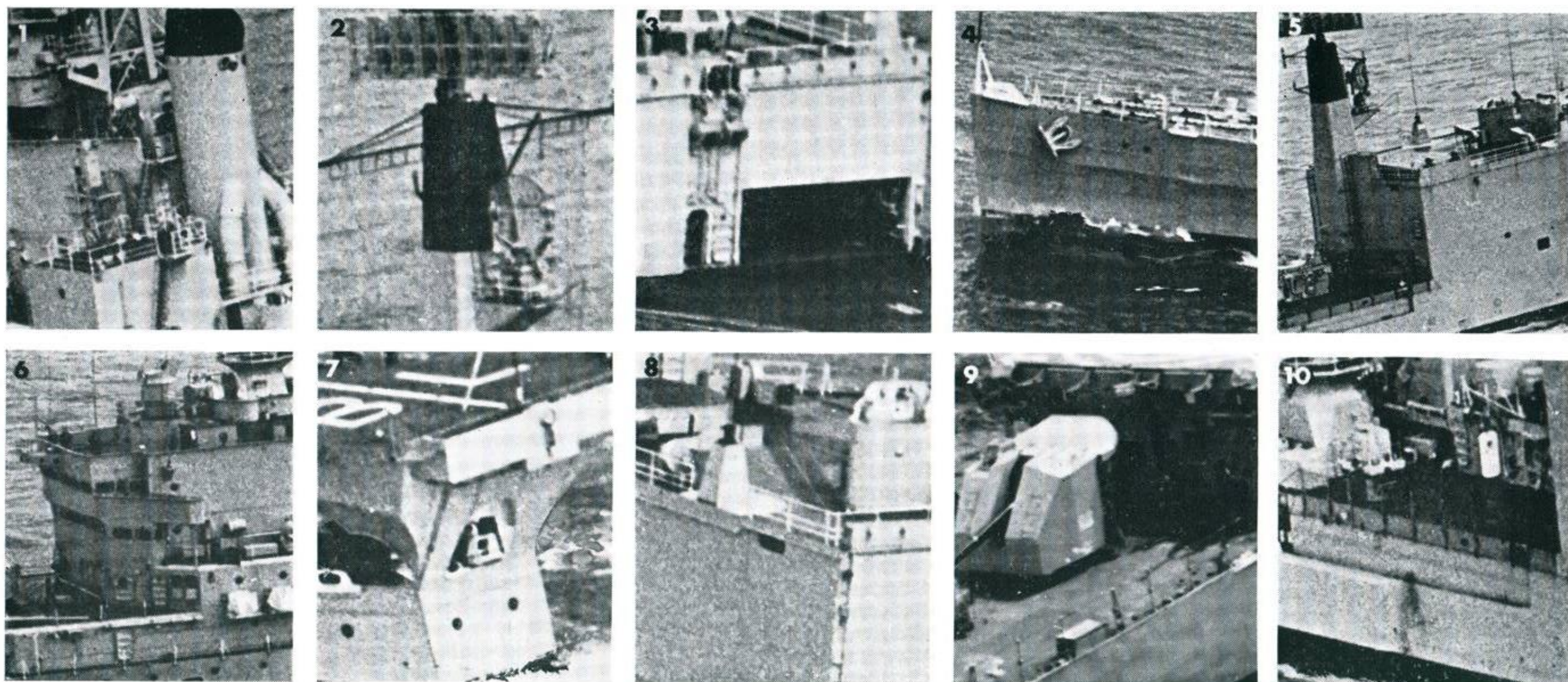


AS SHE WAS



AS SHE IS

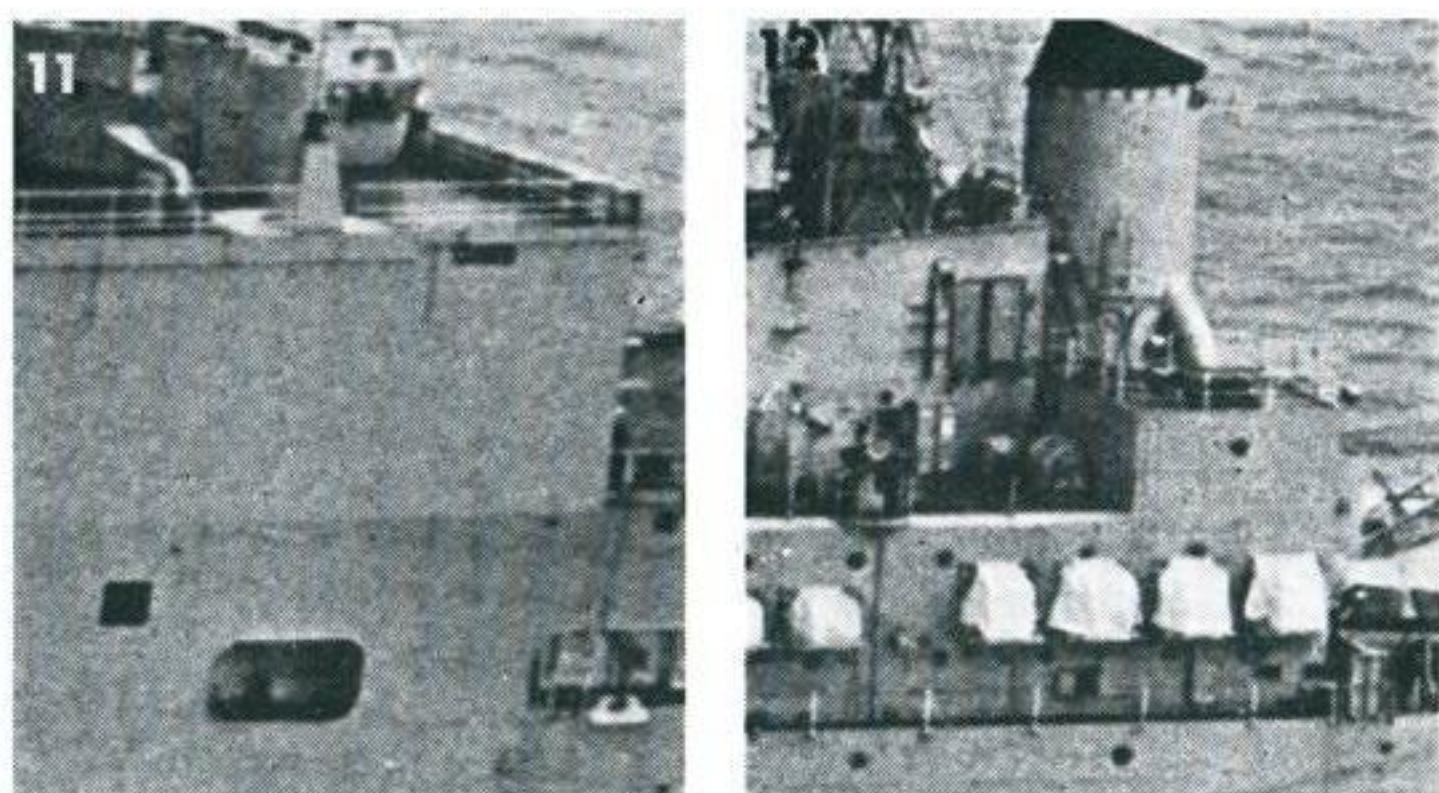




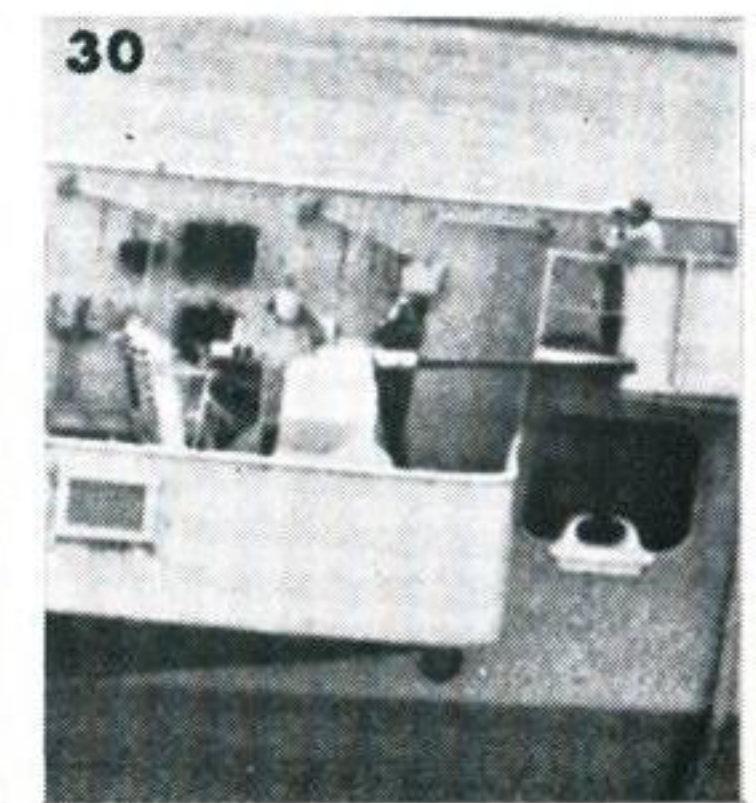
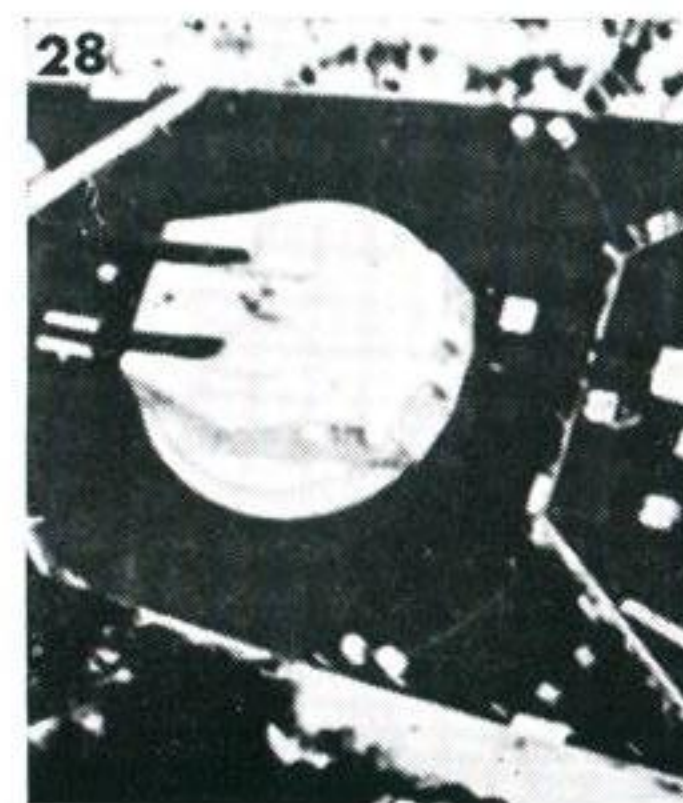
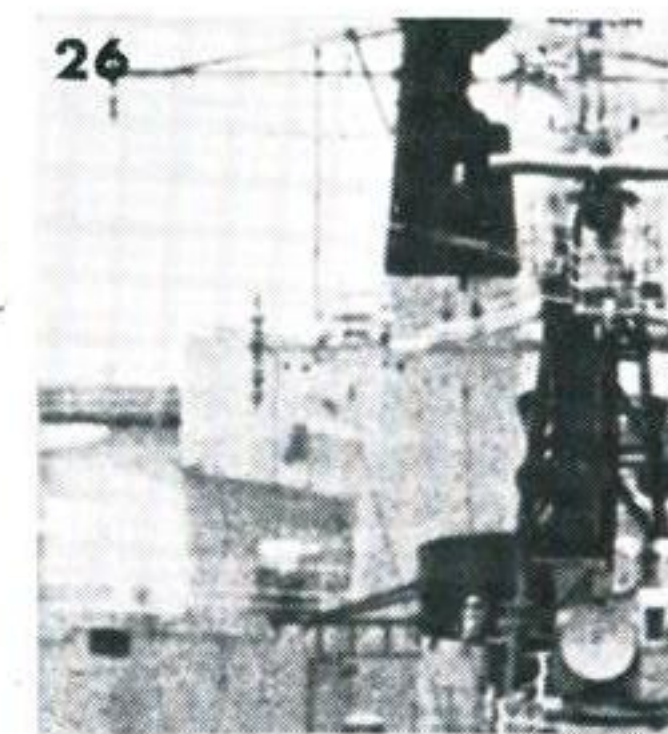
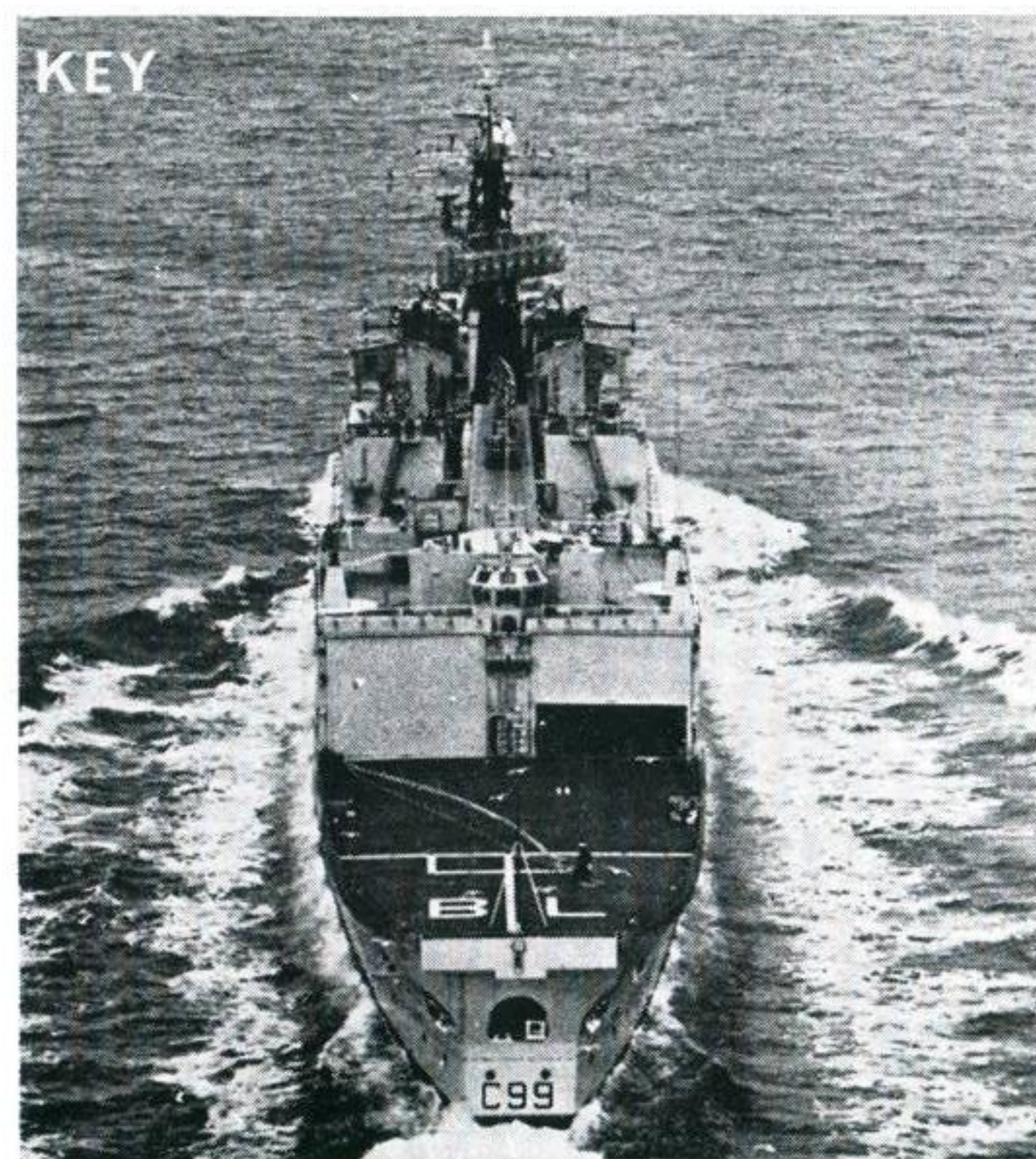
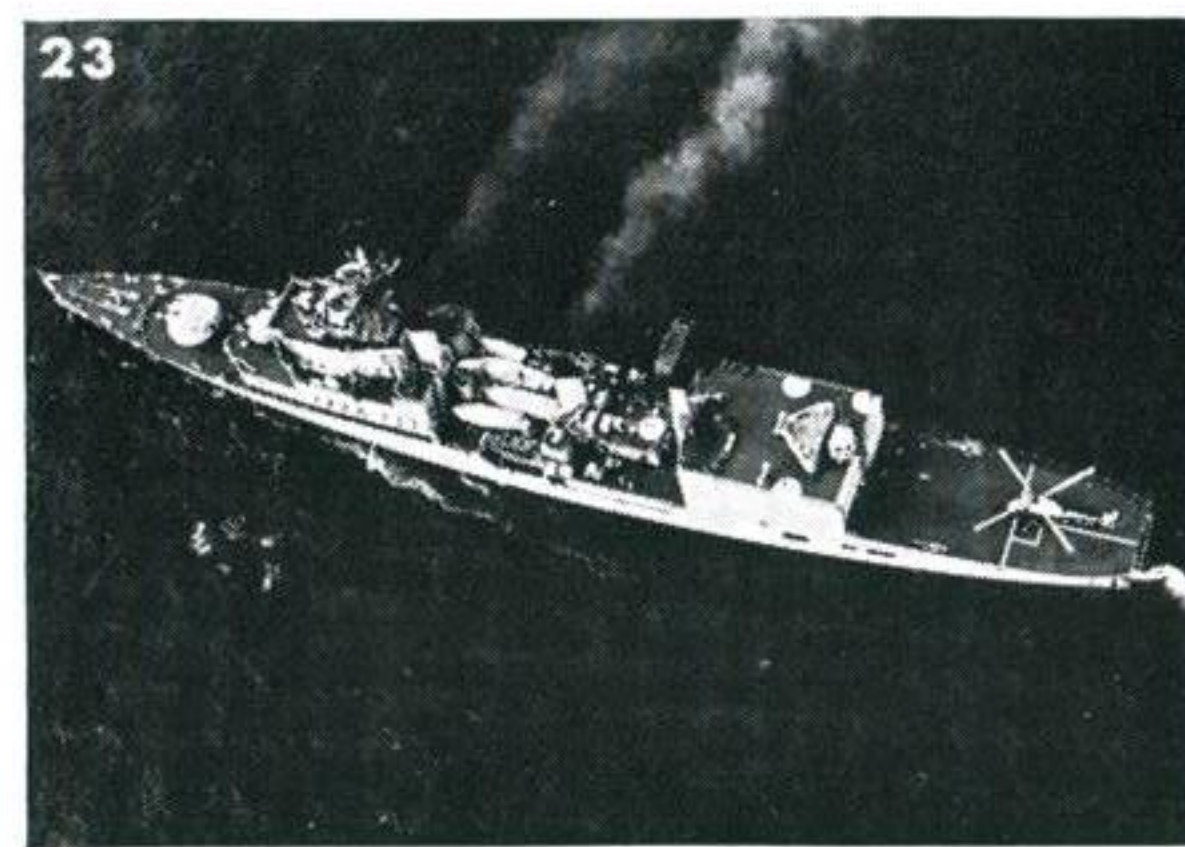
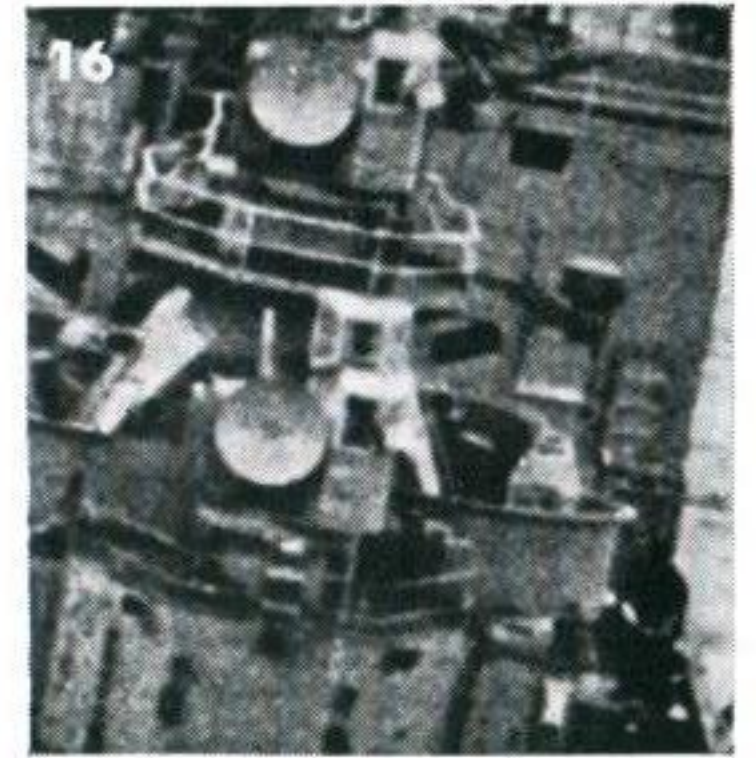
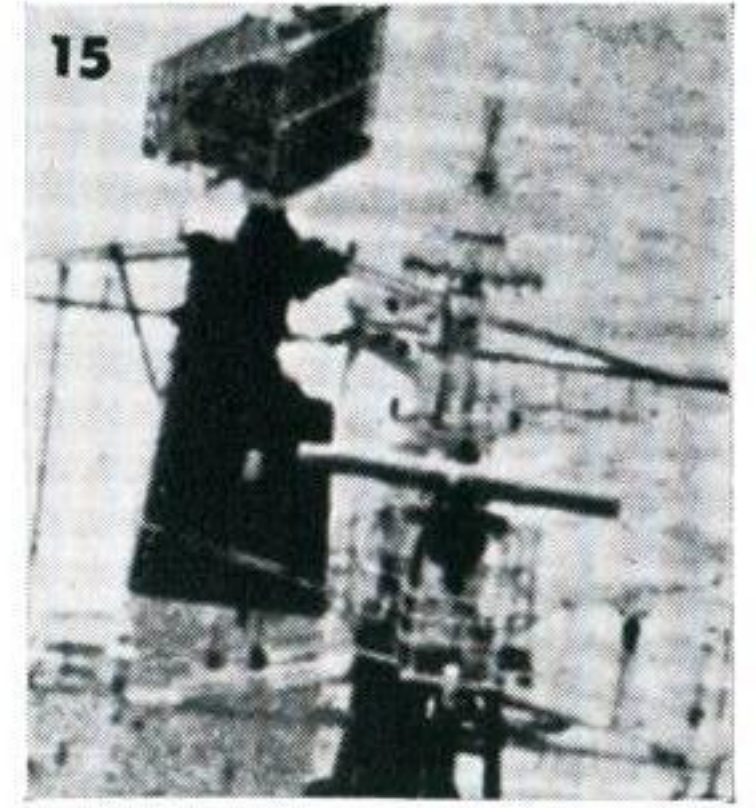
HMS BLAKE — Command Helicopter Cruiser

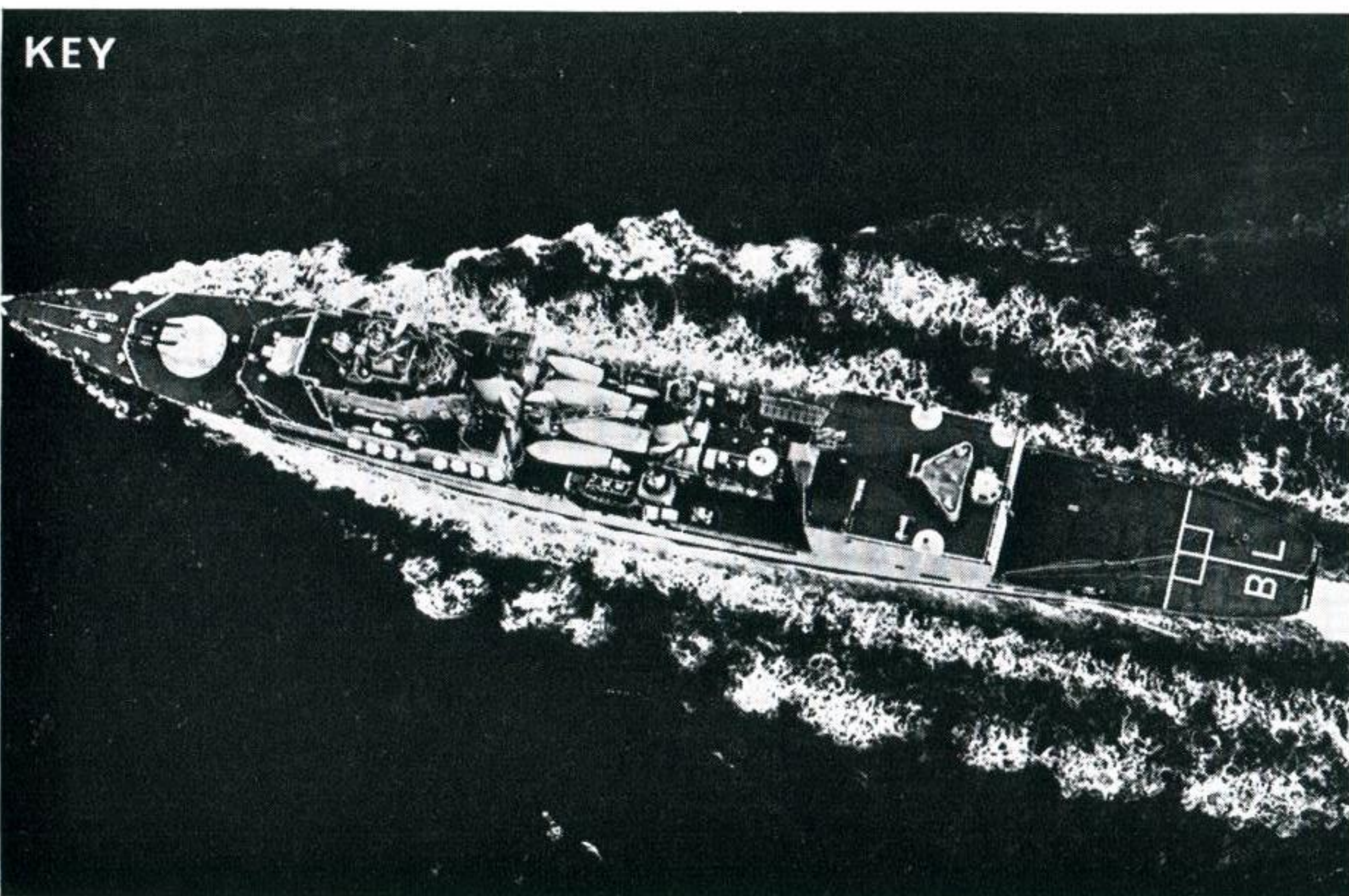
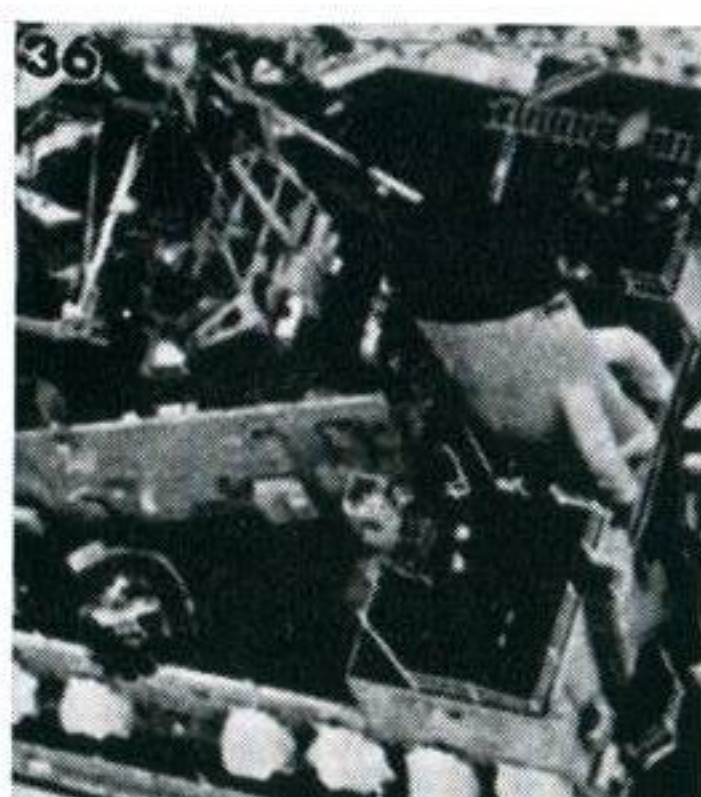
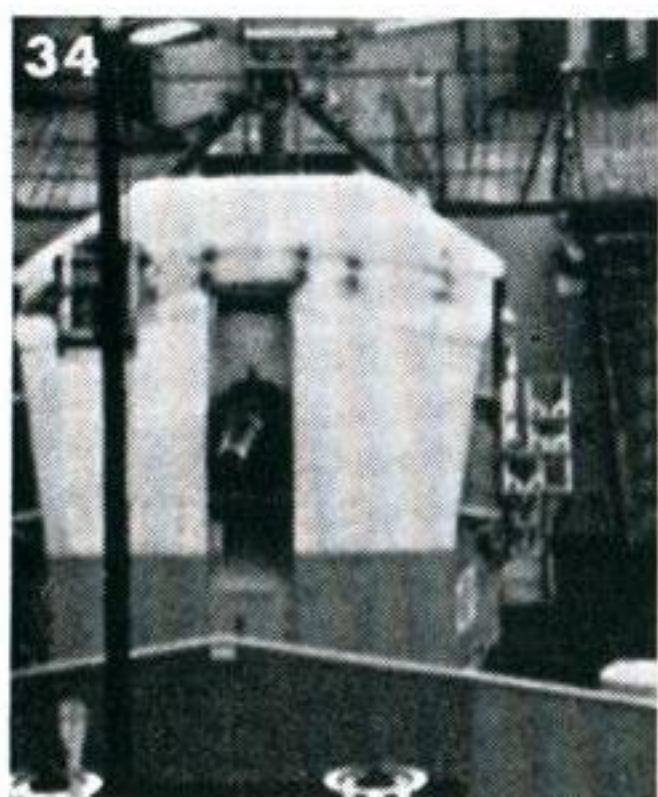
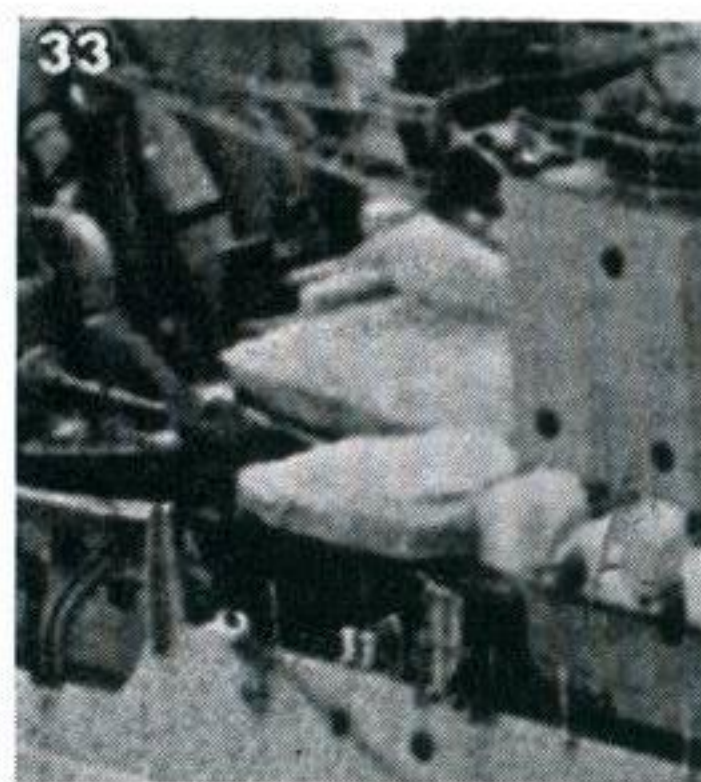
Of the three Tiger Class cruisers in commission in the early sixties, *Blake*, *Lion* and *Tiger*, HMS *Blake* has been re-commissioned in a new role of command helicopter cruiser involving a new structure aft to provide a landing deck and hangar for Sea King anti-submarine helicopters. The Sea King was the subject of an identification lesson in the October 1969 edition of the *Journal*.

HMS *Blake* has a displacement of 9500 tons standard and a length overall of 566 feet in her new converted state. Armament is two quadruple Seacat launchers, two 6-inch and two 3-inch guns. As can be seen from the key views, *Blake's* pennant number is C99 and her deck letters BL. These have been removed from most target views to focus on recognition by ship shape. Lesson instructions for learning to identify this ship are on page 81. Solutions are on the back cover.



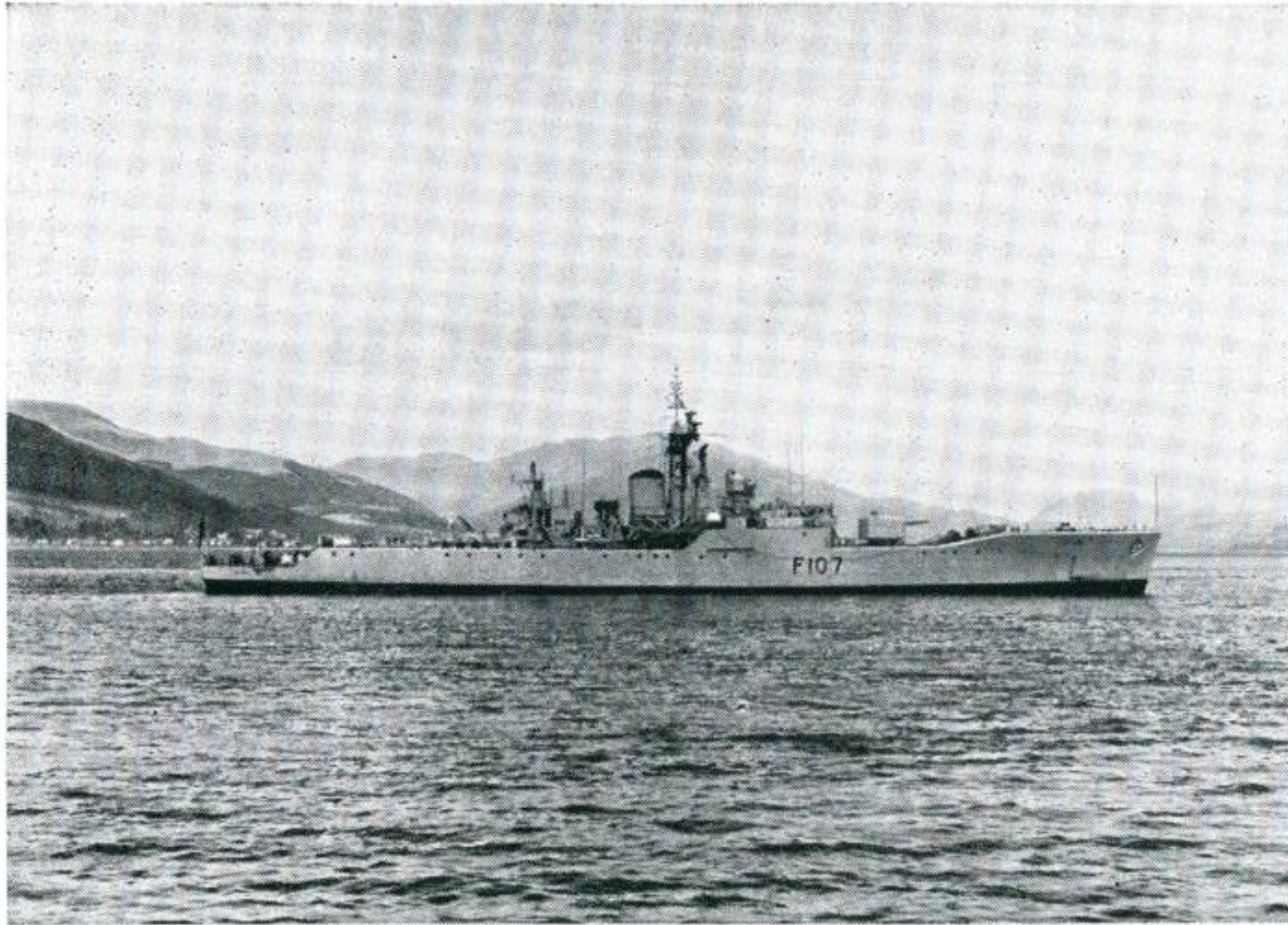
continued overleaf





GETTING SHIPSHAPE

Rothesay Class Conversions



HMS Rothesay - as she was



HMS Rothesay - as she is

While the August 1967 edition lesson on the Rothesay Class is still valid for some of the nine ships of this class of anti-submarine frigates, it is not for *Rothesay*, *Plymouth*, *Rhyl*, *Londonderry* or *Yarmouth*. These ships are modified to a new standard altering their appearance by an enclosed mast, a helicopter deck for a Wasp HAS1 taking up the area previously used for the anti-submarine mortars, and the fitting of Seacat launchers. The remaining ships of the Rothesay Class will be converted when due for dockyard overhaul. A new lesson will appear in due course on this Class.

Pictures show HMS Rothesay (F107) and HMS Yarmouth (F101) both to the new Rothesay Class Standard.



LESSON INSTRUCTIONS

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 and so 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.** Do not use abbreviations: write down the reporting name given in the title.
5. It is more important to identify accurately than quickly. Lessons should not be hurried or given a time limit.

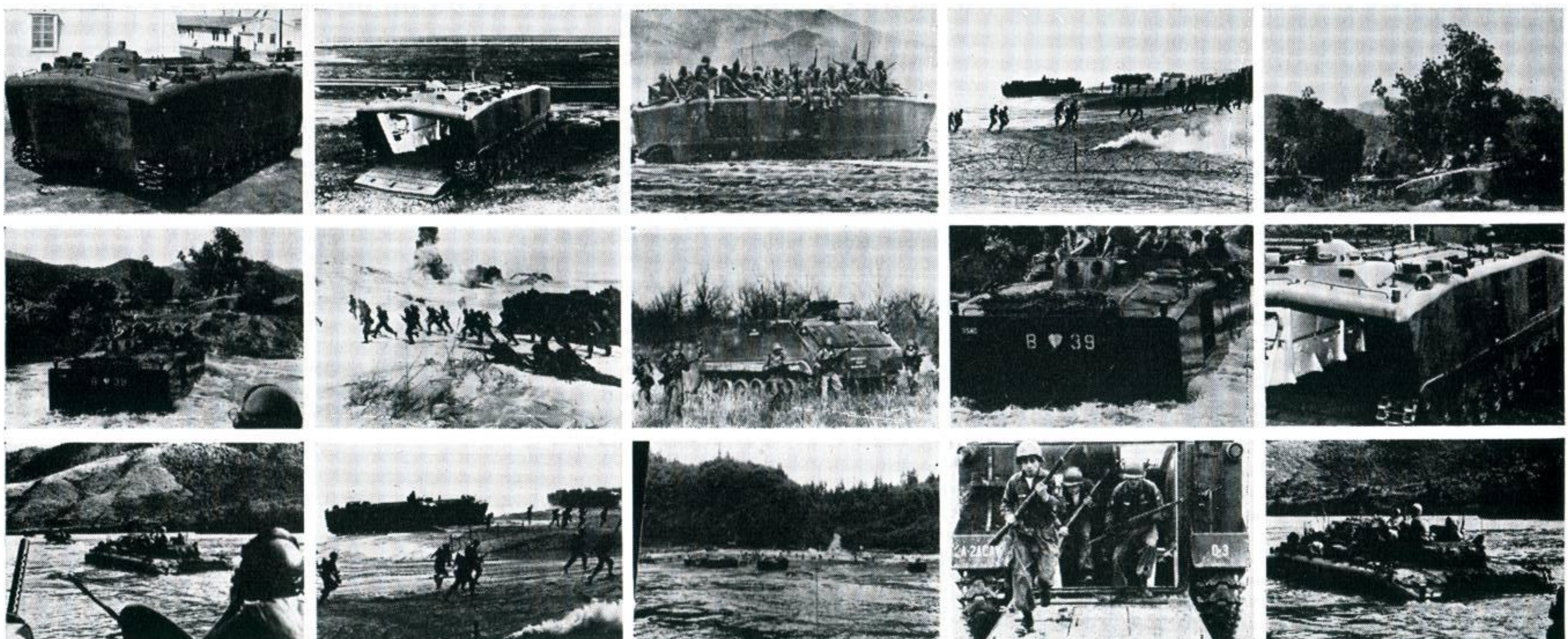
AFV TEST PAPERS

Both the LVTH6 and the LVTP5 were the subject of recent lessons in the *Journal*, test your ability to recognise these United States AFVs.

LVTH6



LVTP5



DAIMLER FOX—

the first aluminium armoured car

The development of armoured fighting vehicles has taken another step forward recently with the appearance of the Fox Combat Vehicle, Reconnaissance, Wheeled. Designed to a British Army requirement by the Fighting Vehicles Research and Development Establishment and the Daimler Company, the Fox is the world's first all-aluminium armoured car.

The exclusive use of aluminium armour in the construction of the Fox has made it possible to keep its weight down to 5.7 tons without sacrificing its protection. In fact, the Fox weighs little more than the steel-armoured Ferret Mk 4 scout car to which its design is closely related. Yet it carries a larger, three-man crew and a much more powerful armament.

The armament of the Fox consists of a 30-mm Rarden gun as well as a coaxial 7.62-mm machine gun. The Rarden gun is a new automatic weapon specially developed for use in light armoured vehicles by the Royal Armament Research and Development Establishment and the Royal Small Arms Factory, Enfield, from whose combined initials its name is derived. It is a high-velocity gun which fires armour-piercing discarding-sabot (APDS) projectiles capable of penetrating even relatively thick armour and which puts the Fox well ahead of other light armoured vehicles in this respect.

As mounted in the Fox, the Rarden gun can be elevated to as much as 40 degrees and it can therefore be fired at attacking helicopters or low-flying aircraft. The Rarden gun also ejects the empty shell cases out of the turret, which eliminates the usual clutter of the crew compartment and the emission into it of powder fumes.

The guns are mounted in a characteristically-shaped turret with undercut sides and a wide, angled gun mantlet. The left-hand side of the turret is occupied by the commander/loader and the right by the gunner. Both are provided with oval hatches and several periscopes. In addition, the commander has a periscopic binocular surveillance instrument, with a magnification of ten or unity, in a rotating mount, all of which makes for exceptionally good vision from within the Fox.

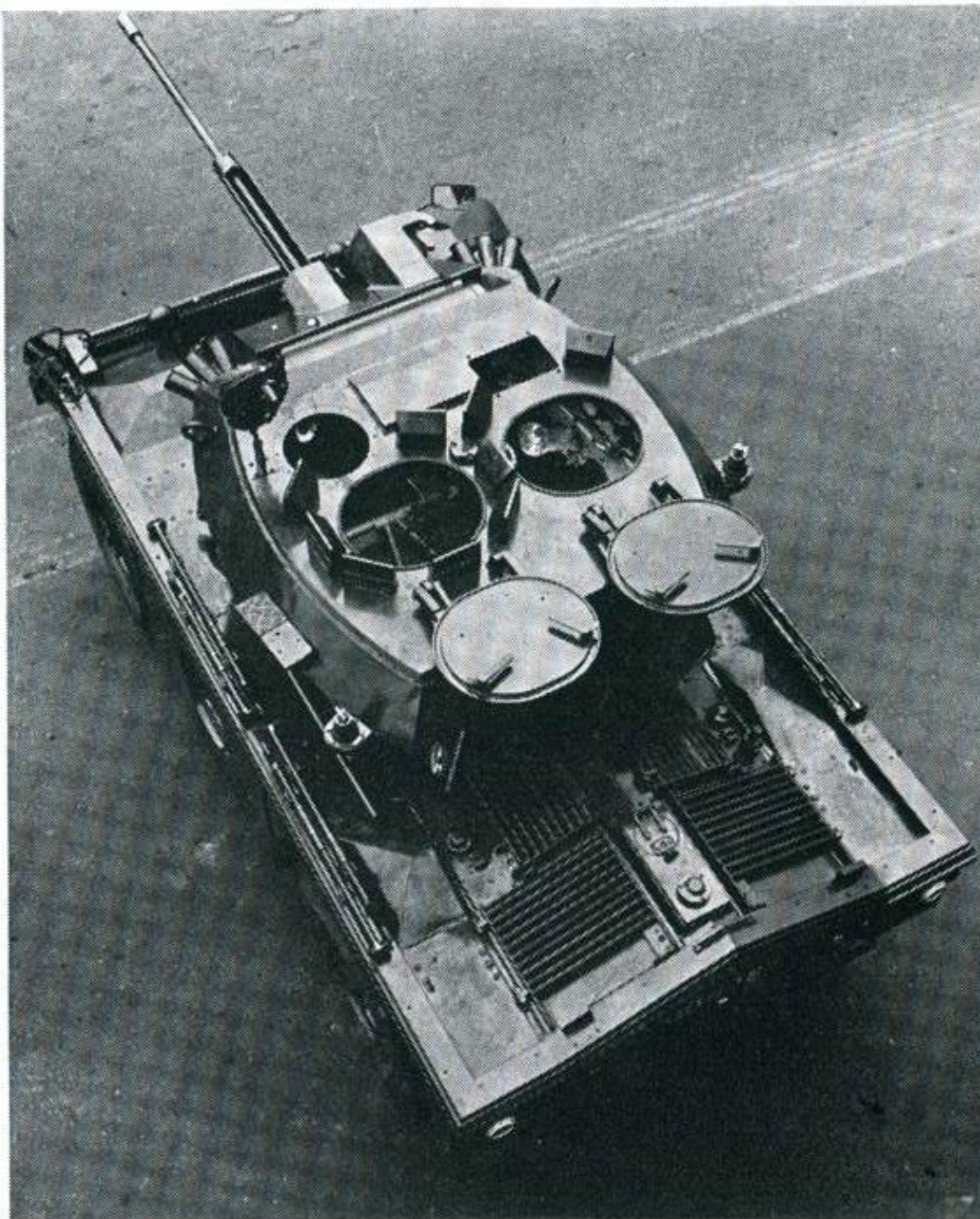
In most other respects the Fox represents a logical development of the highly successful series of Daimler Ferret scout cars, which have been widely used by the British Army since they began to be produced in 1951 and which have been exported to more than 20 different countries. In fact, Ferrets are today among the world's most widely used armoured vehicles.

The automotive design of the Fox is particularly closely related to that of the Ferret Mk 4, which has been fitted with larger tyres and a strengthened suspension to compensate for the progressive increases in weight over the original Ferrets. Thus the Fox has basically the same type of independent suspension and 11.00 x 20 tyres as the "big-wheeled" Mk 4 Ferret. At the same time its weight is only slightly higher and as it has a more powerful engine its performance can be expected to be even better.

The engine is the same as that recently revealed in the Alvis Scorpion light tank. In other words it is a militarised version of the 4.2-litre 6-cylinder Jaguar XK; it is mounted at the rear of the hull and develops 195 bhp. As in the Ferrets, the drive is taken from the engine to all four wheels through a fluid flywheel and a Daimler preselective five-speed epicyclic gearbox.

A development carried over from the Ferret Mk 4 is the permanent installation on the Fox of a collapsible flotation screen which can be erected by the crew in about one minute. To reduce the size of the screen to a minimum additional buoyancy has been provided by water-tight reinforced plastics stowage boxes mounted between the wheels on each side of the hull. When afloat the Fox can propel itself at up to approximately 3½ mph by means of its wheels.

All the features incorporated in the design of the Fox make it a sophisticated vehicle and one which should be highly effective in a wide variety of roles.

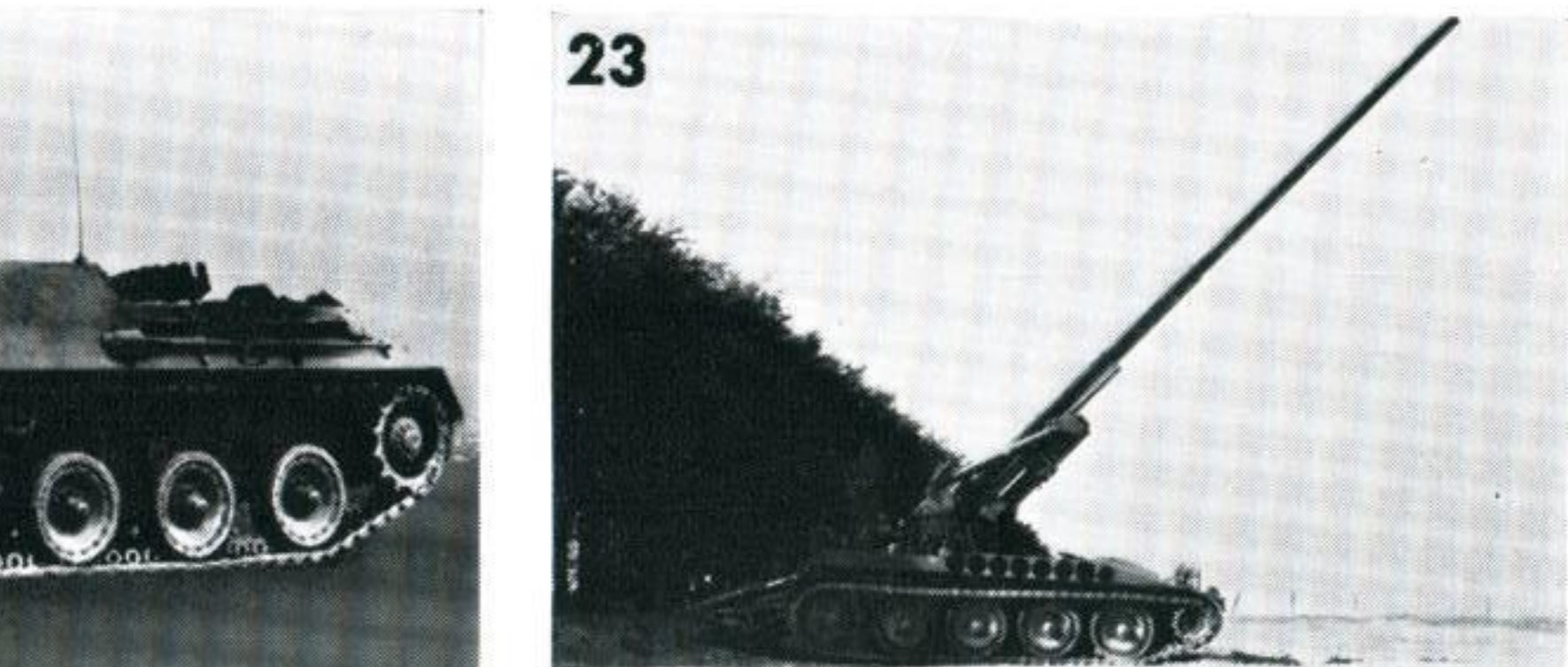




AFV TEST

AFVs of the World

A test of AFVs of the world. Complete your answers before checking with the solutions on the cover.





Cover Picture: The mixed formation of Shackleton MR2s and MR3s shown on the cover was followed up by a Nimrod, representing the future equipment of the Coastal Group in Strike Command, which is seen above flying past with bomb bay doors open. The flypast, over St Mawgan, marked the integration of Coastal Command into Strike Command.

SOLUTIONS TO TESTS AND EXERCISES

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A TEST OF SKILL

1 Mirage F1	13 Jaguar	25 Aero Commander
2 Galeb	14 Alouette II	26 Strikemaster (BAC167)
3 Hirondelle	15 Viggen	27 Mirage III
4 Huey Cobra	16 Cuff (Be30)	28 BH125/Dominie
5 Rallye Commodore	17 Careless (Tu154)	29 Falcon
6 SAAB 105	18 Learjet	30 Cayuse
7 Boeing 747	19 Buffalo	31 Bronco
8 Piaggio PD808	20 Fiat G91Y	32 Gulfstream II
9 Skyvan	21 Skyservant	33 Horizon
10 Mirage G	22 Siai Marchetti SF260	34 Concorde
11 Breguet 941S	23 Silvercraft SA4	35 Sea King
12 Aero Commander	24 Starfighter (F-104)	36 Zlin 42

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HUSKIE

All targets are **Huskies** except Nos 8 and 25 **Hormone** and Nos 27 and 32 **Hoodlum**.

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CAYUSE

All targets are of **Cayuse** except No 18 **Silvercraft SA-4** and No 24 **Jet Ranger**.

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SCOUT

All targets are of **Scouts** except No 11 **Iroquois**, No 14 **Alouette III** and No 22 **Iroquois**.

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WASP

All targets are of **Wasps** except No 11 **Iroquois** and Nos 14 and 18 **Alouette IIIs**.

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DOUBLE TEST

- 1 Lightning F6 and Victor
- 2 VC10 and C-141 Starlifter
- 3 Both are F-111s

- 4 Wessex fuselage into a Belfast
- 5 Buccaneer (port) and Sea Vixen (starboard) refuelling from a Victor.
- 6 Victor refuelling a VC10
- 7 Jet Provost above a Gnat
- 8 Phantom leading two Buccaneers
- 9 Hercules and single Argosy
- 10 Lightning nose into a Belfast
- 11 Wessex helicopters over an Argosy
- 12 Chipmunks and two Varsitys
- 13 Vulcan taking off, Belfast in background
- 14 Fishbed (MiG-21) pacing Charger (Tu144)
- 15 Vulcan B2 in front of Shackleton MR3
- 16 Wessex (outboard) and Hiller (inboard) helicopters
- 17 Wessex acts as guard for Sea Vixen FAW2 take-off
- 18 Skycrane over Caribou(s)
- 19 Victor refuelling Harrier
- 20 Victor refuelling Lightnings
- 21 Whirlwind over Lightnings
- 22 Starfighter fuselage into Canadair CL44

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GALAXY

All targets are of **Galaxies** except Nos 5, 8 and 10 which are **Starlifters**.

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AIR ARMS OF THE WORLD—AERONAVALE

- 1 Crusaders (normal in-flight configuration)
- 2 Crusader (with wing at maximum incidence for take-off)
- 3 Étendard IVM
- 4 Étendard IVP
- 5 Atlantic
- 6 Constellation
- 7 Neptune
- 8 Super Frelon
- 9 Nord 262
- 10 Alizé
- 11 Alouette III
- 12 Sikorsky SH-34J (Wessex acceptable for reporting)
- 13 Alouette IIs
- 14 Super Frelon

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HMS BLAKE

All targets are of **HMS Blake** except Nos 9, 30 and 34. (N.B. In target No 2 the enclosed mast has tended to merge with the sea and give the impression of an unenclosed mast.)

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AFV TEST PAPERS

LVTH6 Jokers are top row, fifth picture and bottom row, middle picture, both Swedish **Pbv302 APC**

LVTP5 Jokers are middle row, third picture and bottom row, fourth picture, both US **M59 APC**.

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AFV TEST

- | | |
|---------------------------------|--|
| 1 Pz61 (Swiss) | 14 ZSU-2-57 (Russian) |
| 2 Chieftain (British) | 15 M109 155-mm s p howitzer (American) |
| 3 M50 106-mm s p gun (American) | 16 ASU-57 (Russian) |
| 4 Lynx (Canadian) | 17 BDRM-2 (Russian) |
| 5 Pbv302 (Swedish) | 18 M114 (American) |
| 6 APC Model 1967 (Russian) | 19 SPz-12-3 (German) |
| 7 M113 (American) | 20 S-tank (Swedish) |
| 8 BTR-60P (Russian) | 21 M48A1 (American) |
| 9 Leopard (German) | 22 JPz(R) (German) |
| 10 AMX-13 (French) | 23 M107 175-mm s p gun (American) |
| 11 T-62 (Russian) | 24 Panhard AML (French) |
| 12 Ferret (British) | 25 M60A1E1 (American) |
| 13 Vickers Vijayanta (Indian) | 26 YP-408 (Dutch) |

N.B. BRDM-2 has been adopted as the reporting name of the BTR-40P.