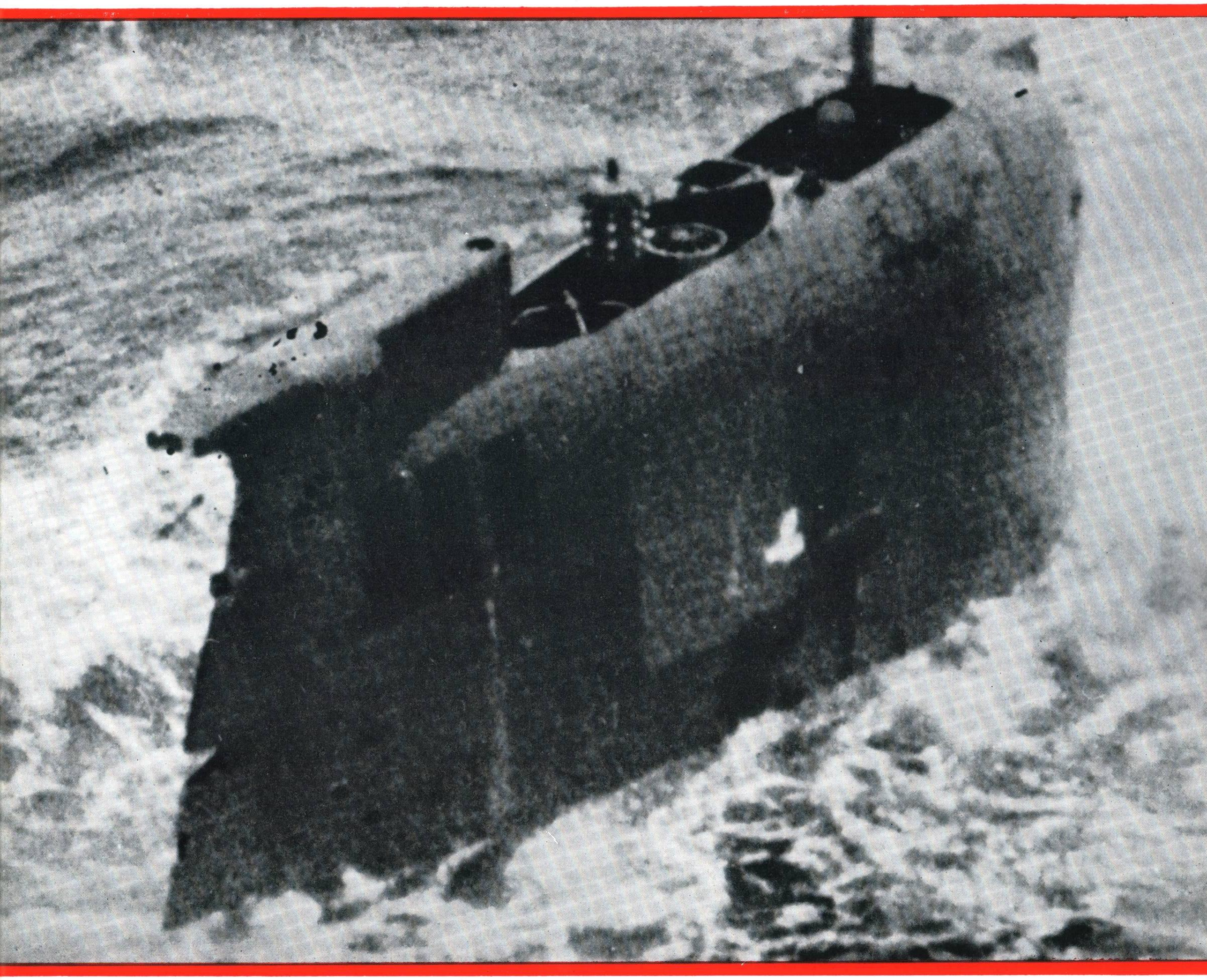
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JOINT SERVICES

RECOGNITION *Journal*



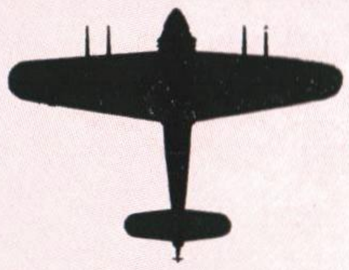
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THE COST OF MIS-IDENTIFICATION

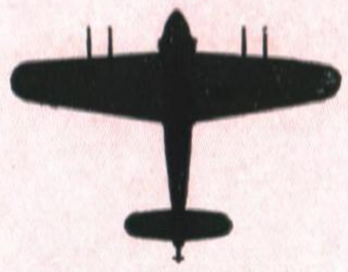
TYPHOONS AND TEMPESTS



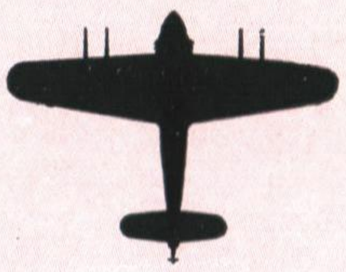
R8199 1.6.42
Shot down by Spitfires.
Pilot killed



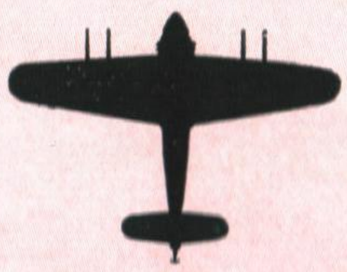
R7678 1.6.42
Shot down by Spitfires.
Pilot injured



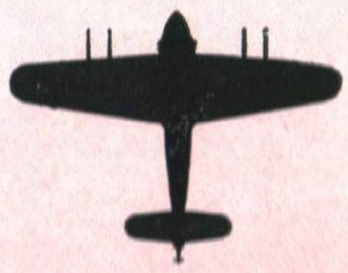
R7853 30.7.42
Shot down by
friendly fighters



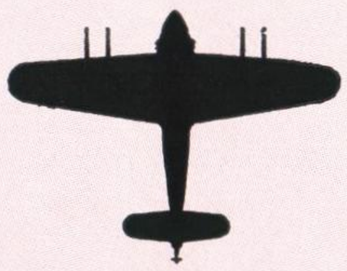
R7815 19.8.42
Shot down by Spitfires.
Pilot killed.



R7708 30.10.42
Wrecked after hit by
friendly A.A. fire



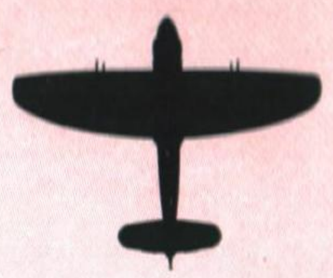
PD492 24.12.44
Shot down by P-47
Thunderbolt of
USAAF



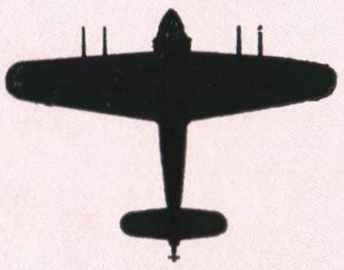
EK497 1.1.45
Shot down in
flames by P-51 Mustang
of USAAF



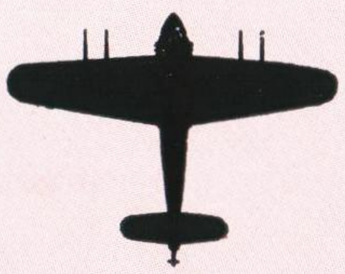
RB331 14.1.45
Attacked by six
P-47 Thunderbolts.
Pilot missing



EJ544 22.2.45
Pilot baled out
after attack by
Mustang



MN354 2.3.45
Shot down by fighters
believed to be Mustangs



MN917 24.3.45
Scrapped after damage
by friendly fighter



MN853 10.5.45
Exploded in mid-air after
hit by friendly A.A. fire

The estimated number of
aircrew killed or injured
by mis-identification on
Typhoons and Tempests is :

5 killed 

5 injured 

SEPTEMBER 1966 Vol. 21 No. 9

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 Aviation (Air Technical Publications). Applications for copies can only be accepted from the Services or other official bodies, and must be submitted through the normal official publications supply channels—**not** to the Editorial Office or direct to the Ministry of Defence.

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* *Identification Lessons*

TRAGEDIES OF TYPHOONS AND TEMPESTS

The first casualties to Typhoons by mis-identification shocked Fighter Command. . . .

"That the first casualties on the squadron since they became operational on Typhoons should be suffered through sheer negligence on the part of one of our fighter squadrons is a great disappointment to all the pilots", runs the entry in the official Operations Record Book of No. 56 Squadron for June 1st, 1942. The "sheer negligence" referred to the lack of identification training in a Spitfire squadron that led to a tragedy.

Enemy aircraft had been detected heading for the South-Eastern tip of England and two Typhoons from No. 56 Squadron were scrambled to patrol off Dover, together with two Spitfires sent up from Gravesend. The Spitfires dived upon the Typhoons and shot both down into the Channel. One pilot was killed; the other, rescued by launch after baling out and taken to Dover Hospital, reported that his Typhoon had been close enough for him to clearly observe the roundels on the Spitfires, yet it had been mistaken for a Focke Wulf 190 and shot down. The cost was not only two Typhoons written off and one pilot killed and another wounded, but enemy aircraft that should have been intercepted had escaped and morale in two fighter squadrons was badly shaken.

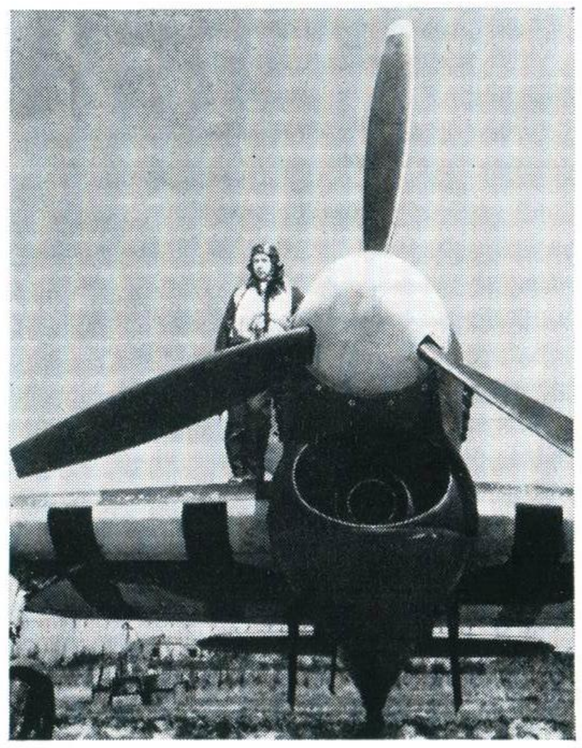
Unfortunately it was to happen again to the same squadron. On July 30th that same year the squadron flew to West Malling for an offensive patrol which was made soon after noon. The French coast was patrolled from Gravelines to Cape Gris Nez without incident and course was set by Dungeness for home. Ten miles from the coast a Spitfire squadron waded in and shot one of the Typhoons down. This pilot too was taken to hospital at Dover where the staff, if the pilots talked, must have had grave doubts as to who was fighting who in this war.

Other squadrons had similar disconcerting experiences with their Typhoons. Eventually a decision was taken to paint the nose of these aircraft white, which so compromised their camouflage finish, both in the air and at dispersal, that it was modified to black and white striping on the undersurface of the wing centre-section.

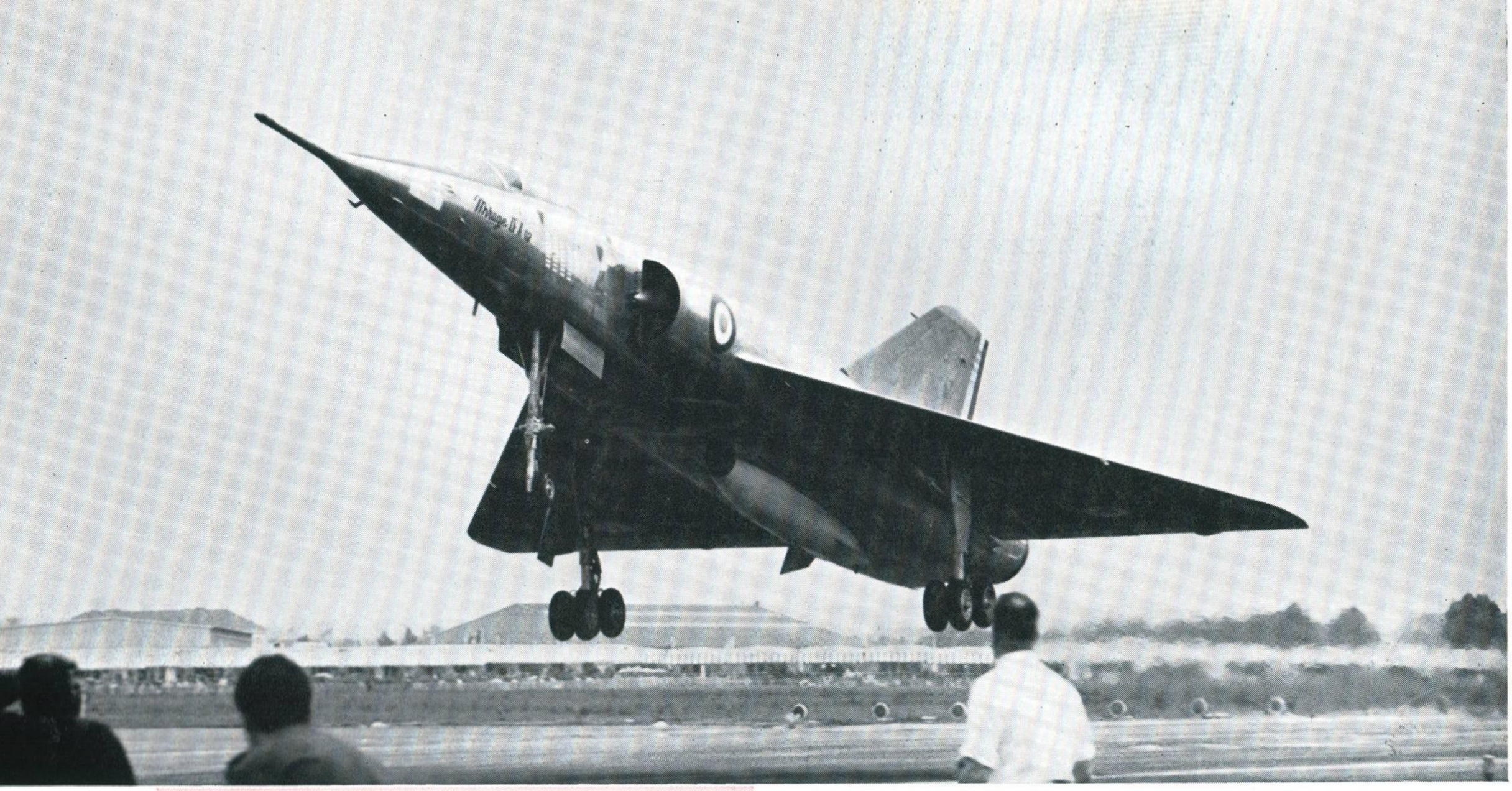
The case of Typhoon mis-identification went through a critical stage and it is to be feared that the reverse now happened and *many a Focke Wulf pilot owes his life to his aircraft having been mistaken for a Typhoon.* For a time Typhoon pilots were safe from the rest of the R.A.F.—and then the Americans came into the European Theatre and the trouble started all over again. On July 7th, 1944, a flight of Typhoons were dived upon by four P-47 U.S.A.A.F. Thunderbolts. Approaching in line astern, the first had raked MN683 with fire before the mistake was realised and they all dived away—quickly! Later, on January 13th, 1945, a flight from this same squadron was "bounced" by P-38 Lightnings, damaging PB375. In March another of this squadron's aircraft was wrecked by friendly fire.

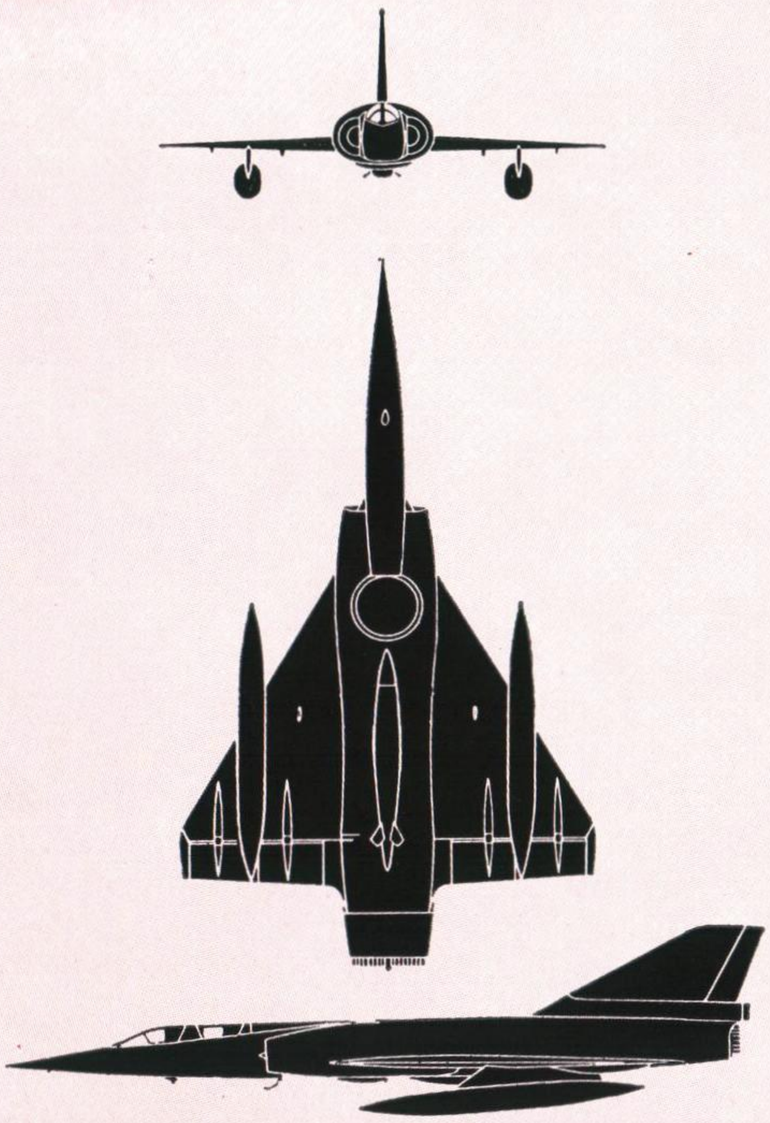
When the Tempest was introduced it was similarly mistaken for a Fw190, particularly the Mk. II which had to have conspicuous stripes marked around wings and fins, in addition to "Invasion Stripes".

Represented opposite are the Typhoons and Tempests known to have been put out of action permanently by mis-identification. There may well have been others and there are a dozen documented cases of aircraft damaged for the same reason. This is a sad reflection on the state of recognition training of the period. Today an improved method is available and is presented monthly in this *Journal.* It would be generous of us to agree that no-one in those days knew much about training in perceptual skills—which identification ability really is: but there is no need for a generous view now. You are invited to try the tests in this issue to assess yourselves in the identification of today's aircraft, and if you fail them, do the simple lessons again—and again, if necessary.



A Tempest, showing the black and white stripes on the undersurfaces for identification purposes.





MIRAGE IVA

The Mirage is the French "V" bomber, more precisely described as a two-seat, supersonic, strategic bomber. Its main weapon is carried recessed into the fuselage as shown in the key view above. There is provision for auxiliary fuel tanks, carried one under each wing as indicated in the silhouette view. The aircraft can be flight refuelled from KC-135 Stratotankers which France has acquired from the United States.

The Mirage IV bomber differs from the Mirage III series of fighters by its twin turbojets which give the aircraft a broad fuselage and its characteristic large twin orifices at the rear.

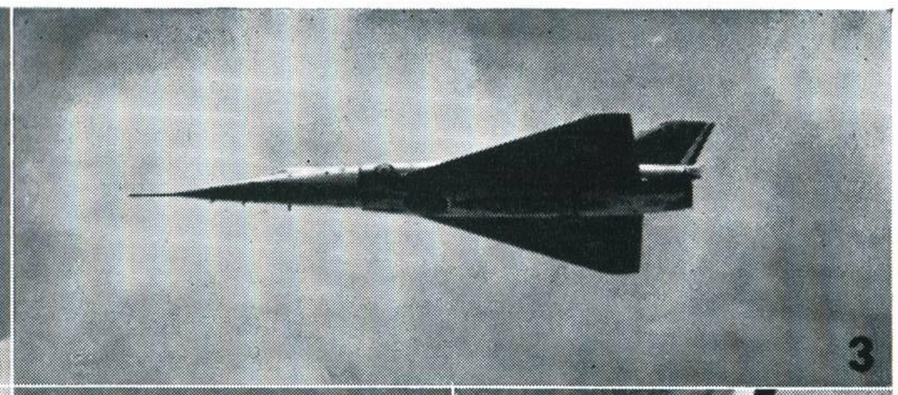
Work to the instructions on page 239 for identification training on the 62 Mirage IVs of the French Air Force. The "IVA" denotes the production version of the "IV" prototypes.

Span 39 feet



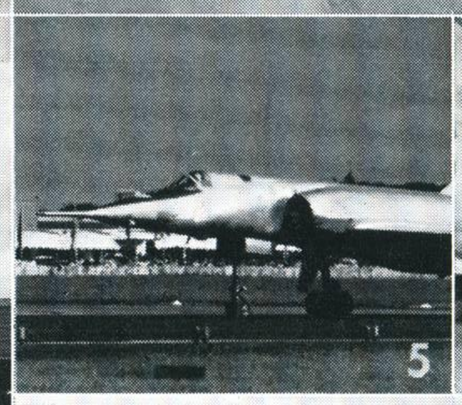

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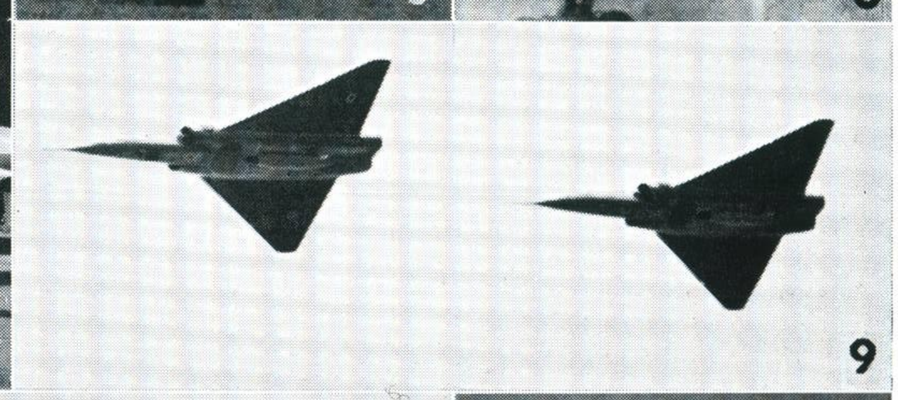

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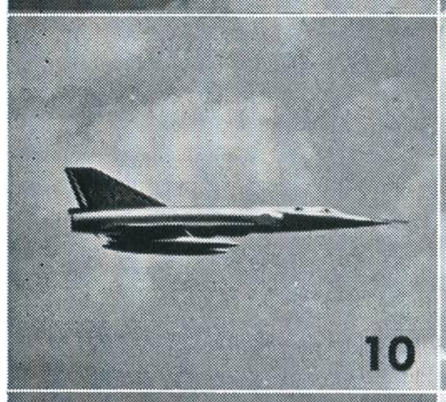

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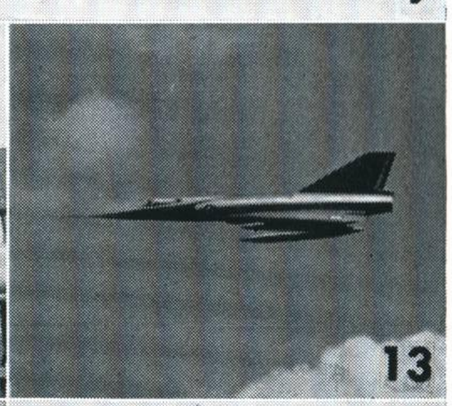
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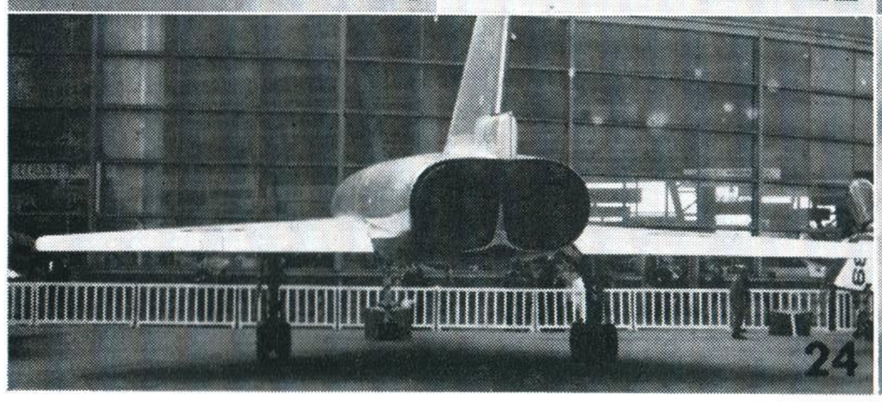

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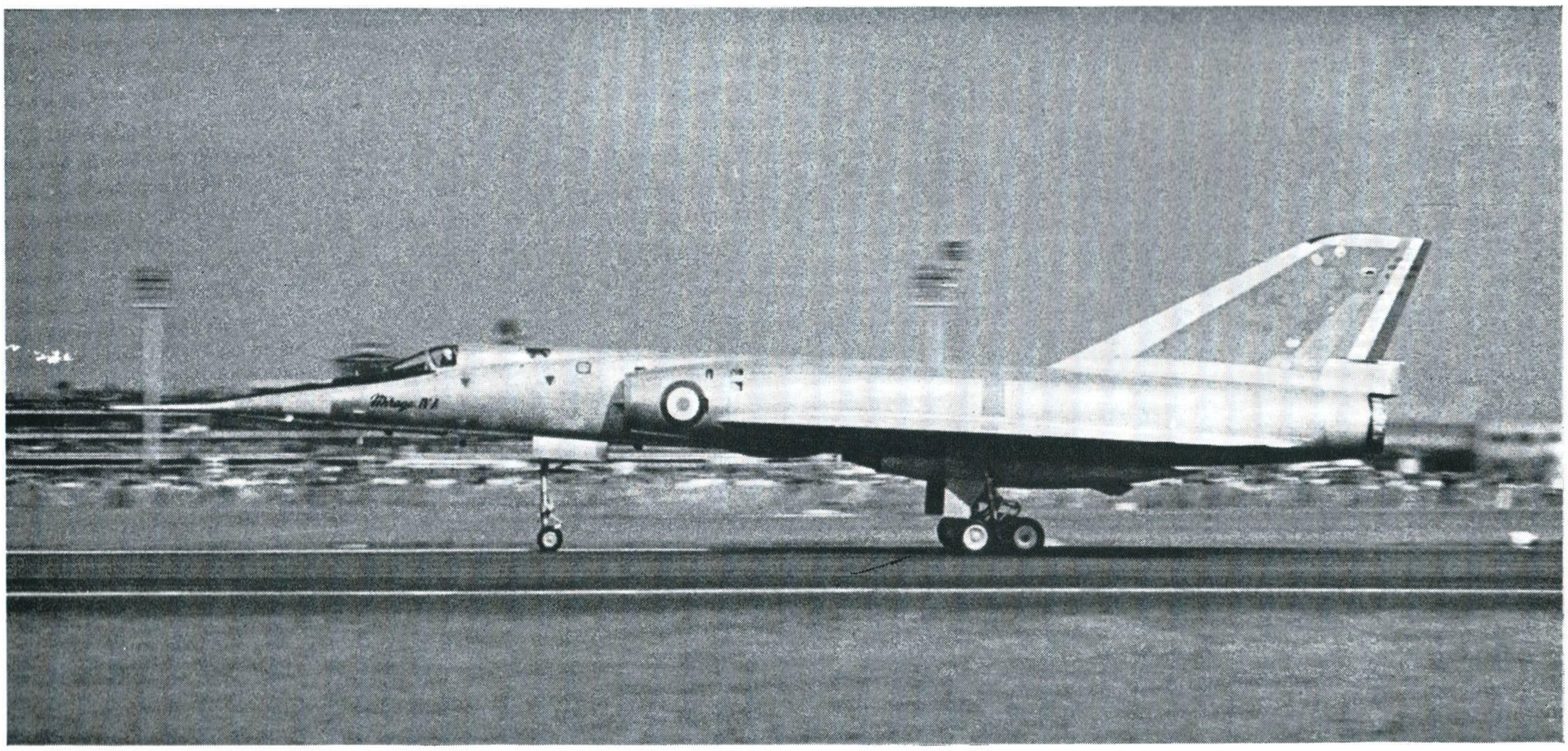

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Continued overleaf



MIRAGE IVA continued

Solutions on the cover

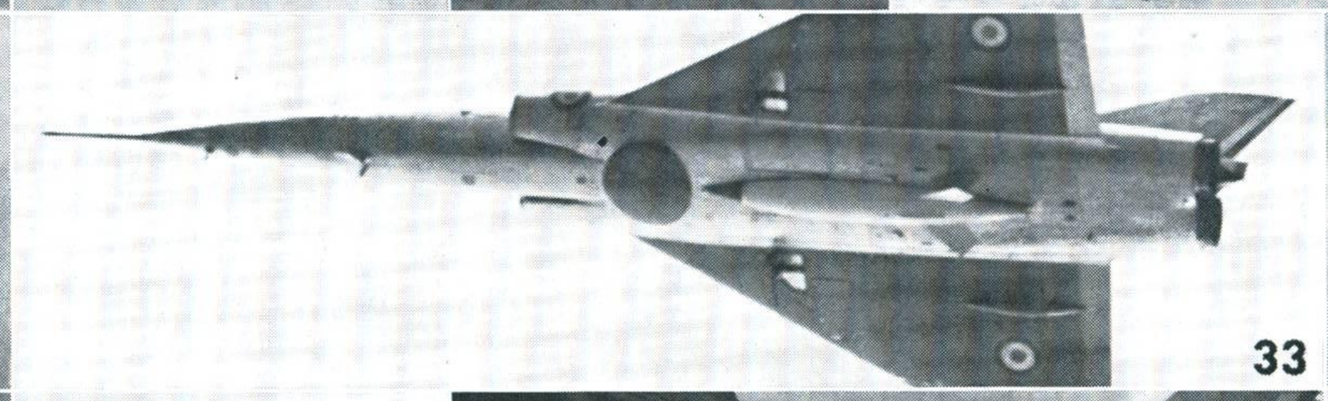










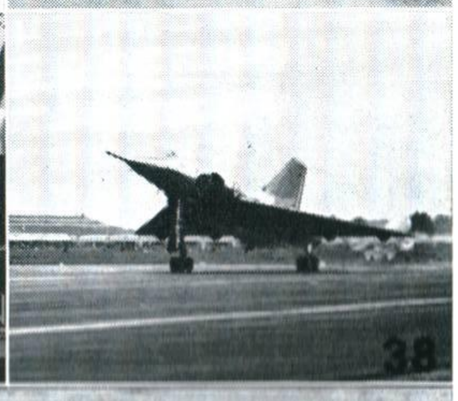




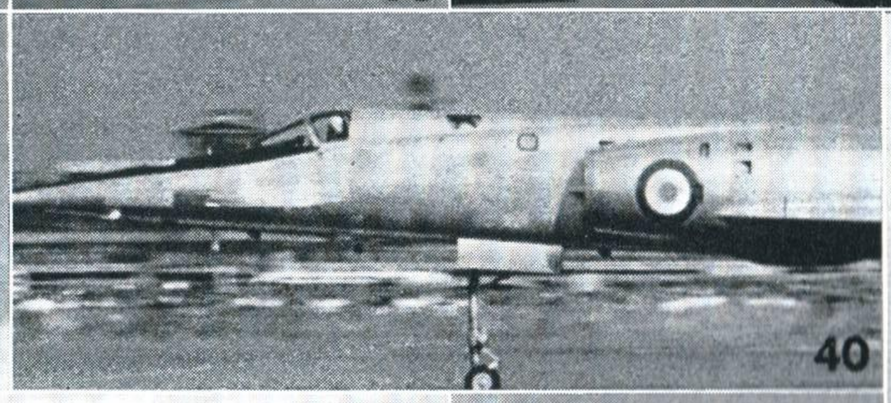




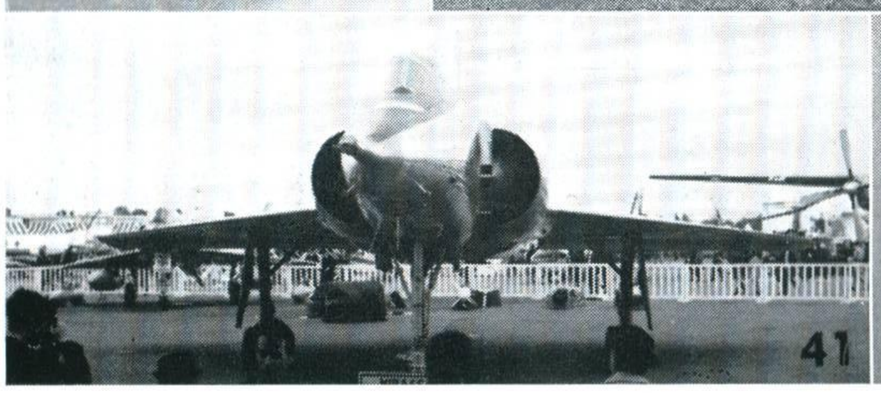














TESTING TIME

A test of your ability to identify aircraft.

Solutions on the cover.


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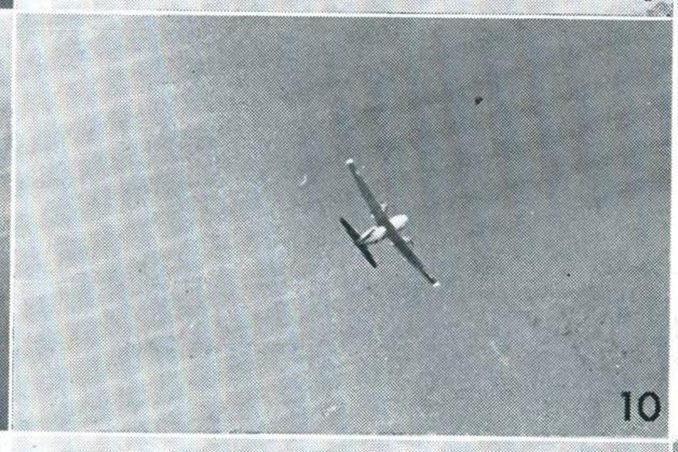

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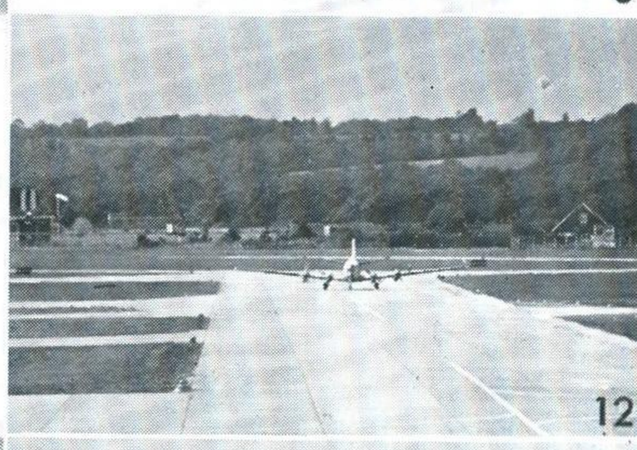

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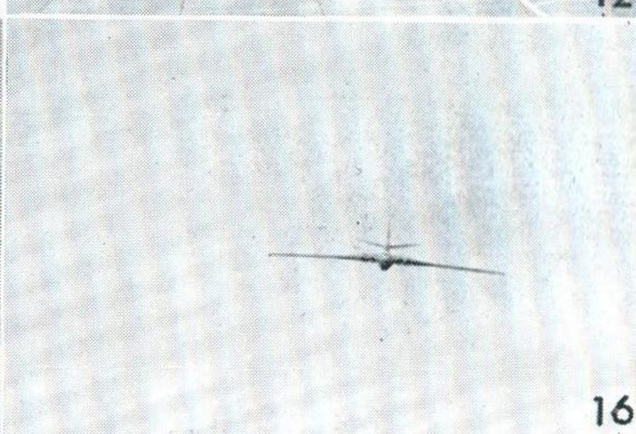

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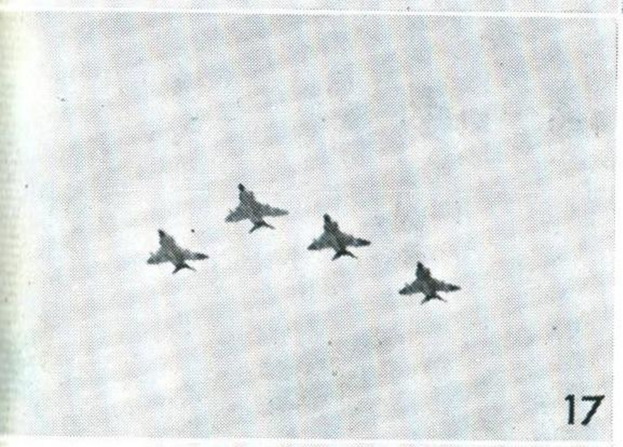

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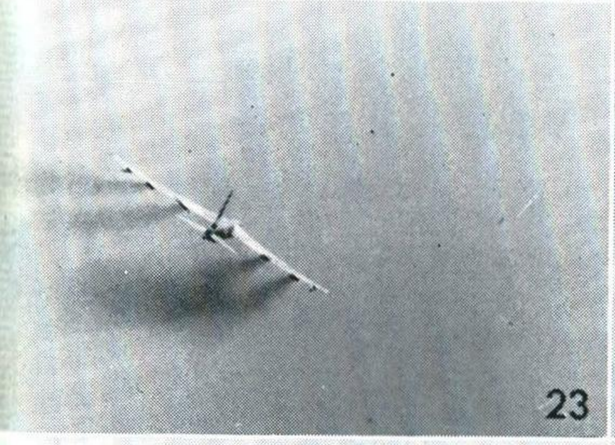

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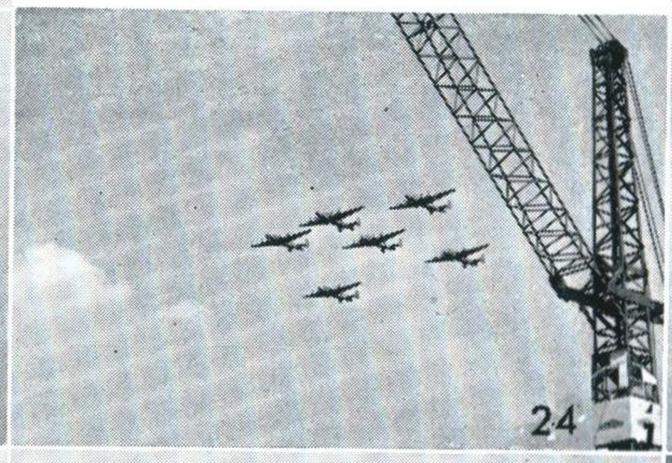

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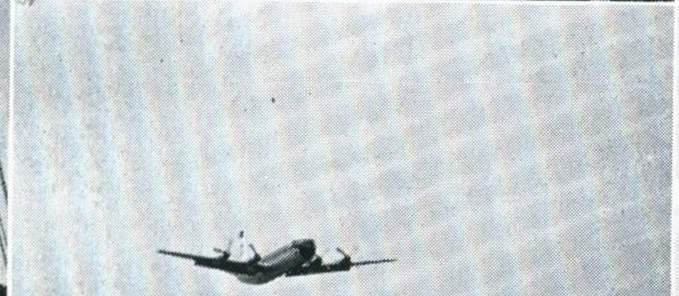

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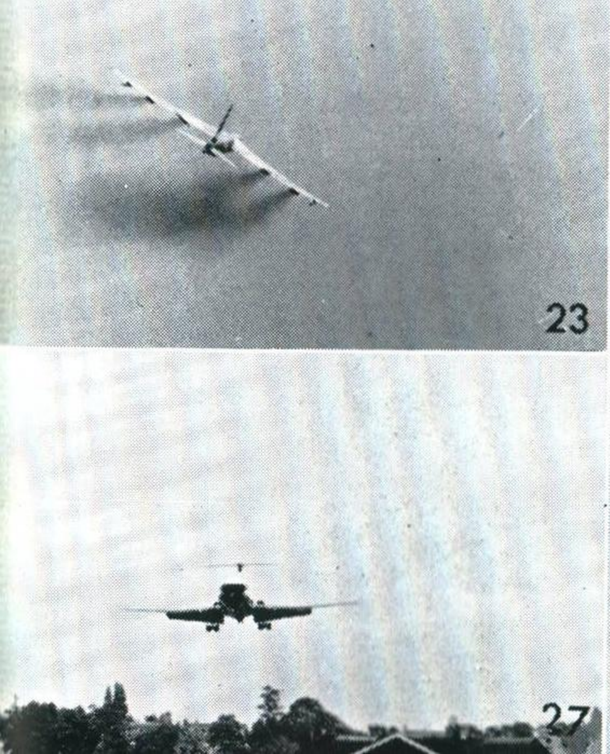

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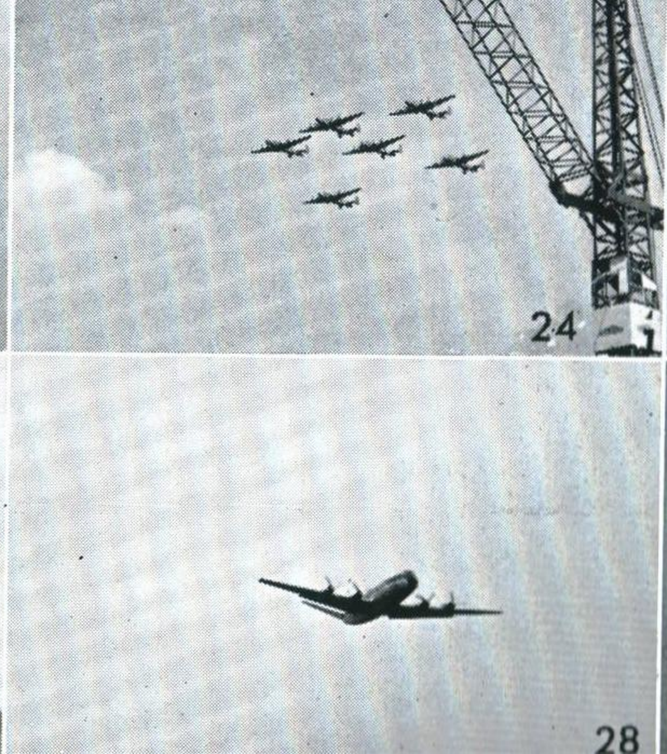

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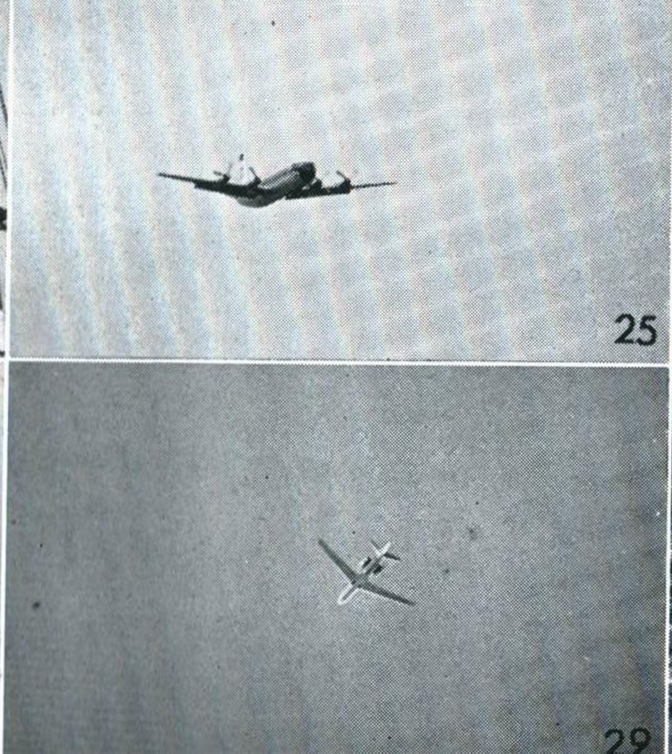

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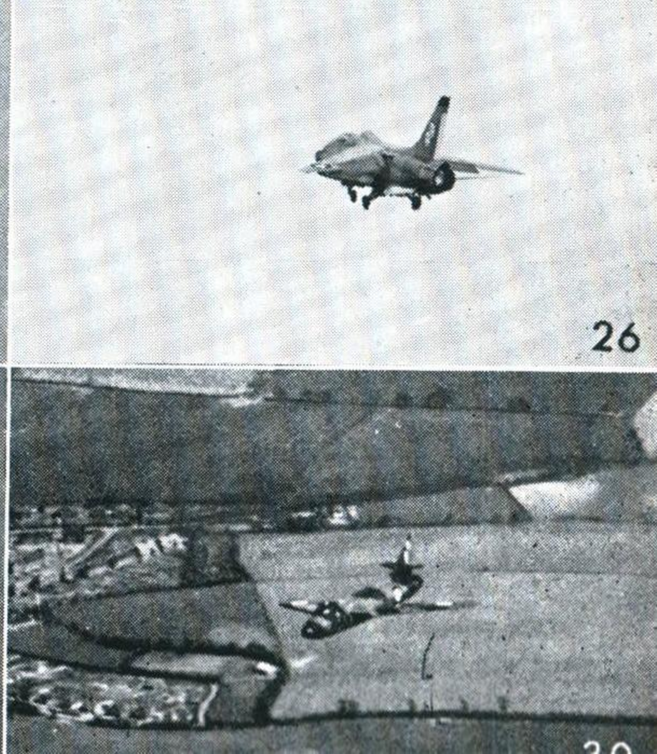

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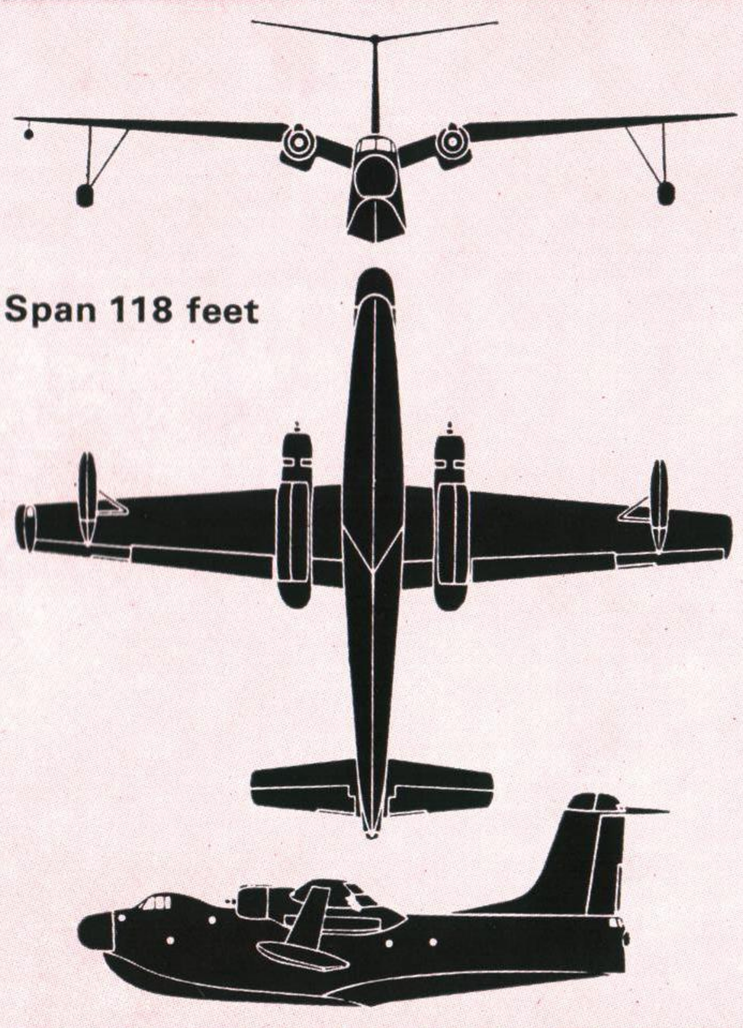

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MARLIN

One of the few operational flying boats remaining, the American P-5 Marlin is the equivalent of the Russian Be-6 Madge with which it could be confused by those not positively trained to identify it—see page 235 for instructions.

A maritime reconnaissance flying boat, the Marlin can accommodate two torpedoes or 2,000 lb. bombs in each engine nacelle. There are three versions as follows :

P-5A Original model. Low-set tailplane. No longer operational.

P-5B Standard patrol version. U.S. Navy plus 10 to French Navy.

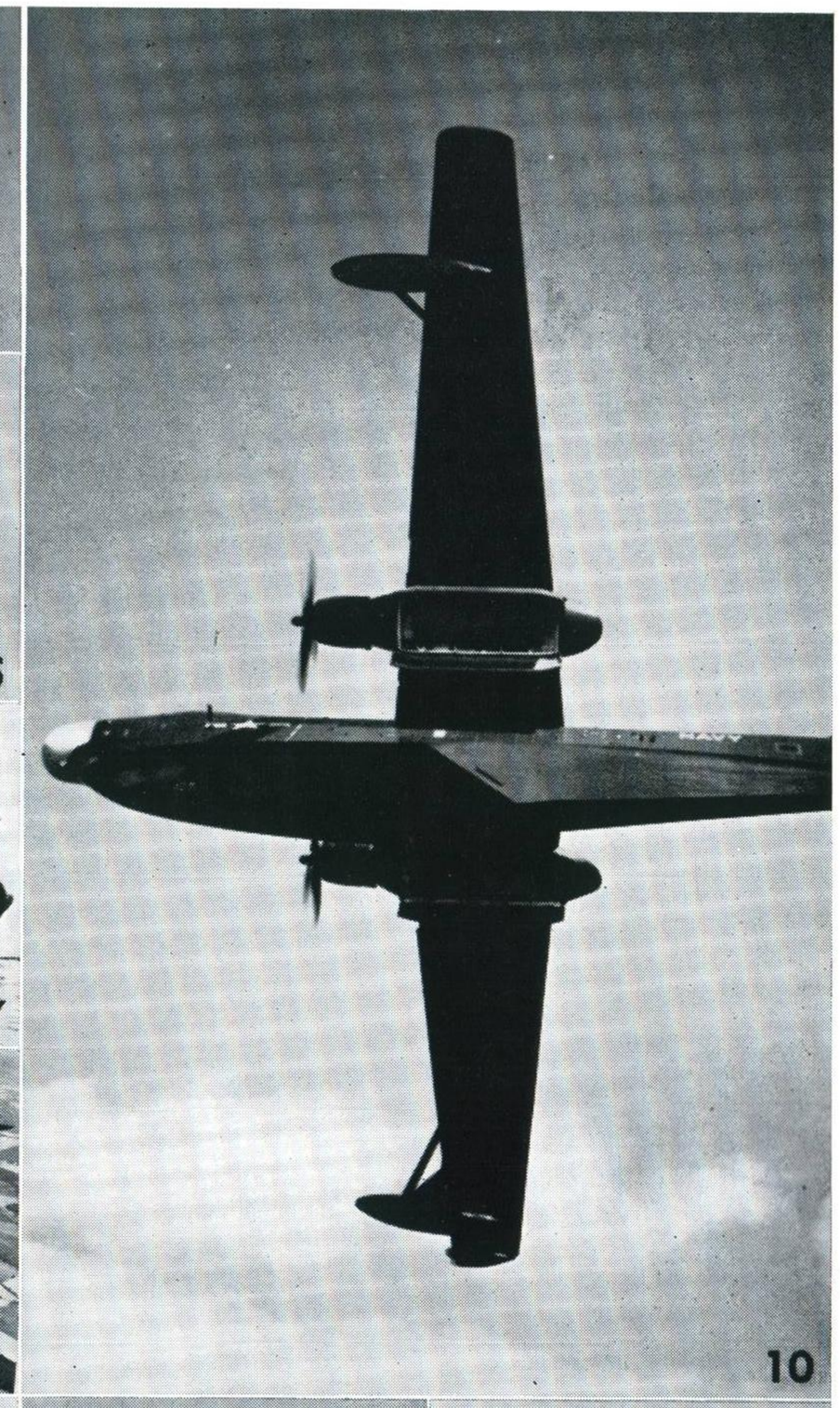
SP-5B Anti-submarine version with additional detection equipment, involving tail radome and a dome aft of the cabin.

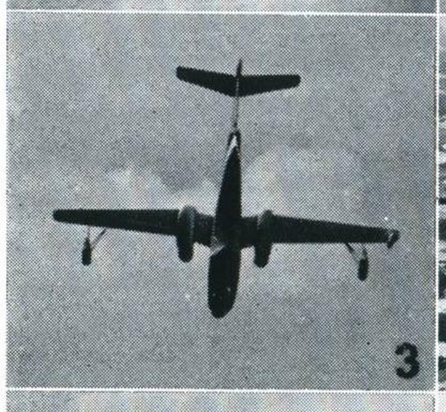
This lesson concerns the operational P-5B/SP-5B versions only. Report as Marlins—or otherwise if jokers.



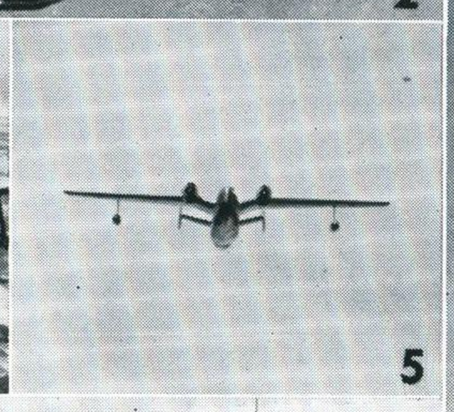

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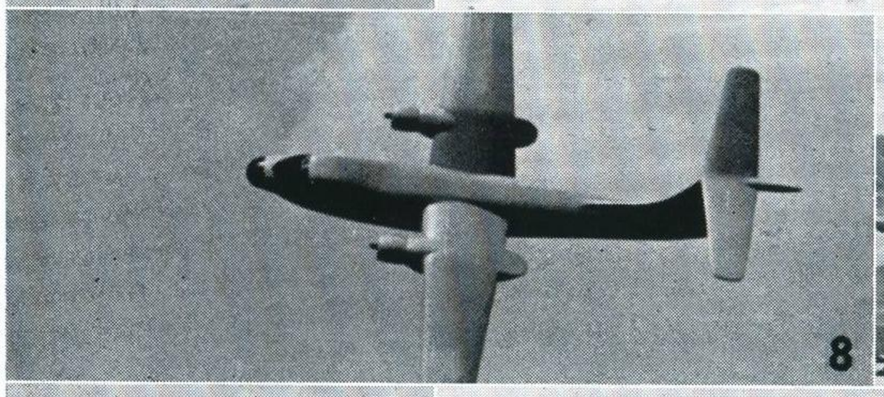

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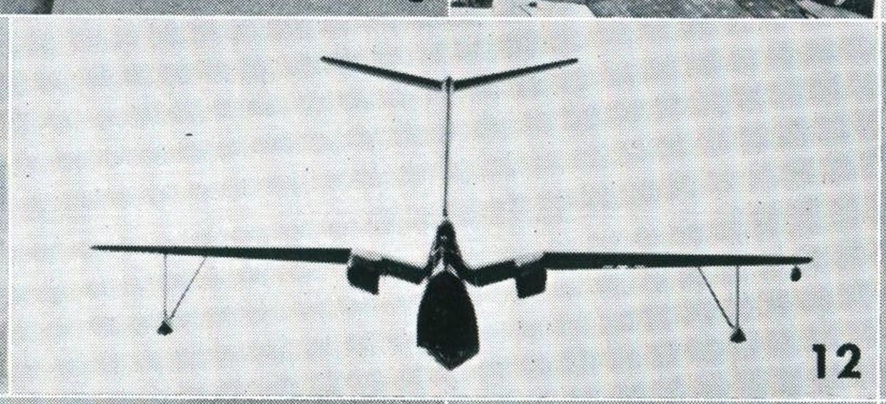

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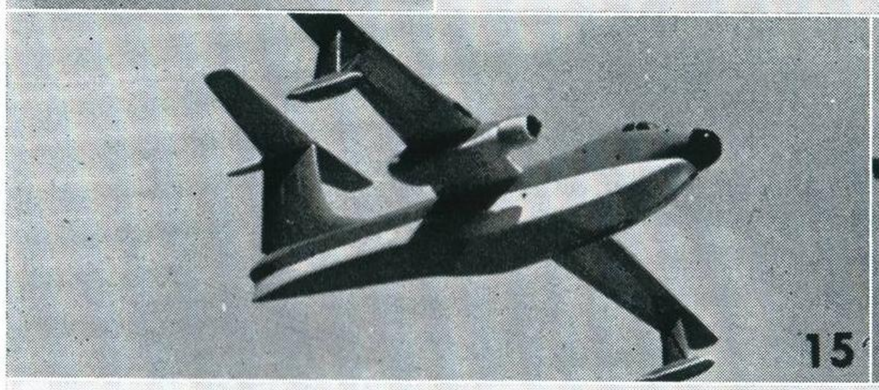

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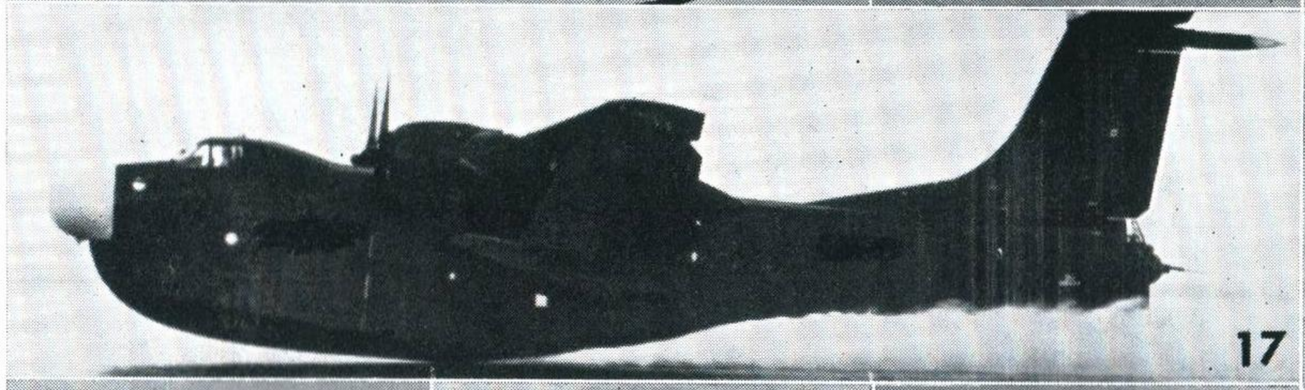

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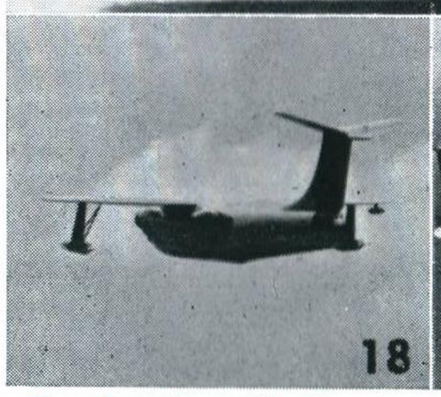

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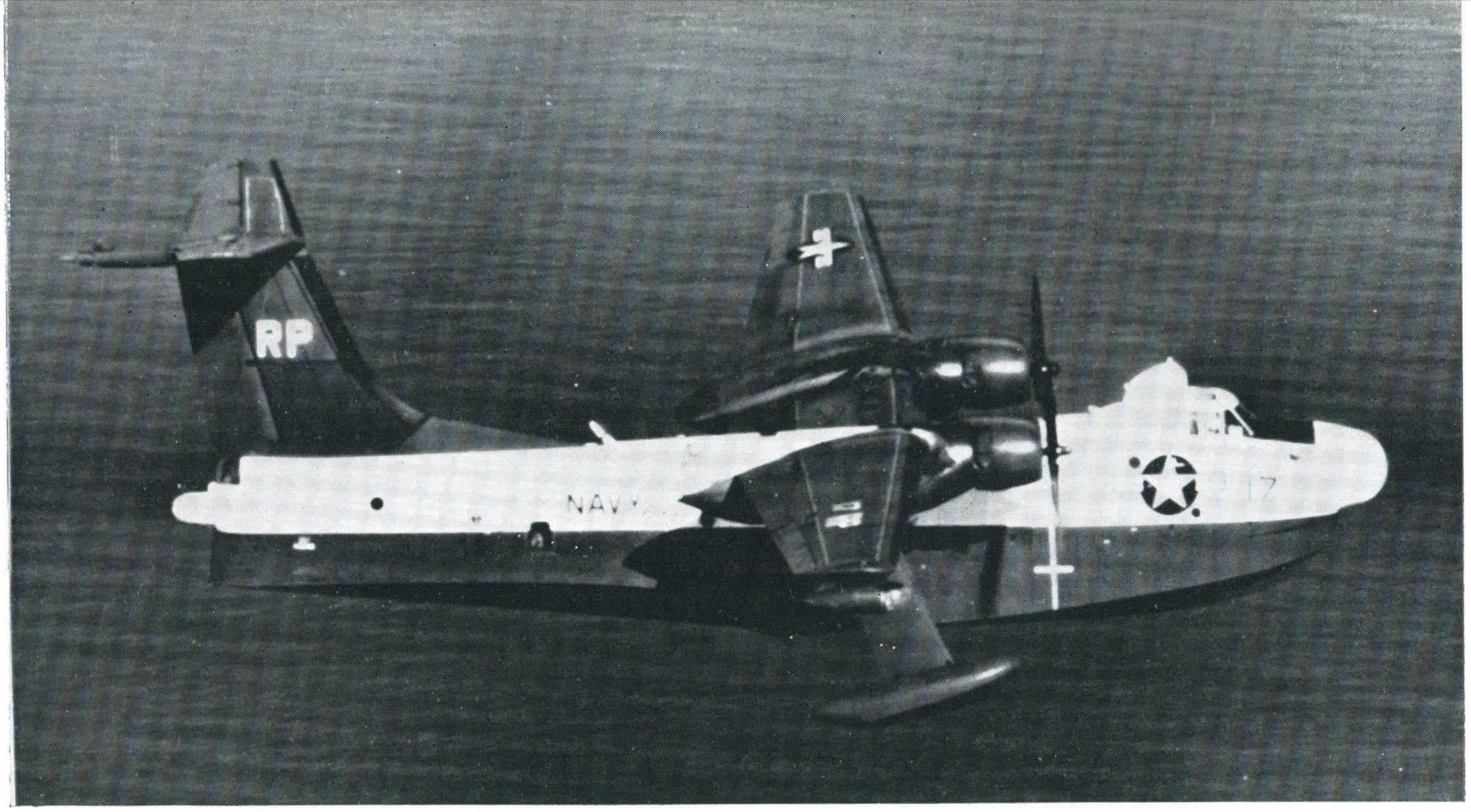

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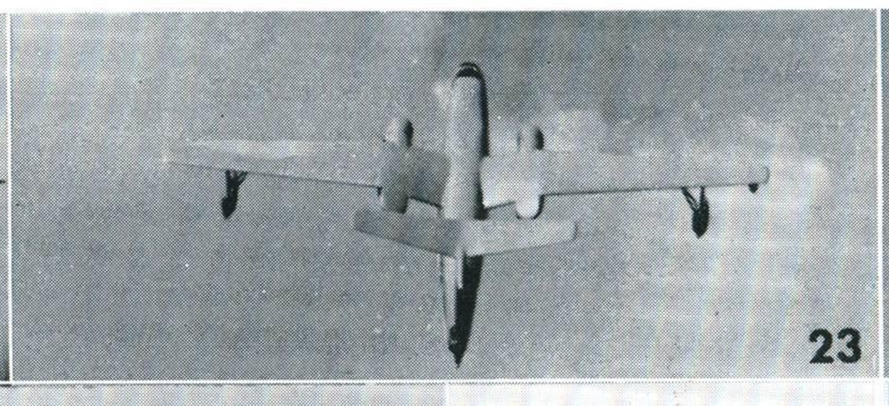
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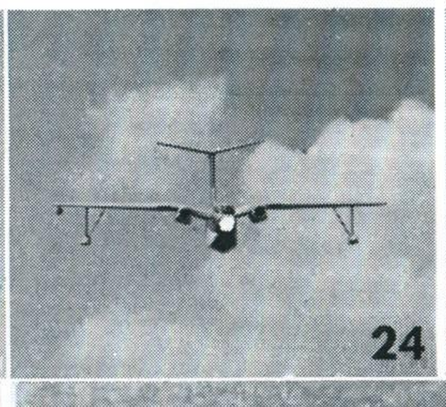


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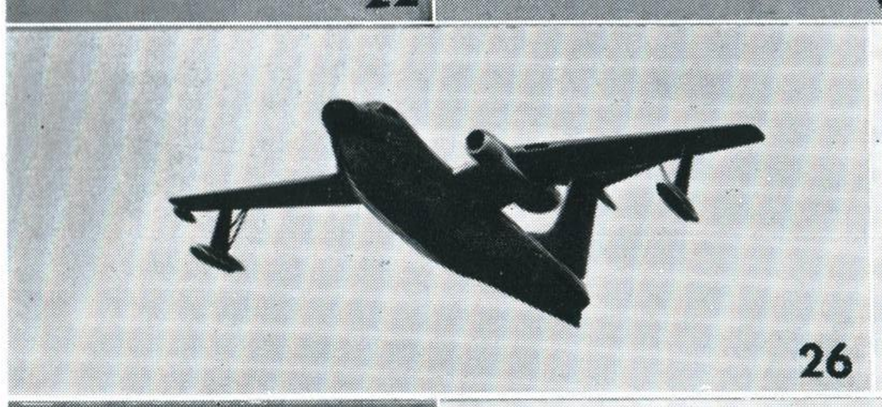
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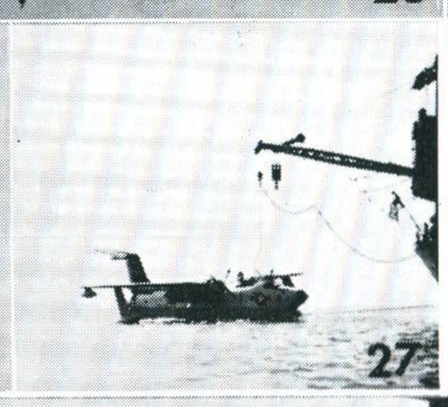


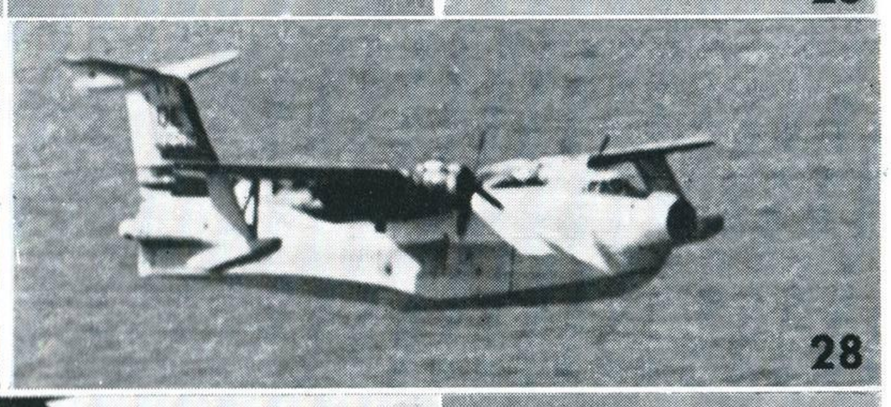




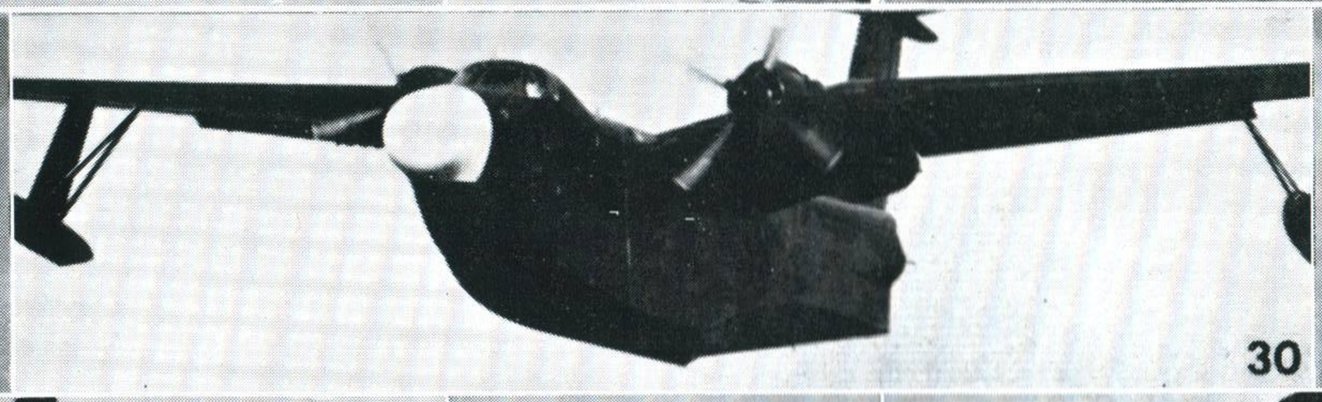


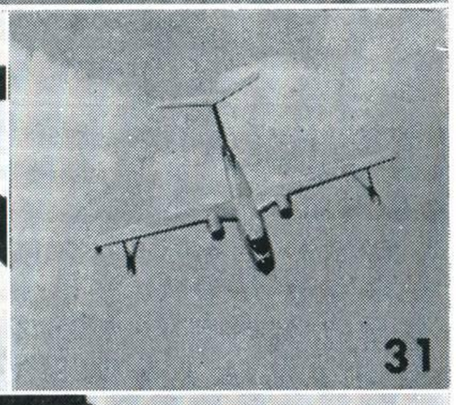


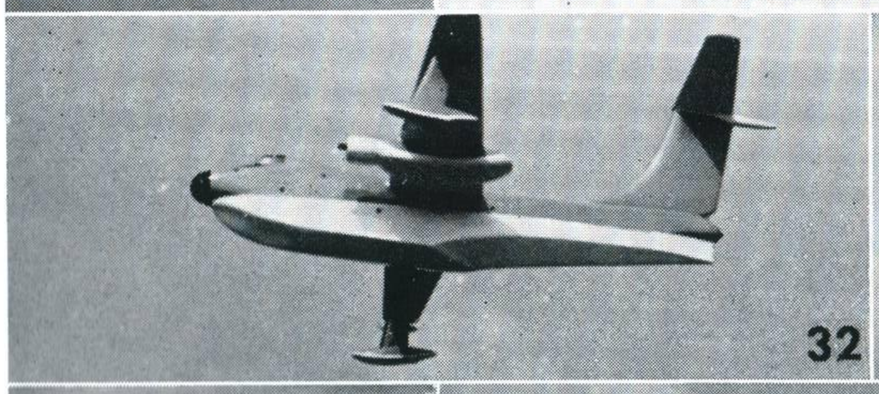








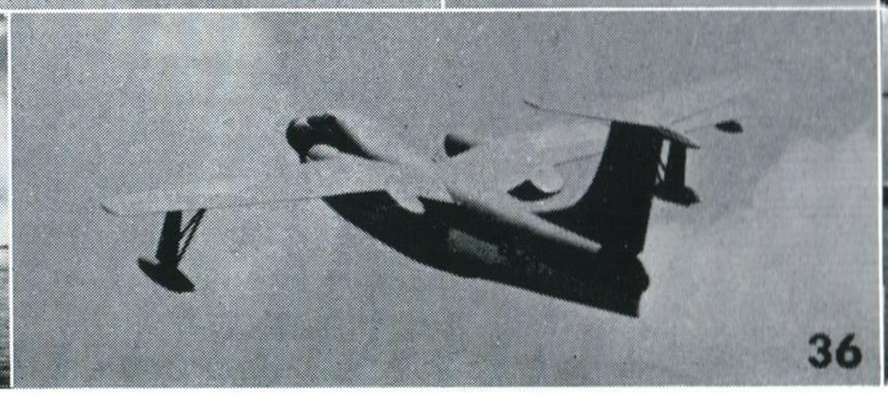














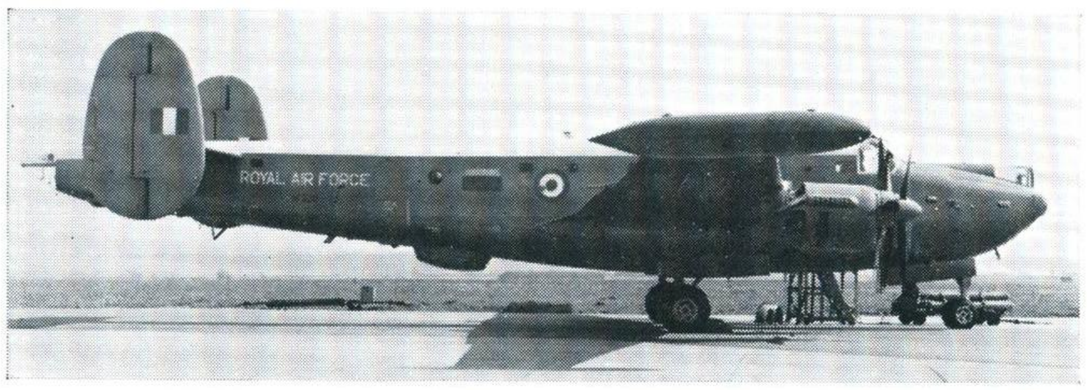


IN PASSING



WHAT WAS IT?

In Passing will feature each month a well-known aircraft type of the past for the not so young reader to assess how retentive are their memories and for the younger ones to learn something of what used to fly. Solution on the cover.



SHACKLETON BOOSTER

The silhouette of the Shackleton M.R.3 has changed slightly by the fitting of Bristol Siddeley Viper 203 engines, one in each outboard Griffon engine nacelle. A revised silhouette will appear in a later issue.

BOOK REVIEWS

The Observer's Book of Aircraft, 1966 edition. Compiled by William Green with silhouettes by Dennis Punnett.
Frederick Warne & Co. Price 5/-

In the review of the 1965 edition it was pointed out that each edition is an annual addition to previous editions and not a complete reference in itself—nor could such be expected for five bob. Since the 1966 work is the fifteenth edition it would be both difficult and expensive to obtain all the previous issues and then they would be too cumbersome for ready reference in what is essentially a pocket-book series.

However, these difficulties are now being resolved. In this new "edition of additions" comes an announcement of two new books—*The Observer's Books of Basic Aircraft*, one dealing with military types and the other with civil aircraft. The dust cover advertisement states that these are available this May, but unfortunately publication has been delayed to the Autumn. These new Observer's Books, in common with most of the others in this wide range of subjects, will be going up to 6/-. Thus for 12/- it will be possible to obtain a reference set for all major aircraft types for which an additional 6/- per annum will keep you up to date.

Meanwhile, this 1966 edition, remaining at 5/- and currently available, is exceedingly good value and a comparison with the previous volume shows just how much work goes into each edition. Even when the same aircraft type is presented in two consecutive years, every aspect is revised, for example the HFB 320 Hansa appears in both editions, but not only has the text been revised to date, but a later photograph and a revised silhouette appears. B.R.

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.**

Conduite des leçons

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

Boeing Aircraft since 1916 by Peter M. Bowers
Published by Putnam & Co. Price 63/-

Bowers on Boeing is just plain logic. The author is well-known for the meticulous detail and his photographic collection has been the envy of this reviewer for twenty-odd years! Undoubtedly, he was the individual best qualified to write Boeing's history and this he did with so much zeal that he pushed his publishers to 444 pages to get it all in.

This is a definitive work on all Boeing-built aircraft up to 1966. The whole range of aircraft that Boeing built over the years is covered and this includes floatplanes and flying boats in their early days, their famous series of biplane fighters between the wars and such unexpected material as British Blackburn Sharks built by Boeing in Canada.

Well over a hundred pages concern types flying today and of particular interest is the coverage given to the B-52 Stratofortress with all its variants, and to the unravelling of the hitherto bewildering series numbers and service designations of the 707/C-135 aircraft. B.R.



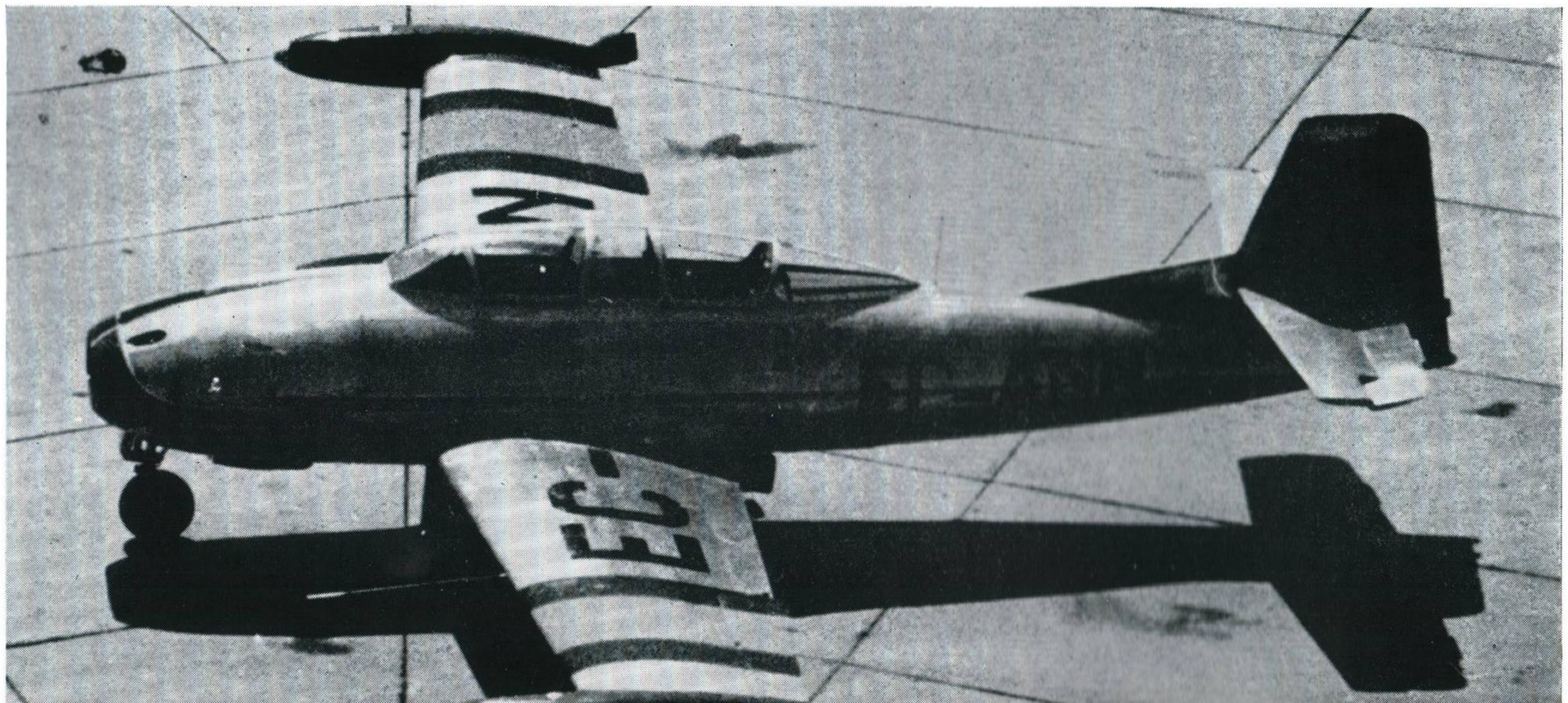
SAETA

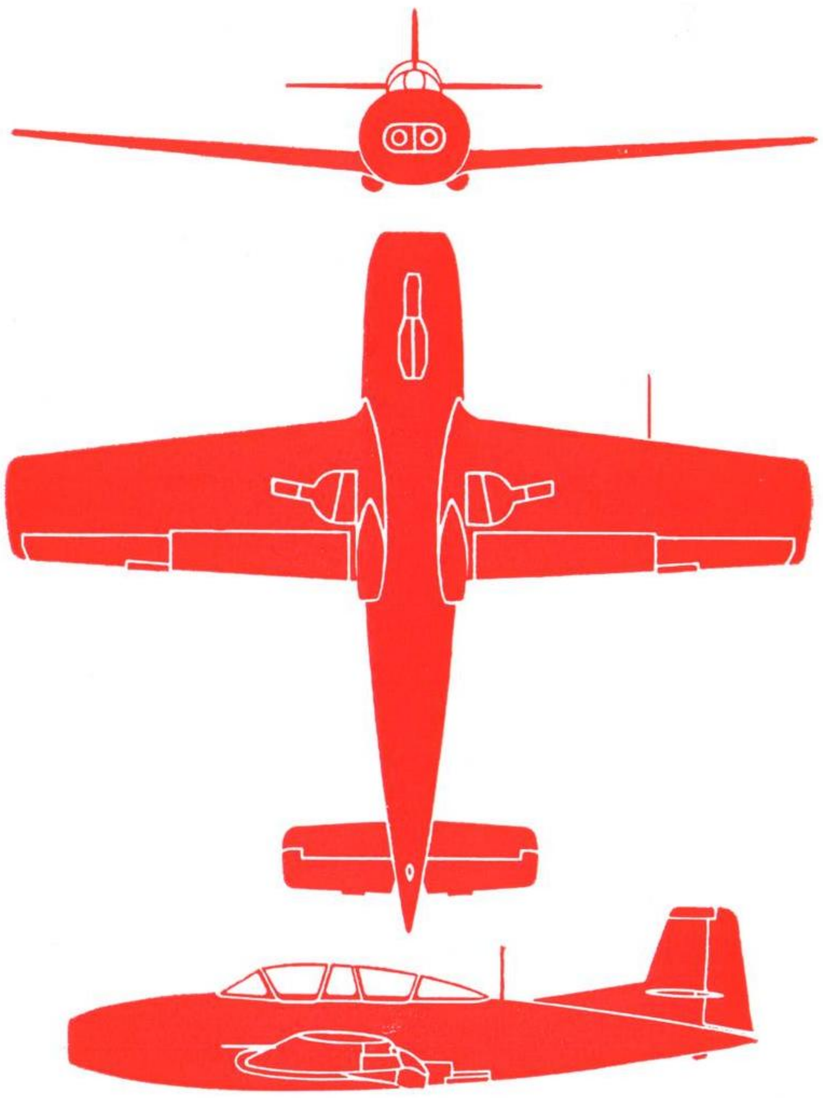
The Spanish equivalent of our Jet Provost is the Hispano HA-200 Saeta powered by two French turbo-jet engines.

Built first in Spain for the Spanish Air Force as their E-14 it is now in production in Egypt where it is known as the Al-Kahira.

The Saeta has provision for armament either 2×7-mm machine guns or 1×20-mm Hispano gun ; there is also provision for air launched weapons. To identify the Saeta, work to the instructions on page 239.

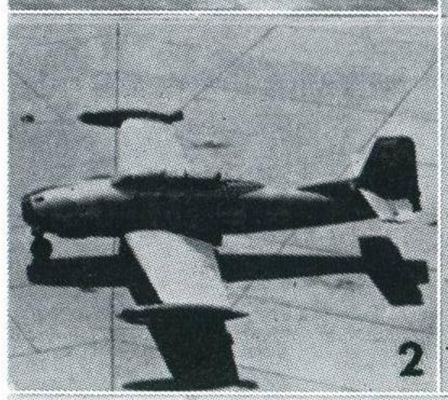
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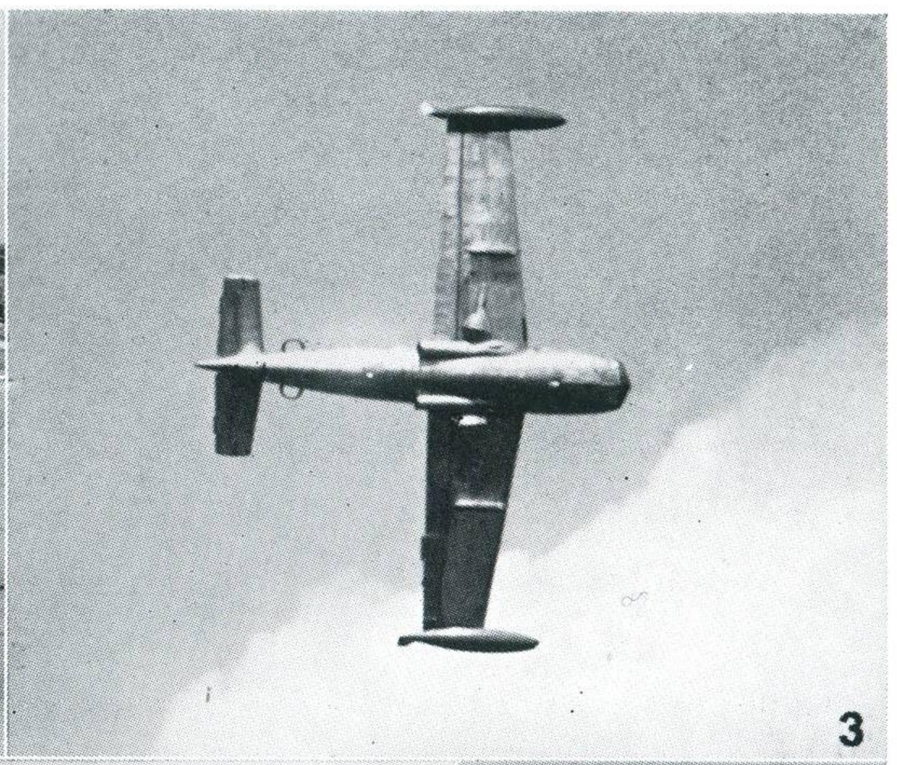




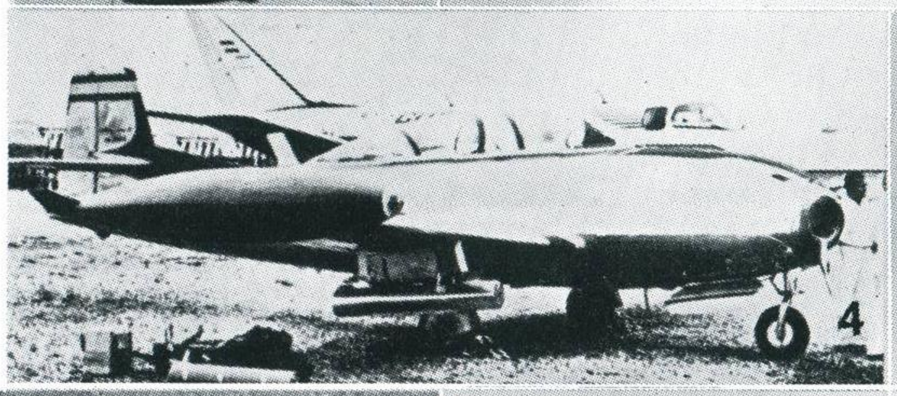
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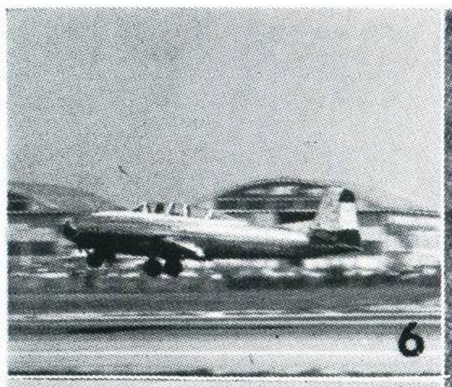
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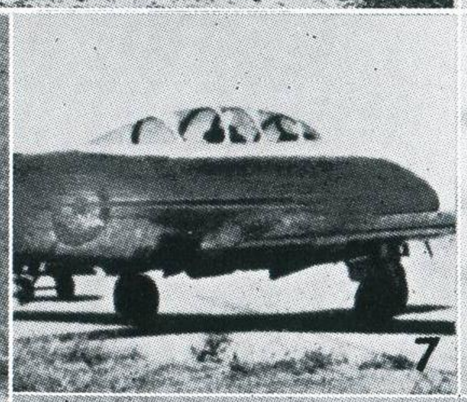
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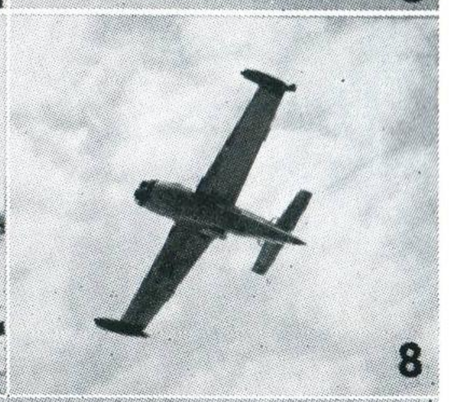
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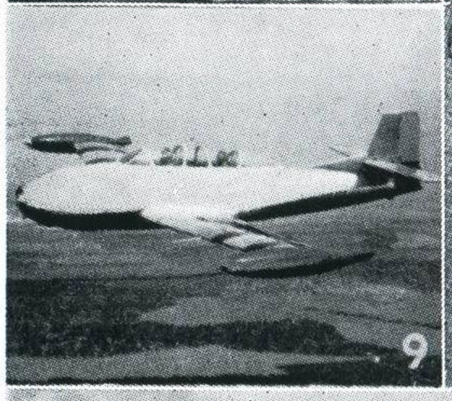
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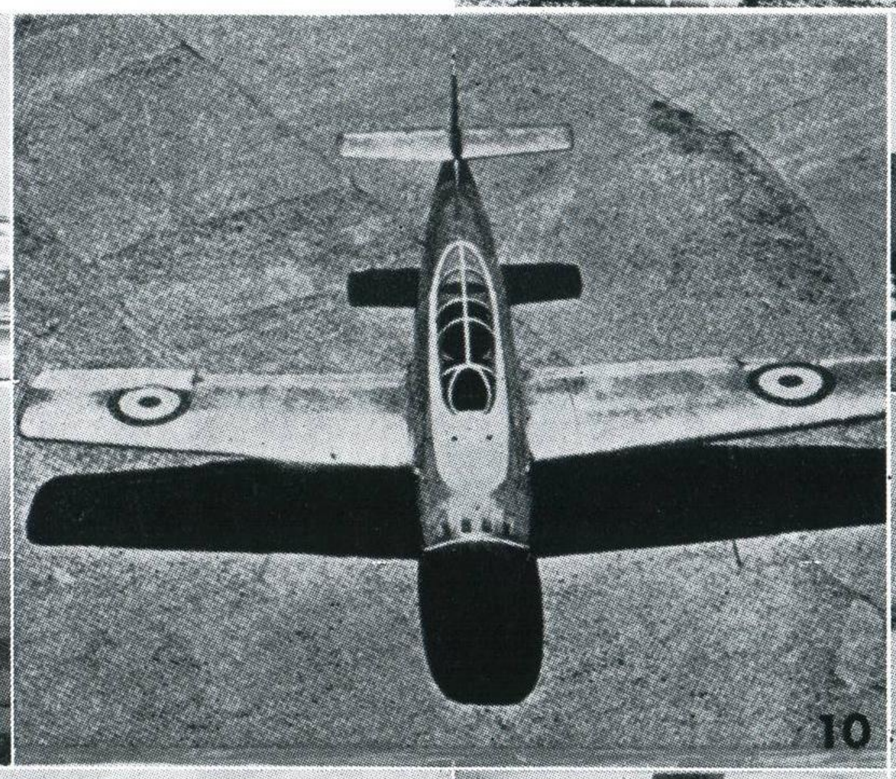
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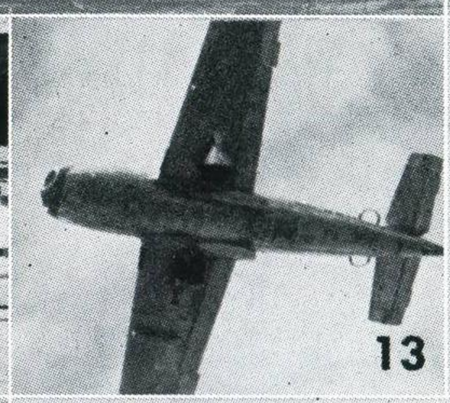
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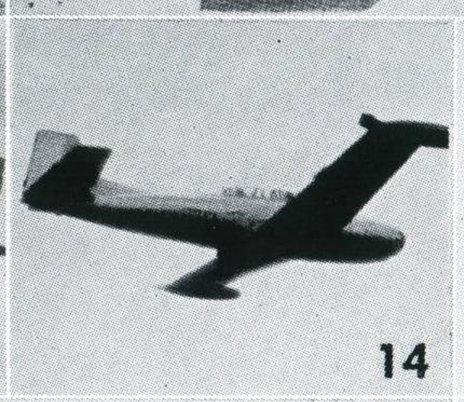
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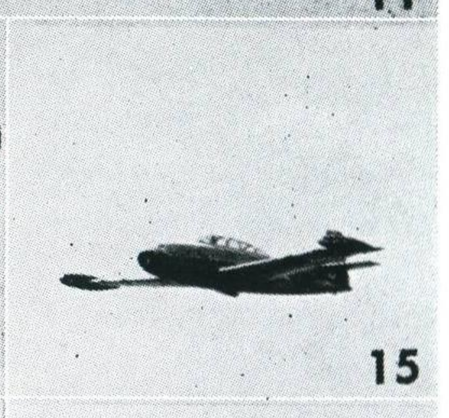
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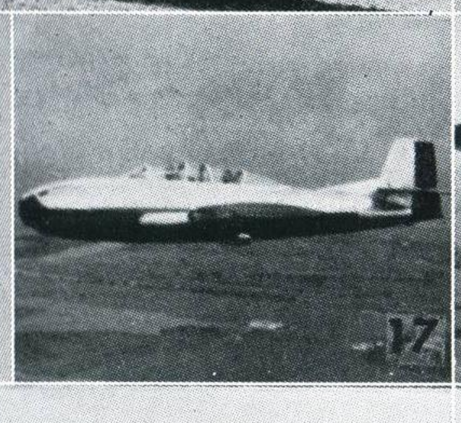
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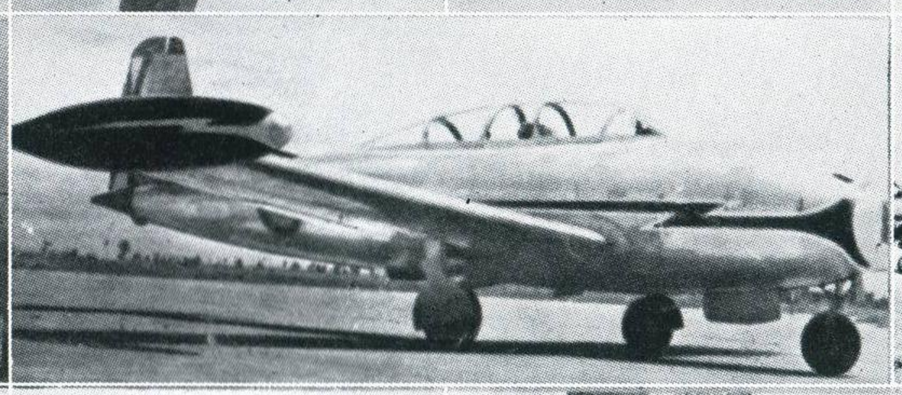
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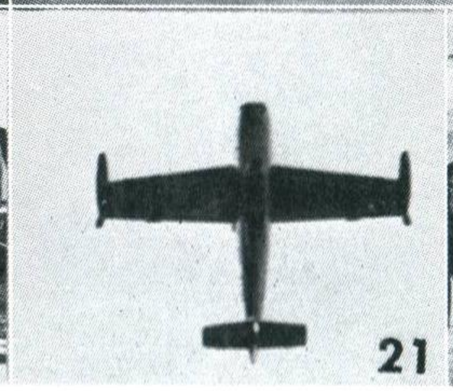
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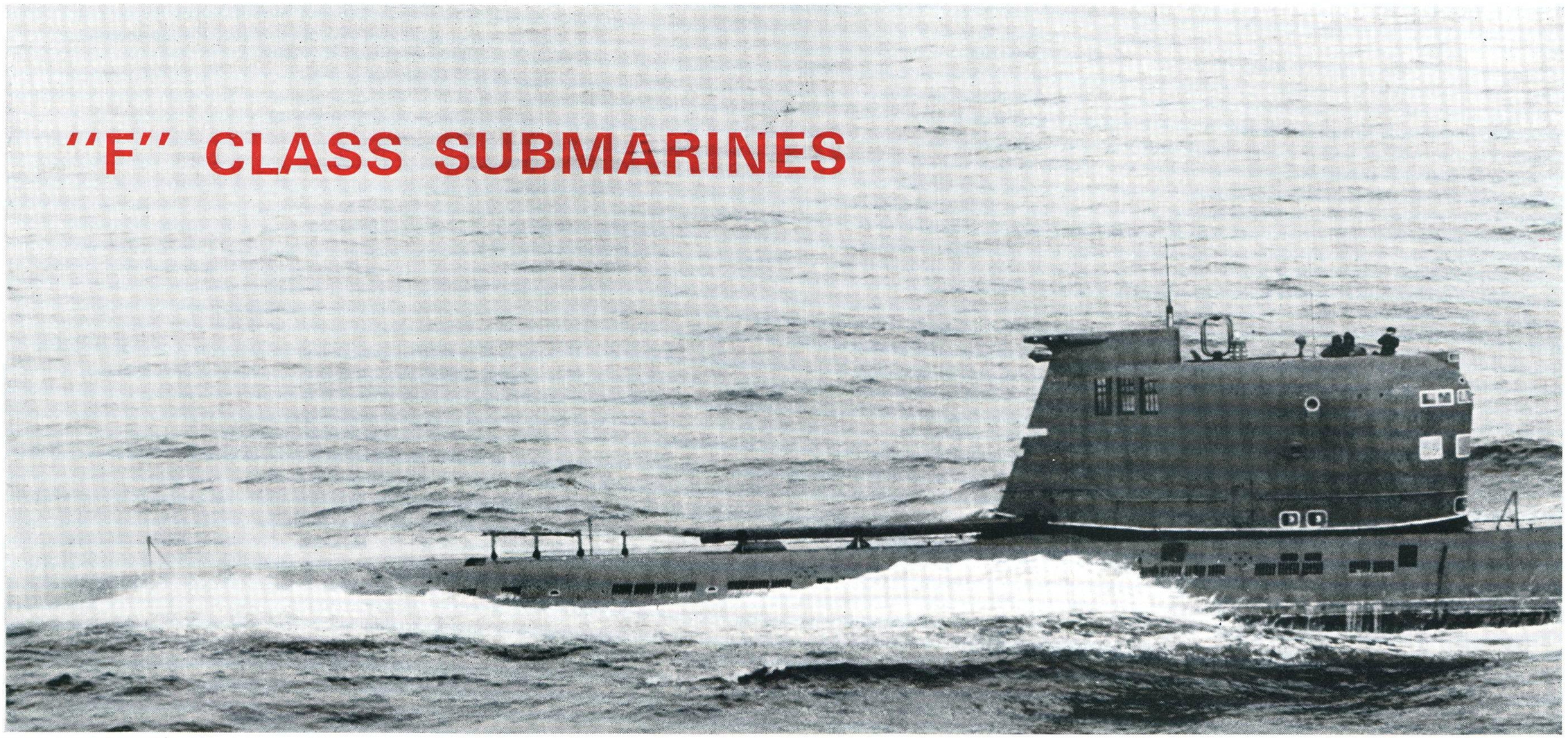


WARSHIPS OF THE USSR

"F" CLASS SUBMARINE

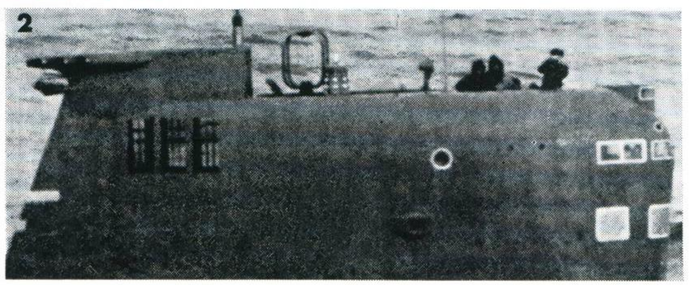


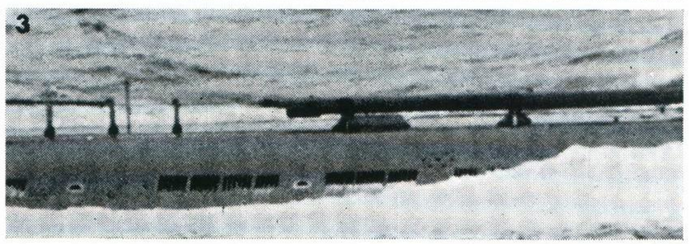
"F" CLASS SUBMARINES



WARSHIPS OF THE USSR



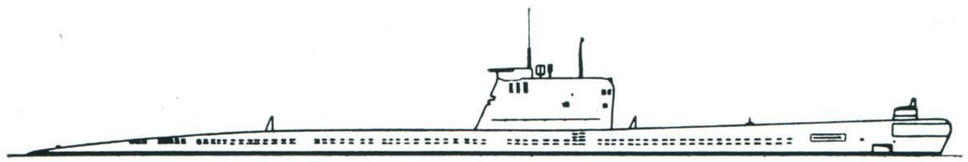


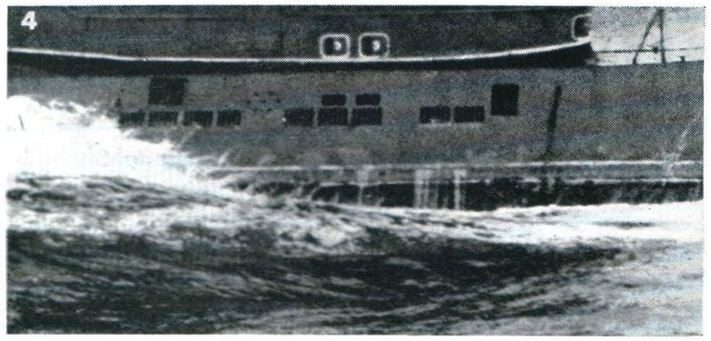


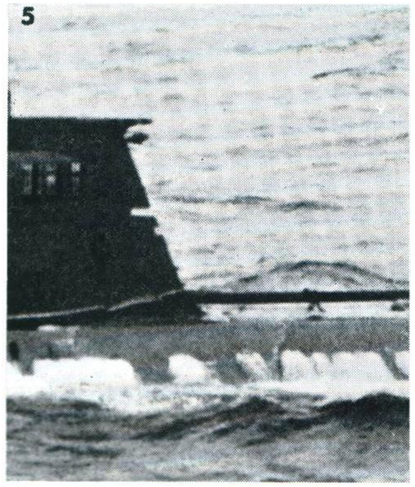
There are believed to be about 30 of these large Russian attack submarines. They are improved versions of the "Z" class which they somewhat resemble in appearance with a long row of rapid flooding holes along the casing and with exhausts or ventilators projecting like wings from the top of the after portion of the fin or conning tower.

Their surface displacement is given as 2,000 tons and they measure 300 feet in length. Diesel engines with three shafts give a surface speed of 20 knots, and electric motors a submerged speed of 15 knots.

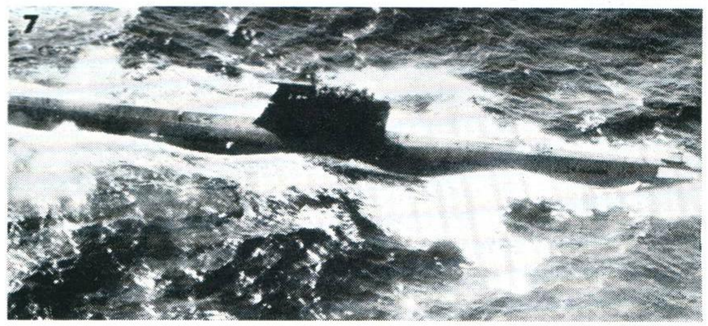
They carry 20 torpedoes for discharge from 8–21-inch tubes.

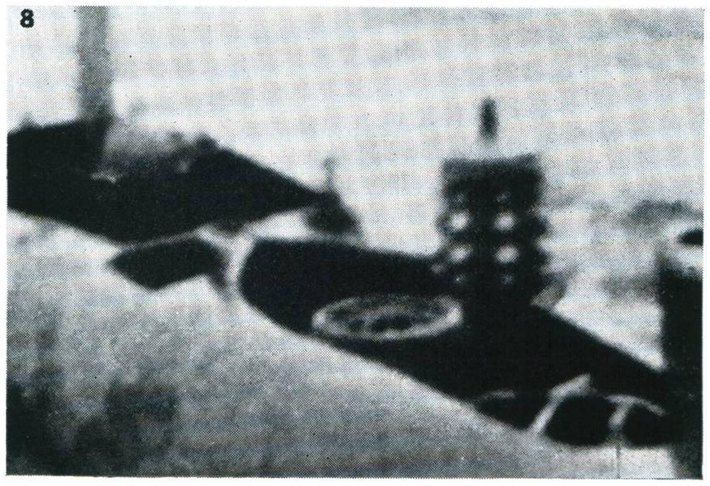


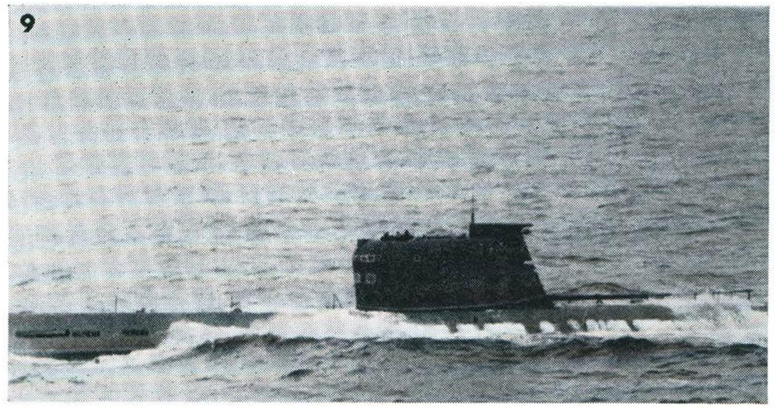

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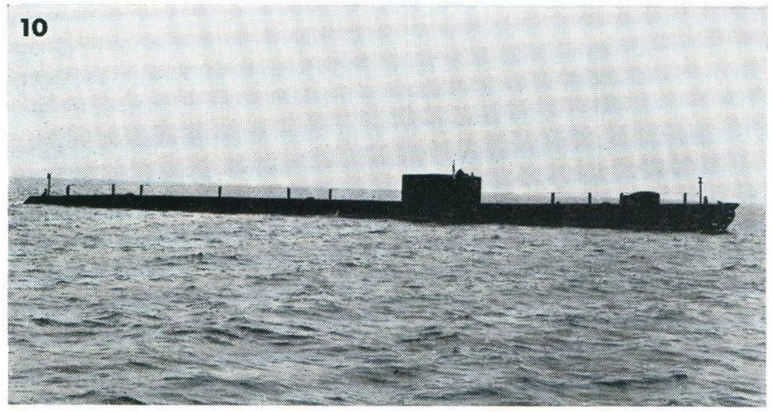

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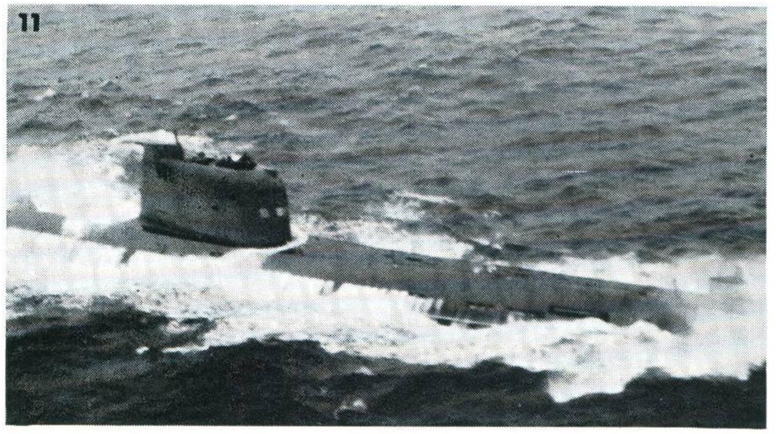

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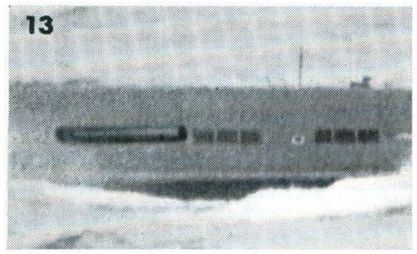

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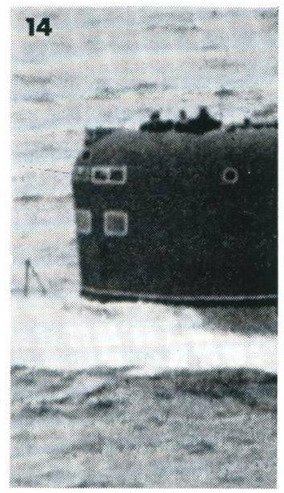

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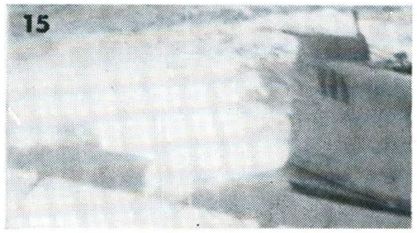

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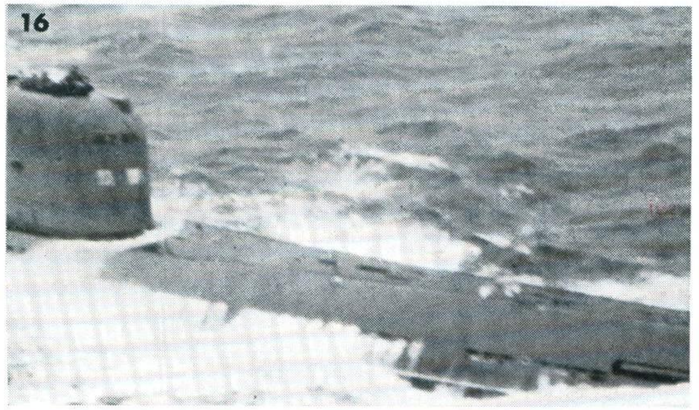

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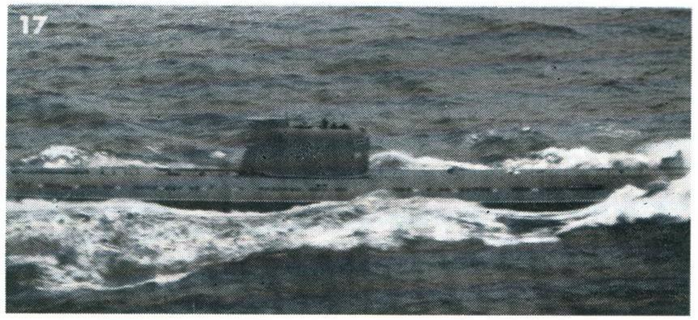

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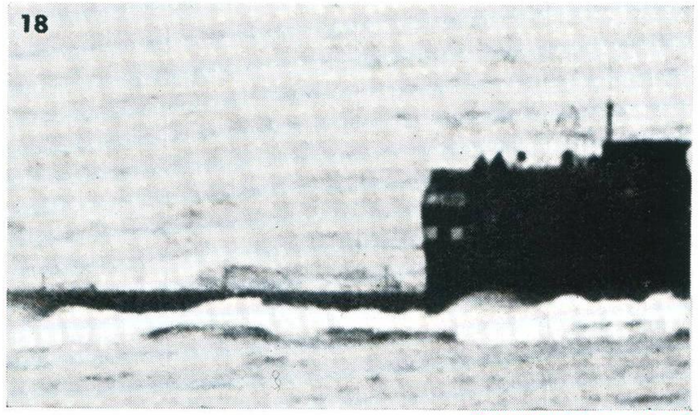

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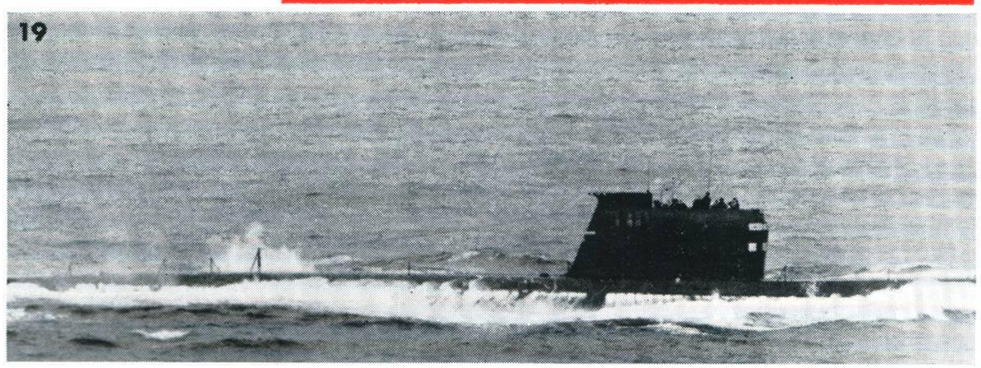

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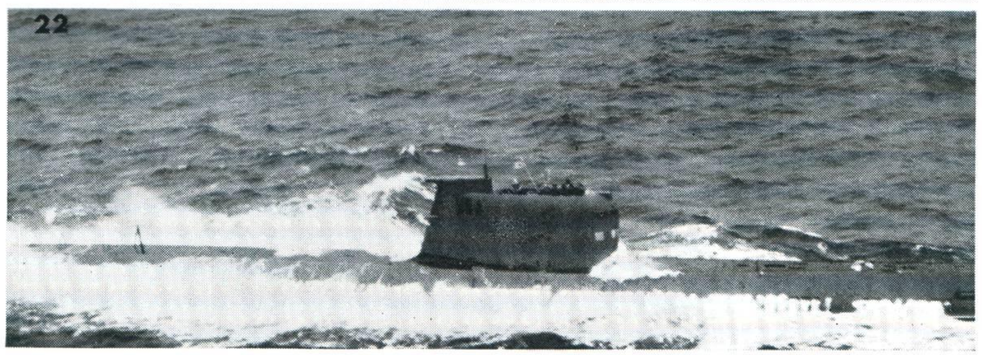
Soviet "F" Class Submarines

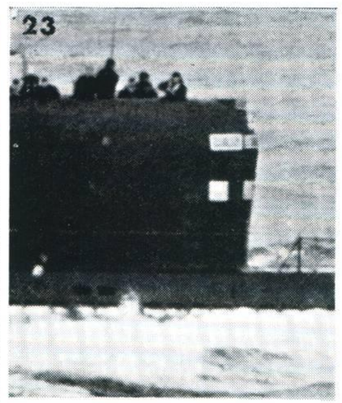




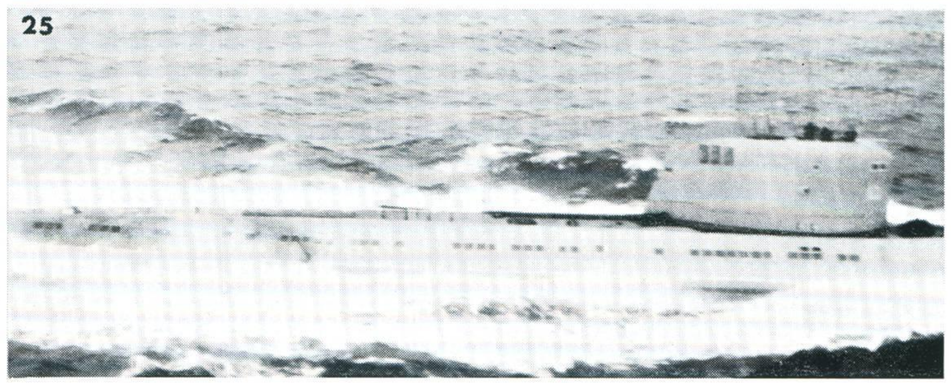




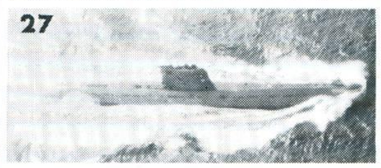




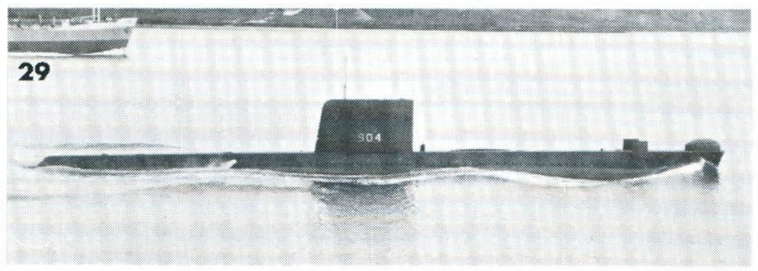


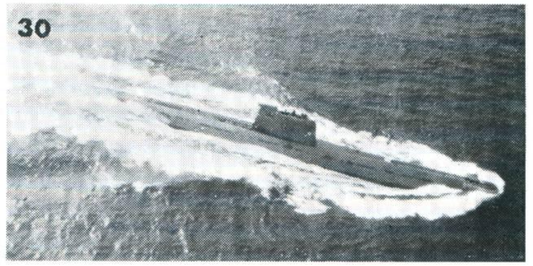


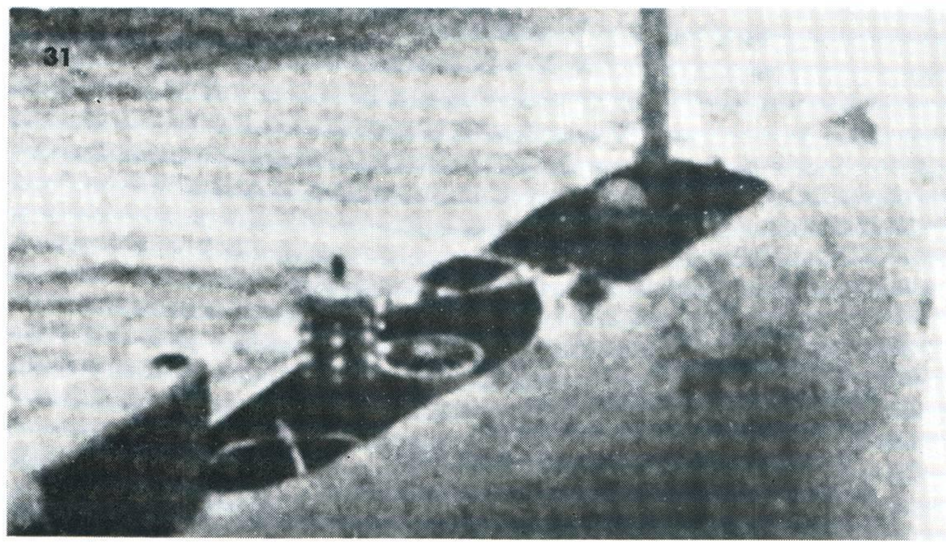


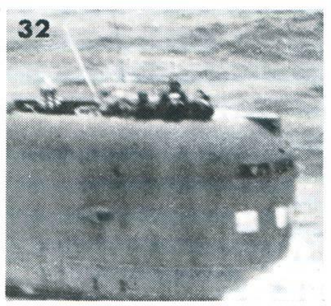


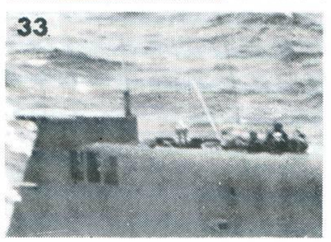


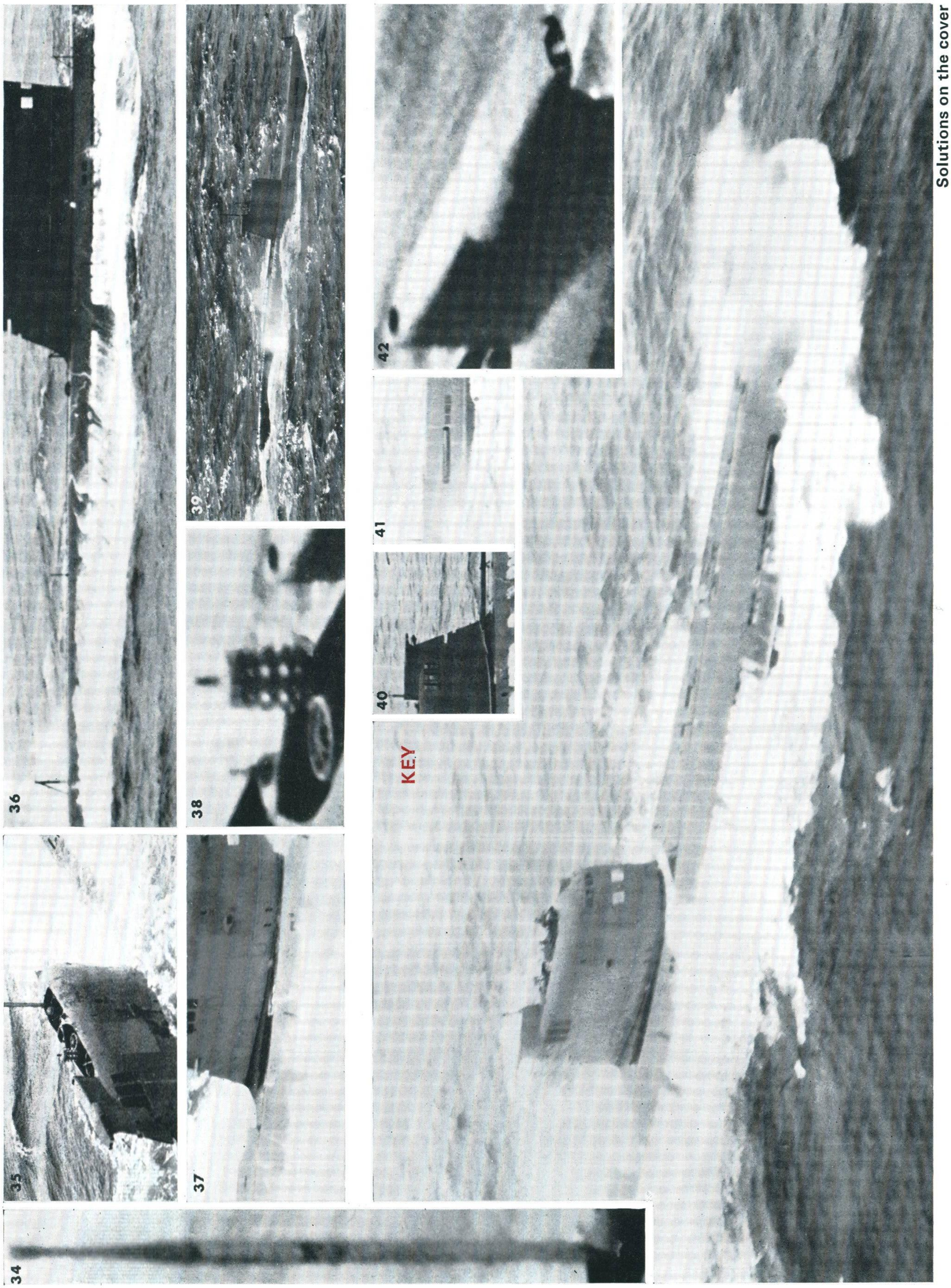












Solutions on the cover

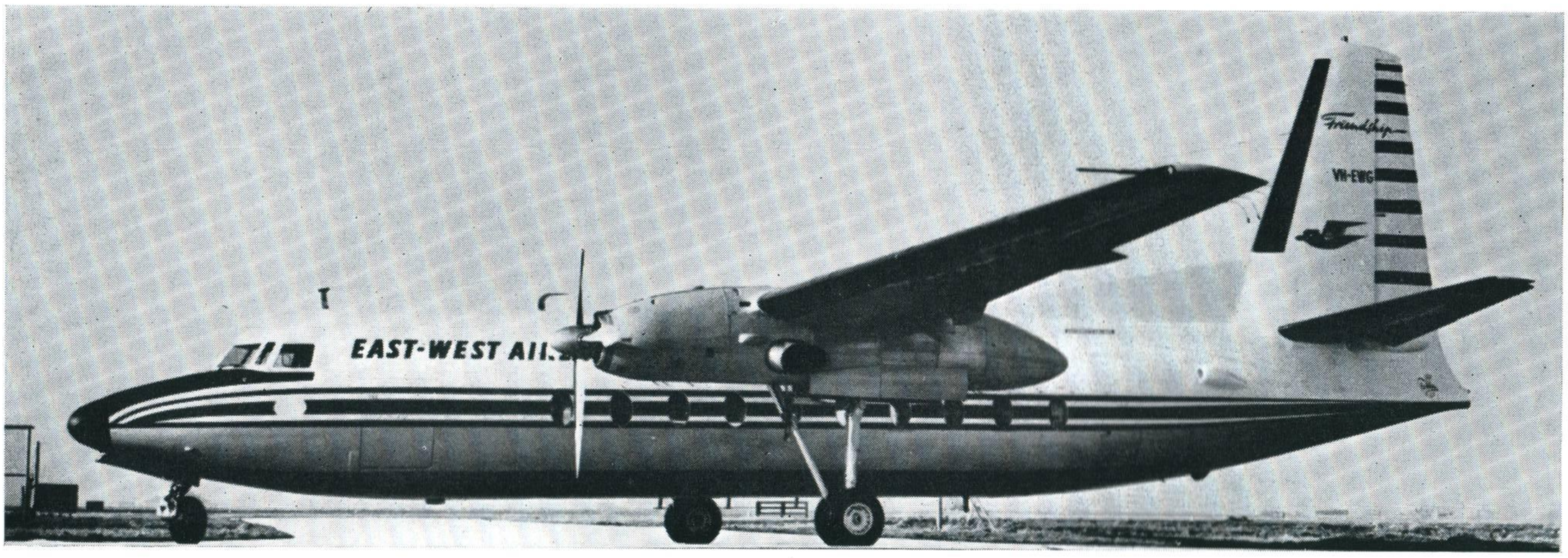


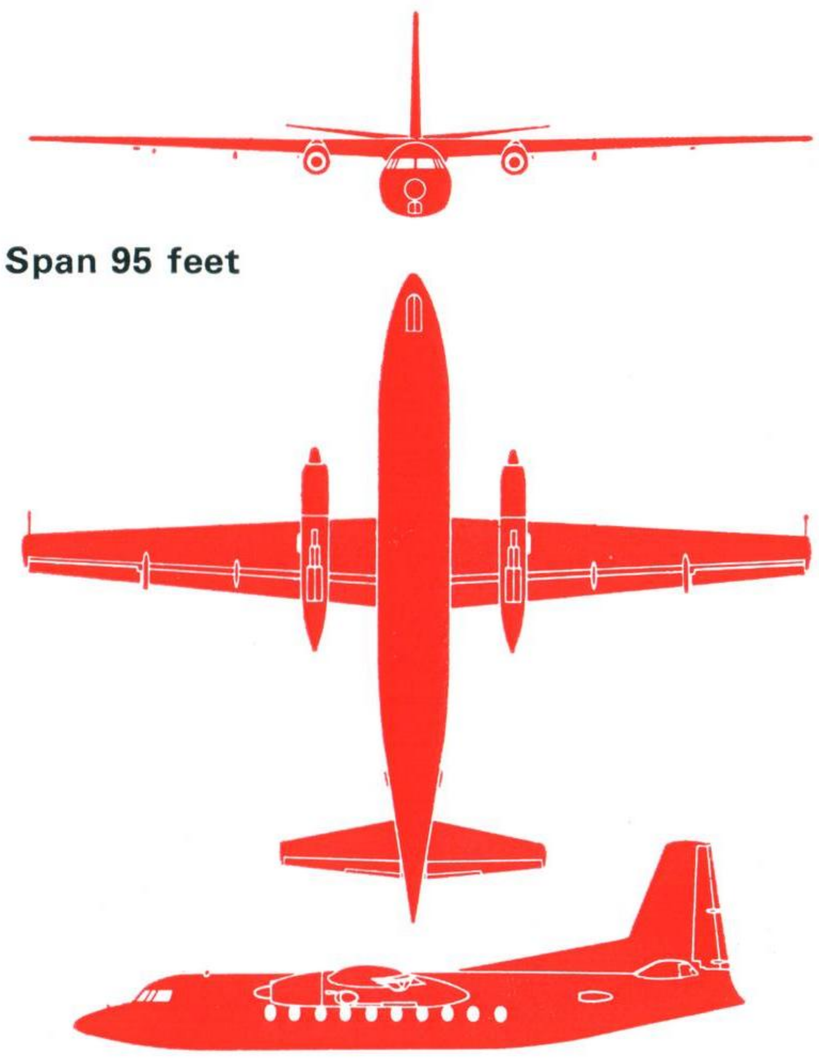
FRIENDSHIP

The Fokker F.27 Friendship is the main product of the Dutch aircraft industry. For over 10 years the Fokker factory at Schipol have produced this short/medium range airliner powered by Rolls-Royce Dart turboprop engines. In America it is being built under licence by the Fairchild Hiller Corporation in several versions including an increase of six feet in fuselage length.

Altogether, 300 Friendships have been supplied to airlines ranging from a single example for Royal Nepal Airlines to 25 operated by Ozark Airlines of America. Also, over 50 have been purchased by corporate owners including oil magnates and pepsi-cola purveyors and, additionally, over 20 are in the service of various governments.

The Friendship has a superficial resemblance to the Handley Page Herald and the Antonov An24 Coke, so, to ensure its precise identification, use this lesson by the method described on page 235.



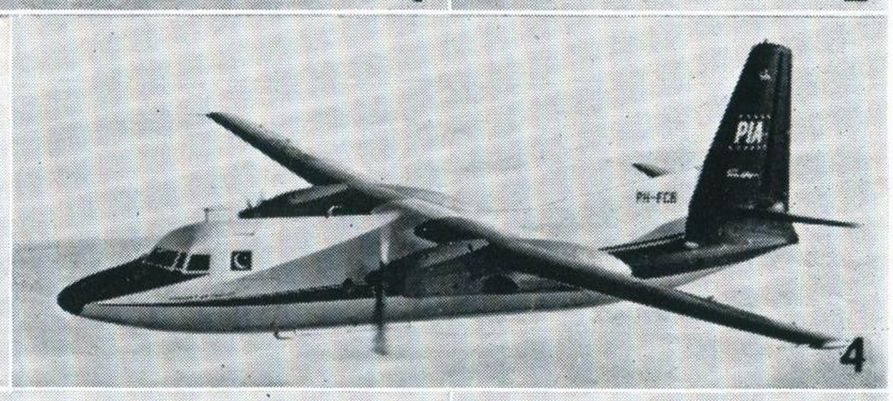


Span 95 feet


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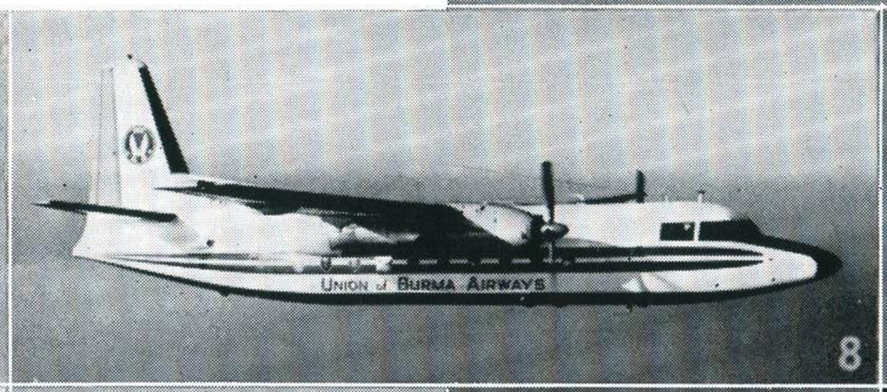


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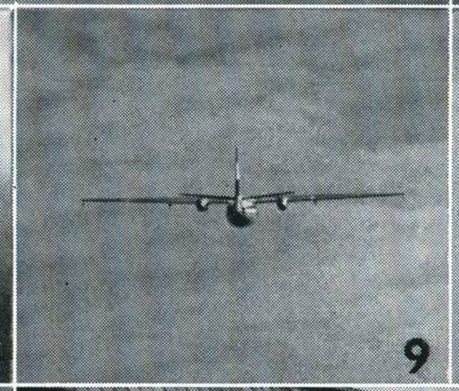

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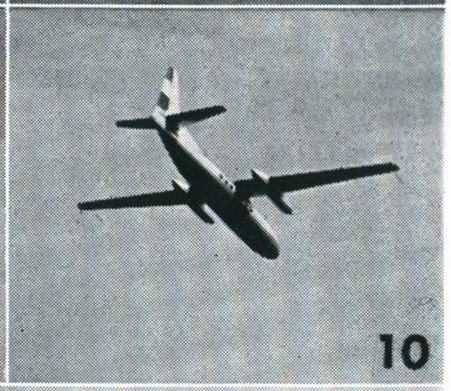

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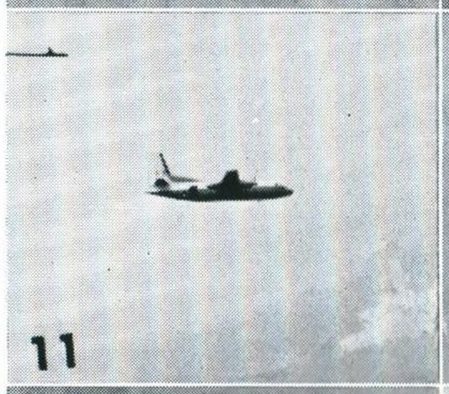

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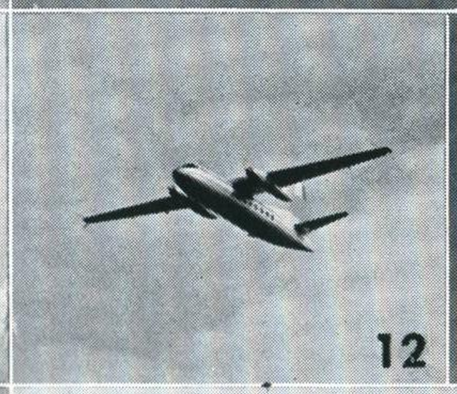


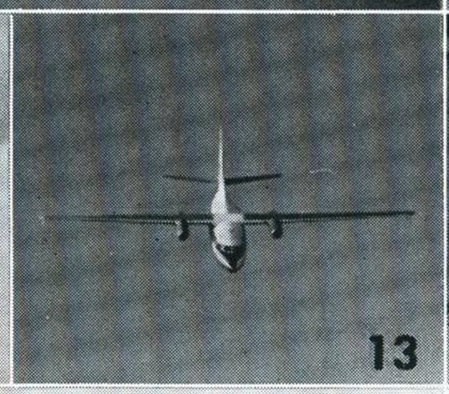
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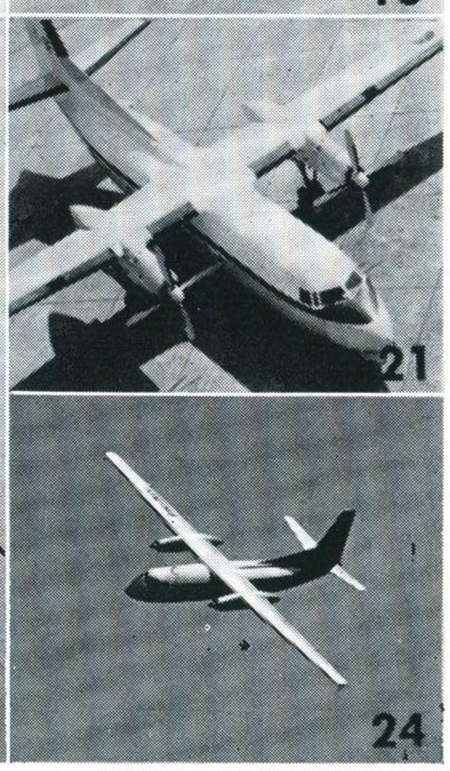

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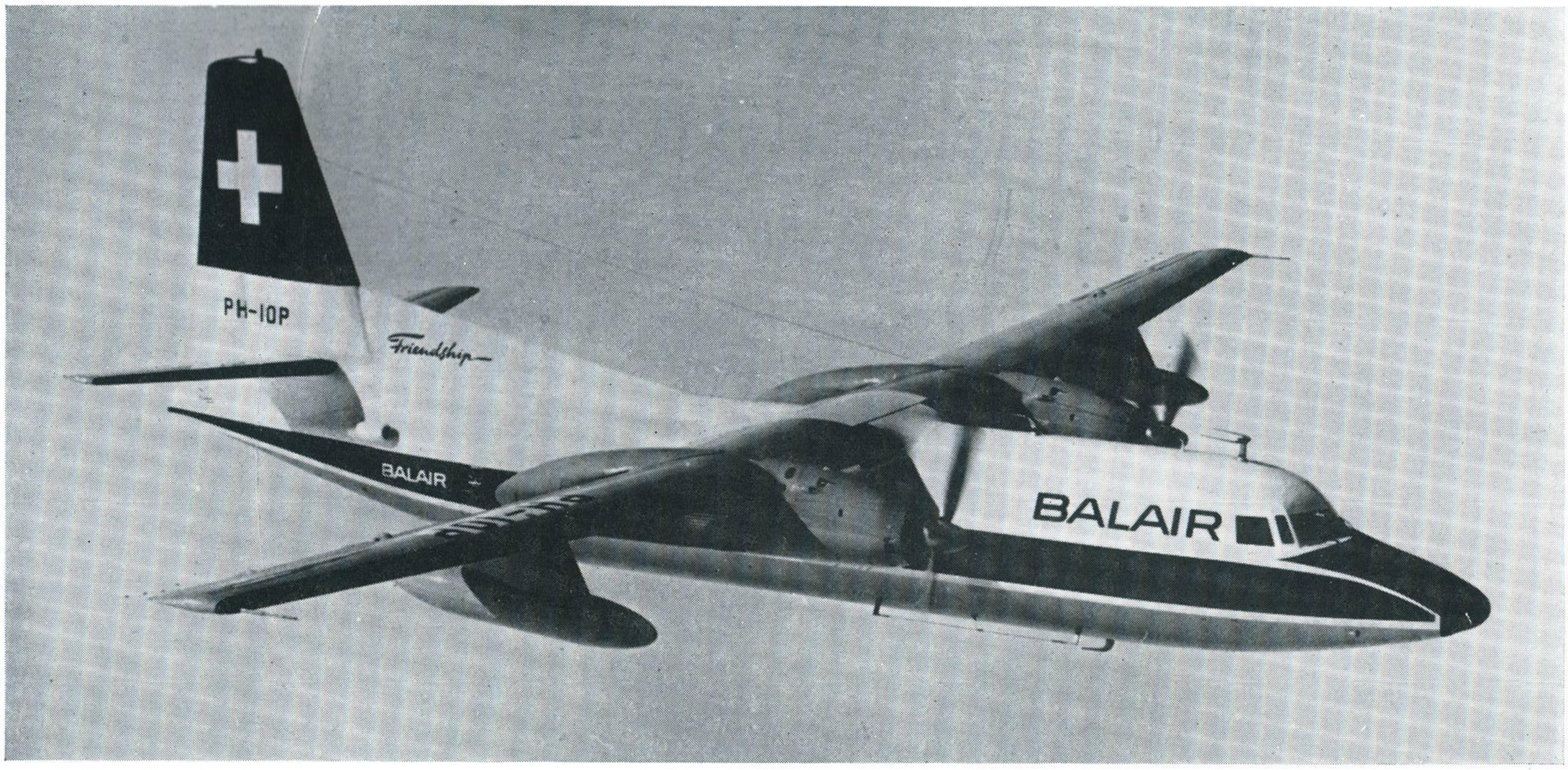

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24

Continued overleaf

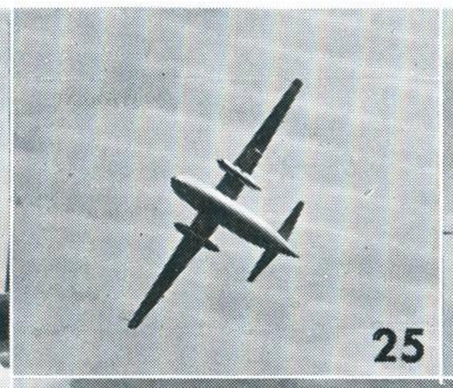


FRIENDSHIP continued

Underwing auxiliary fuel tanks, fitted to special order, are the only variation to the configuration of the Friendship. Combiplane mixed cargo/passenger models and Troopship military transports differ only by loading door arrangements.

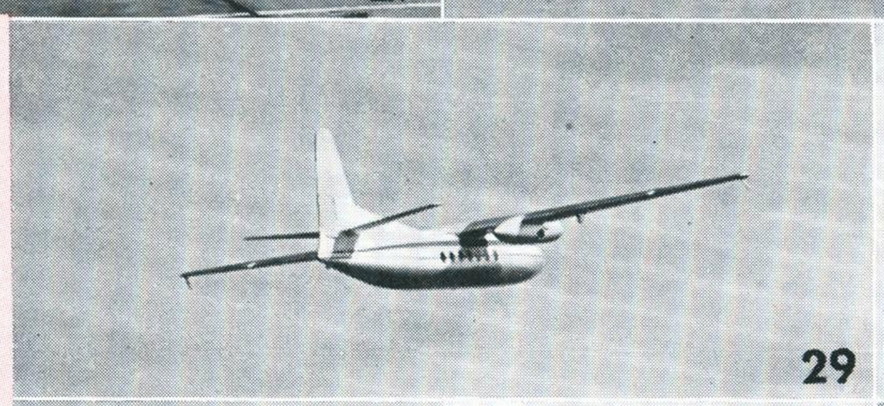
Solutions on the cover


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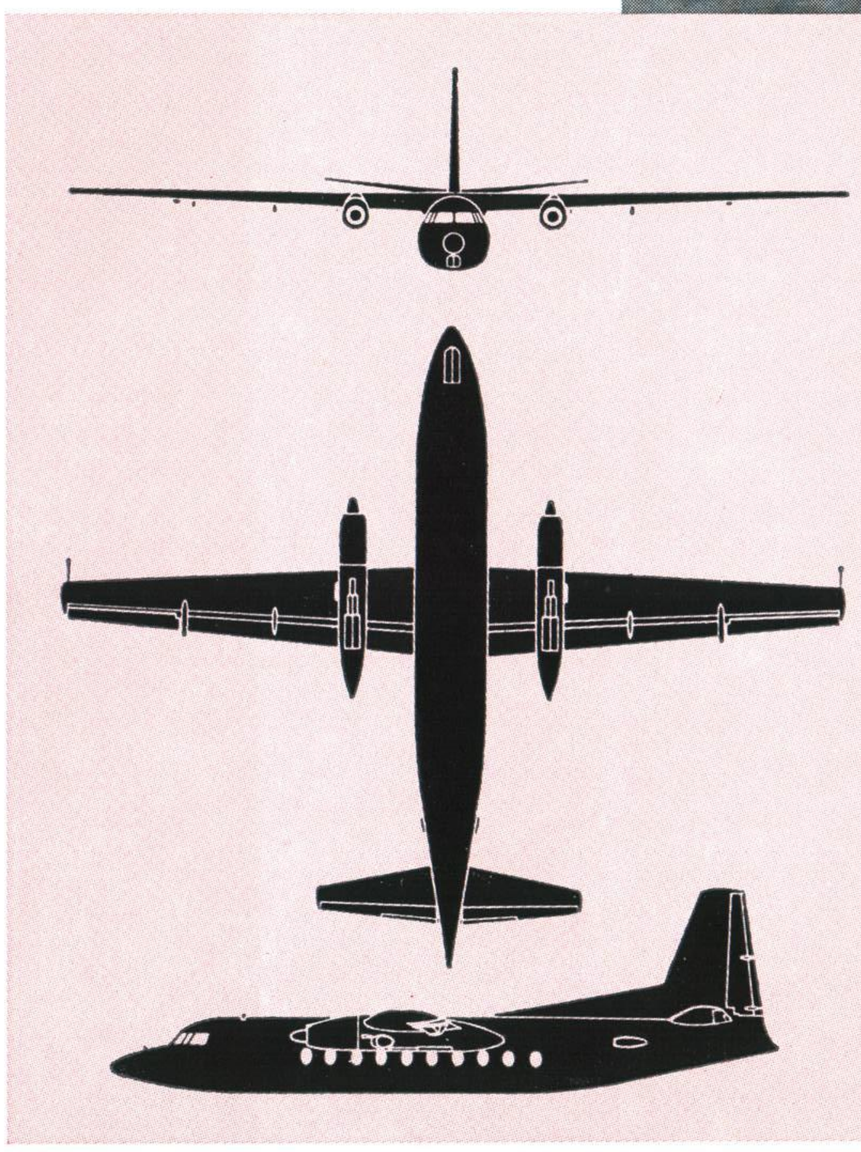

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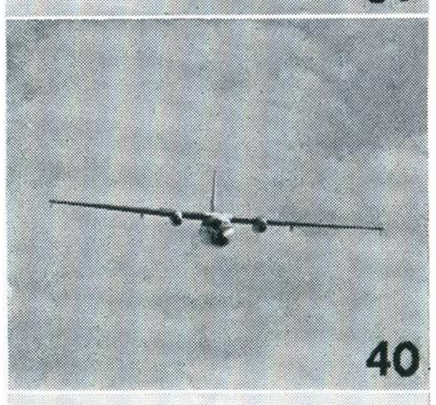






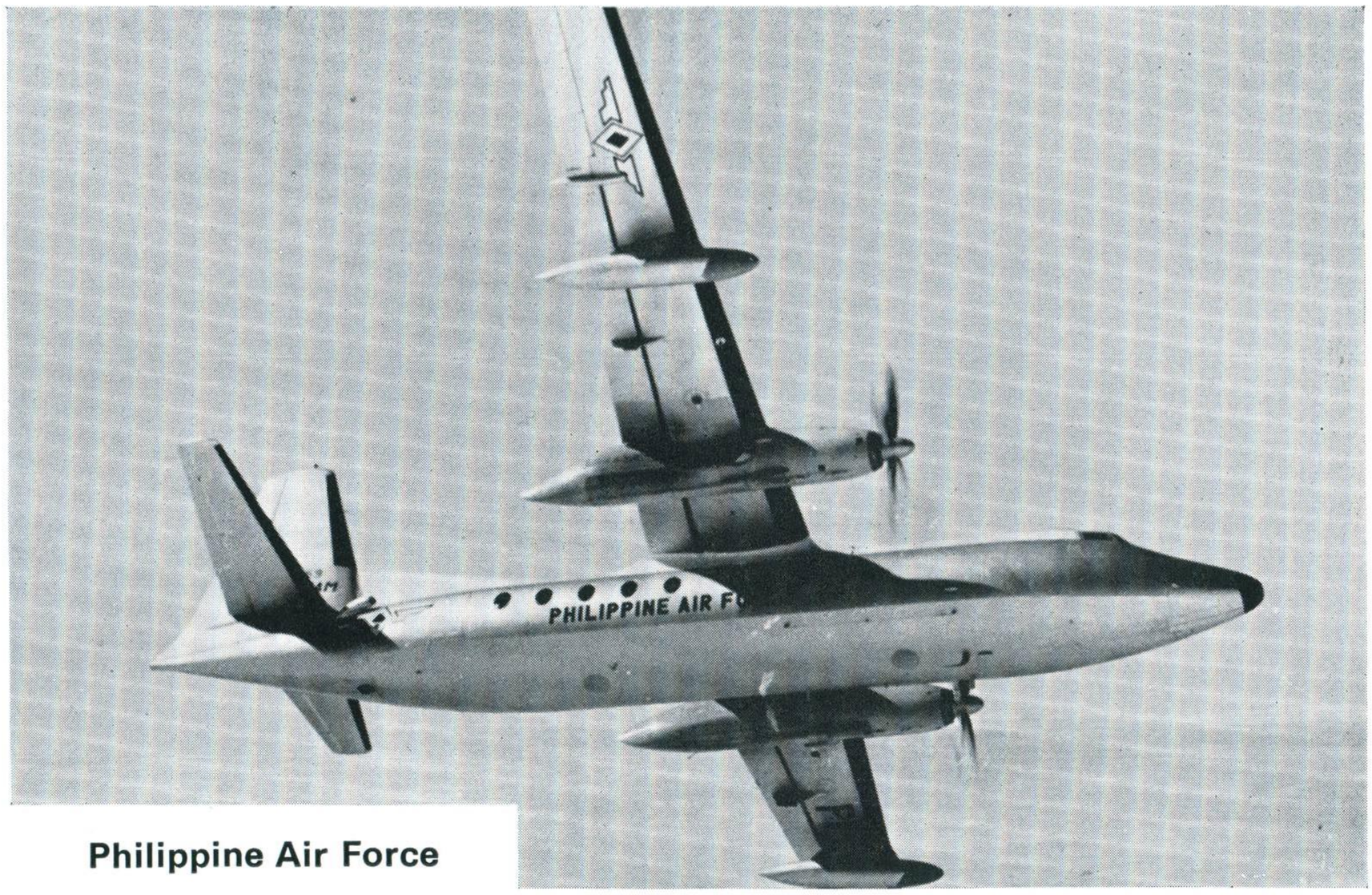




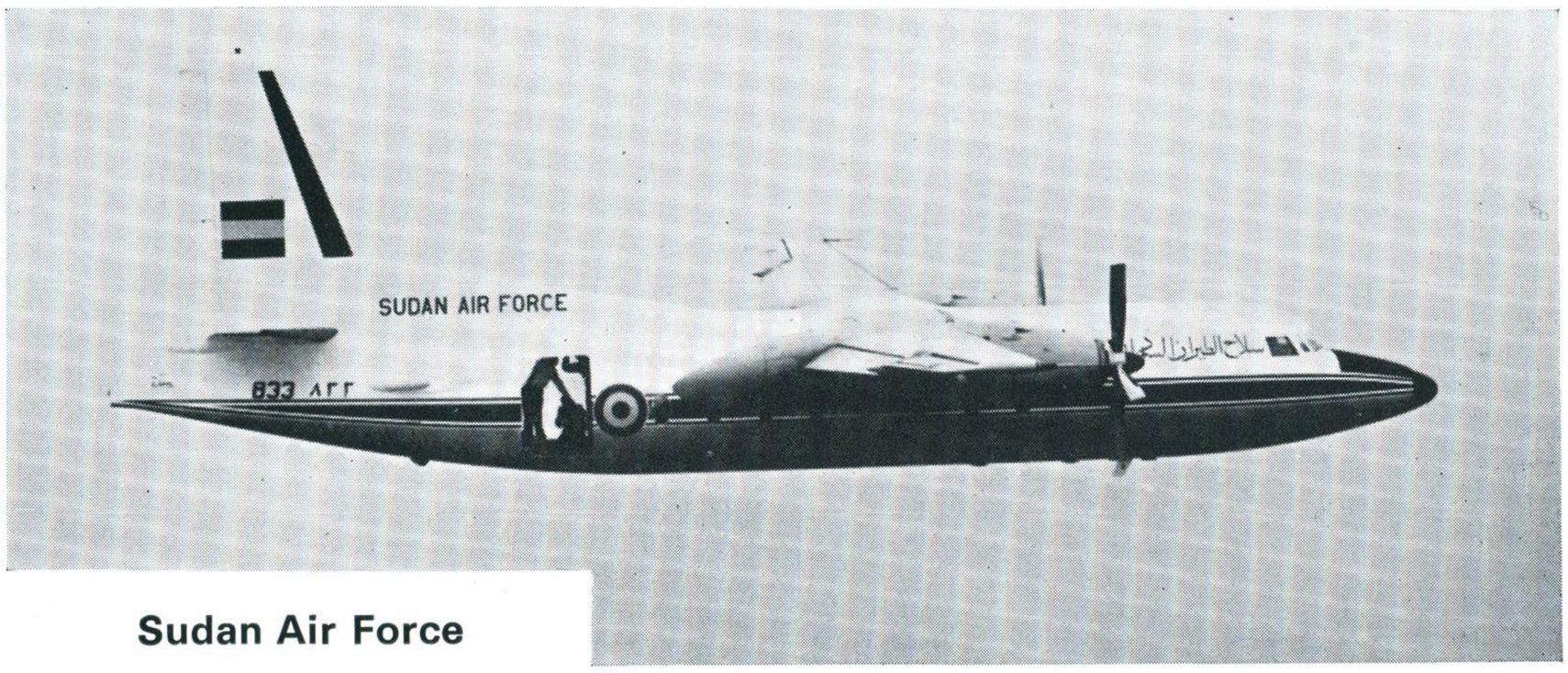




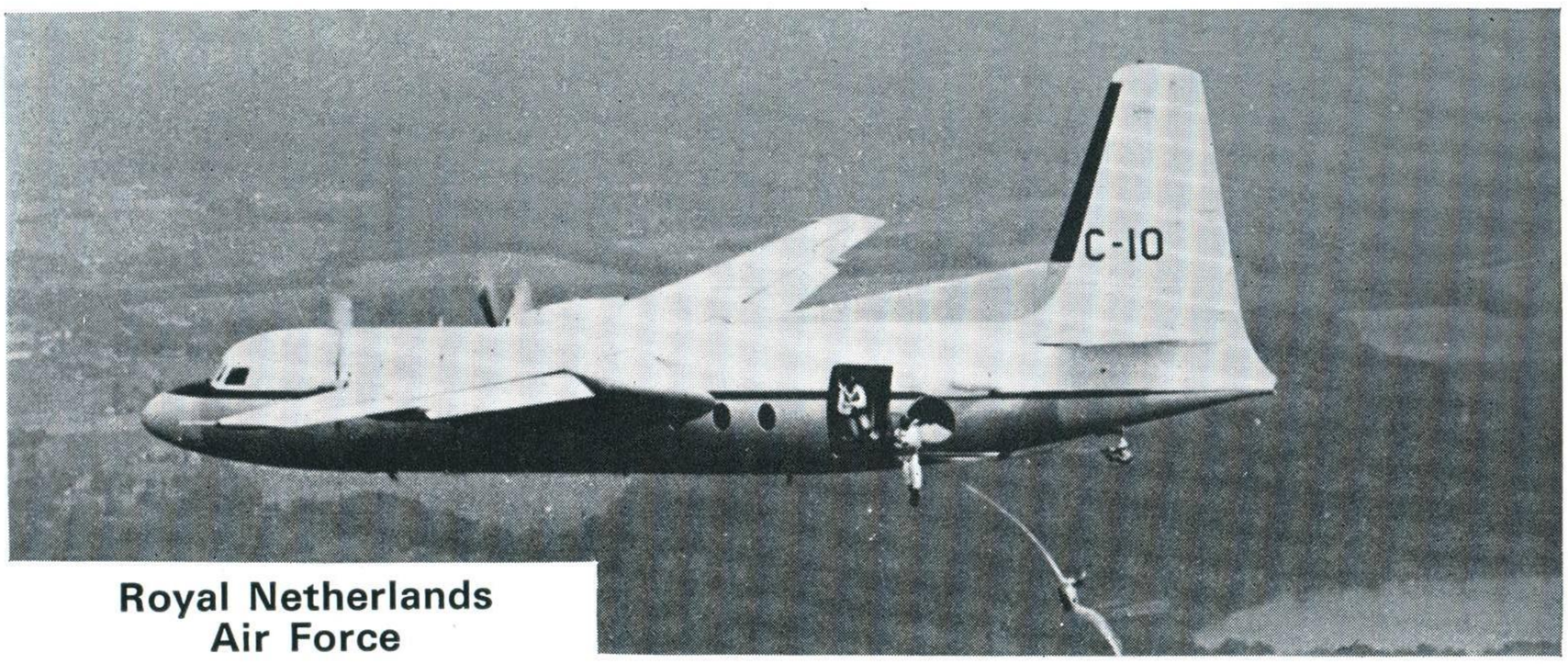




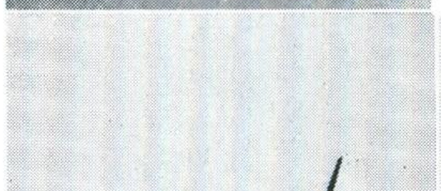
Philippine Air Force



Sudan Air Force



Royal Netherlands Air Force





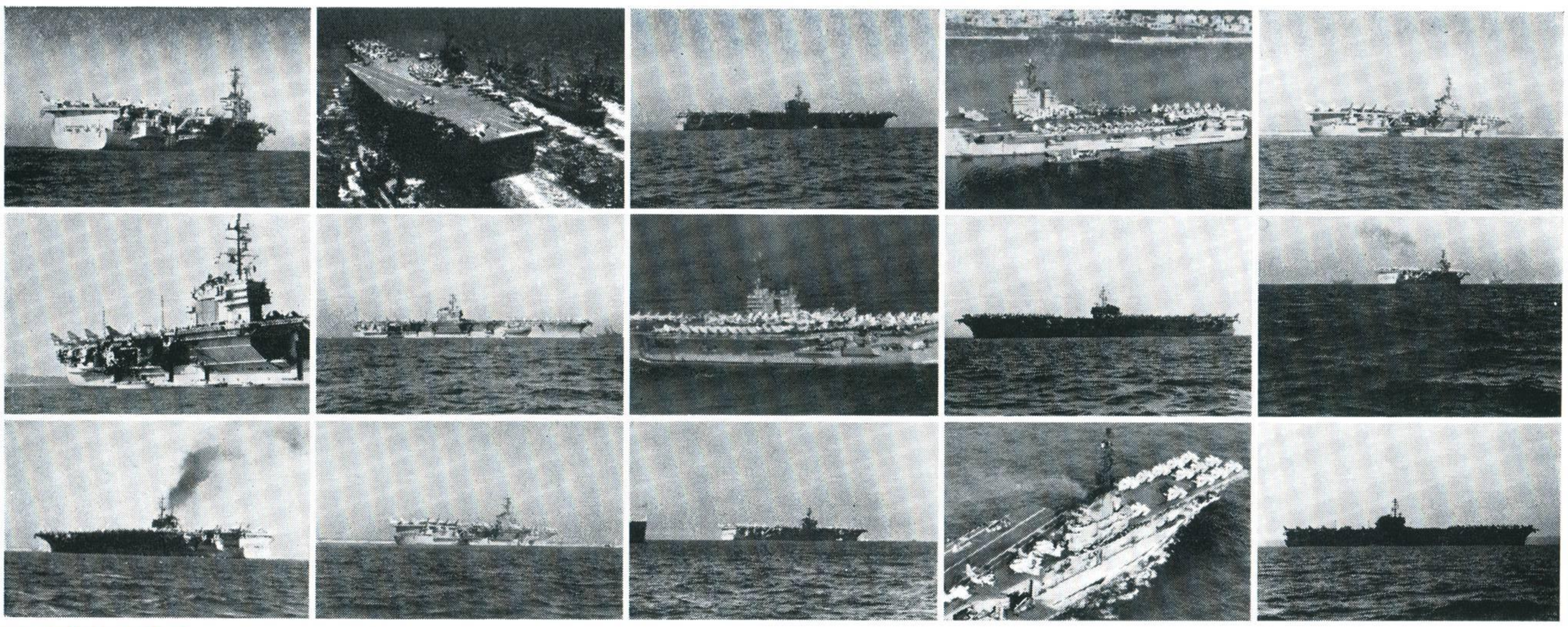




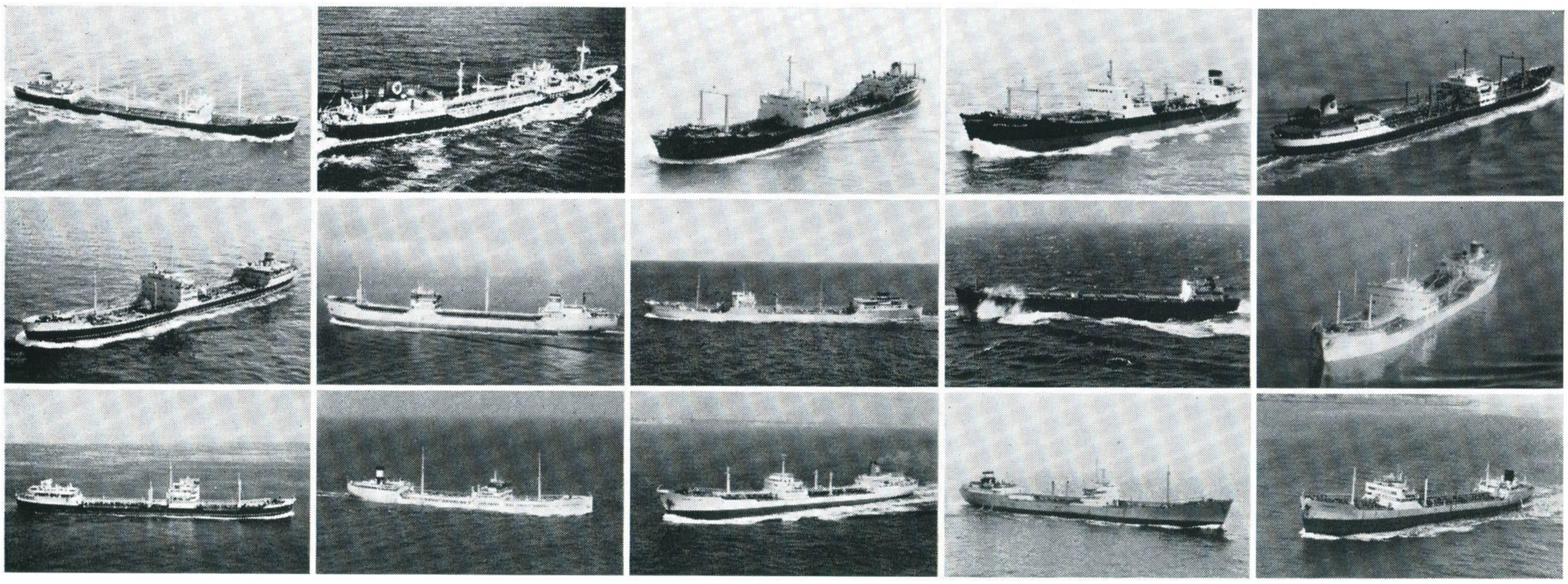


TEST PAPERS

SARATOGA?



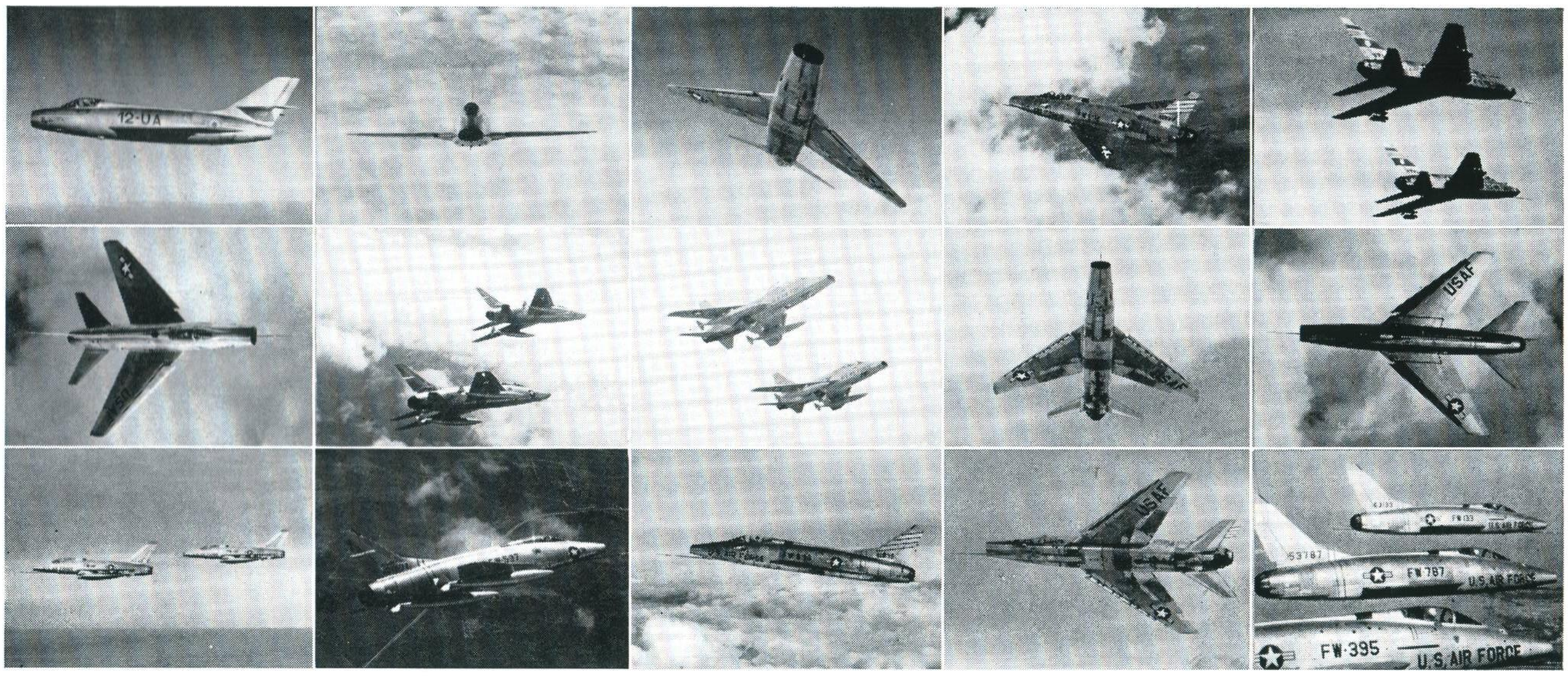
TANKERS?



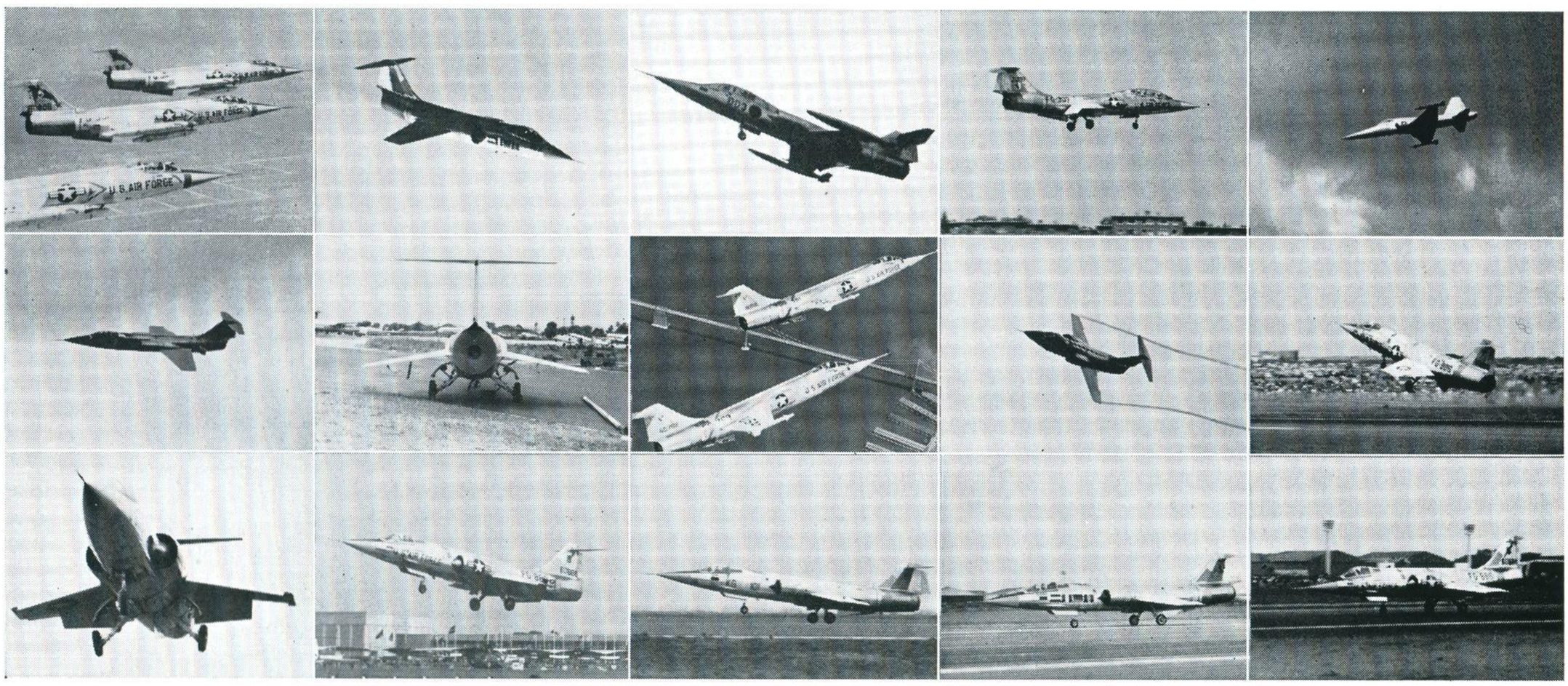
PANHARD EBR?



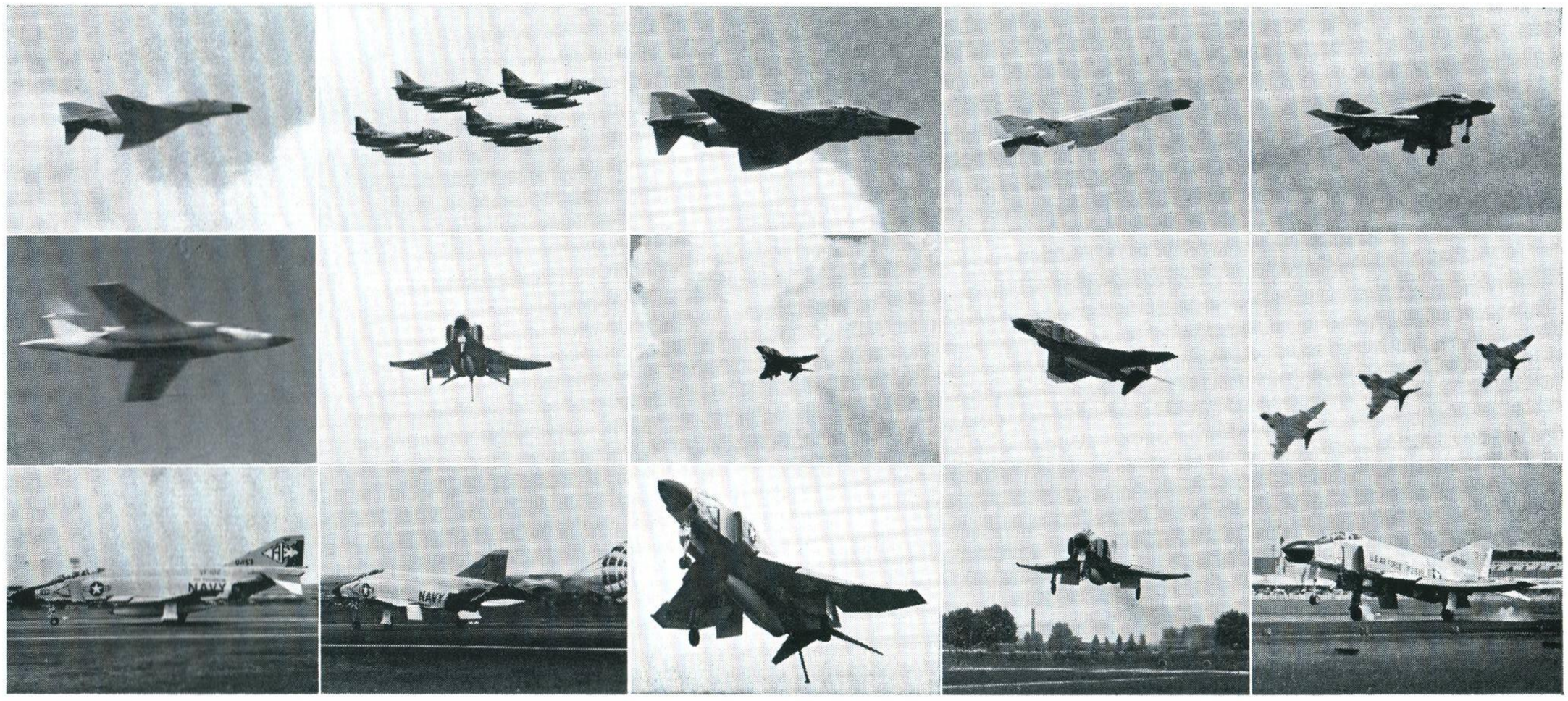
SUPER SABRE?



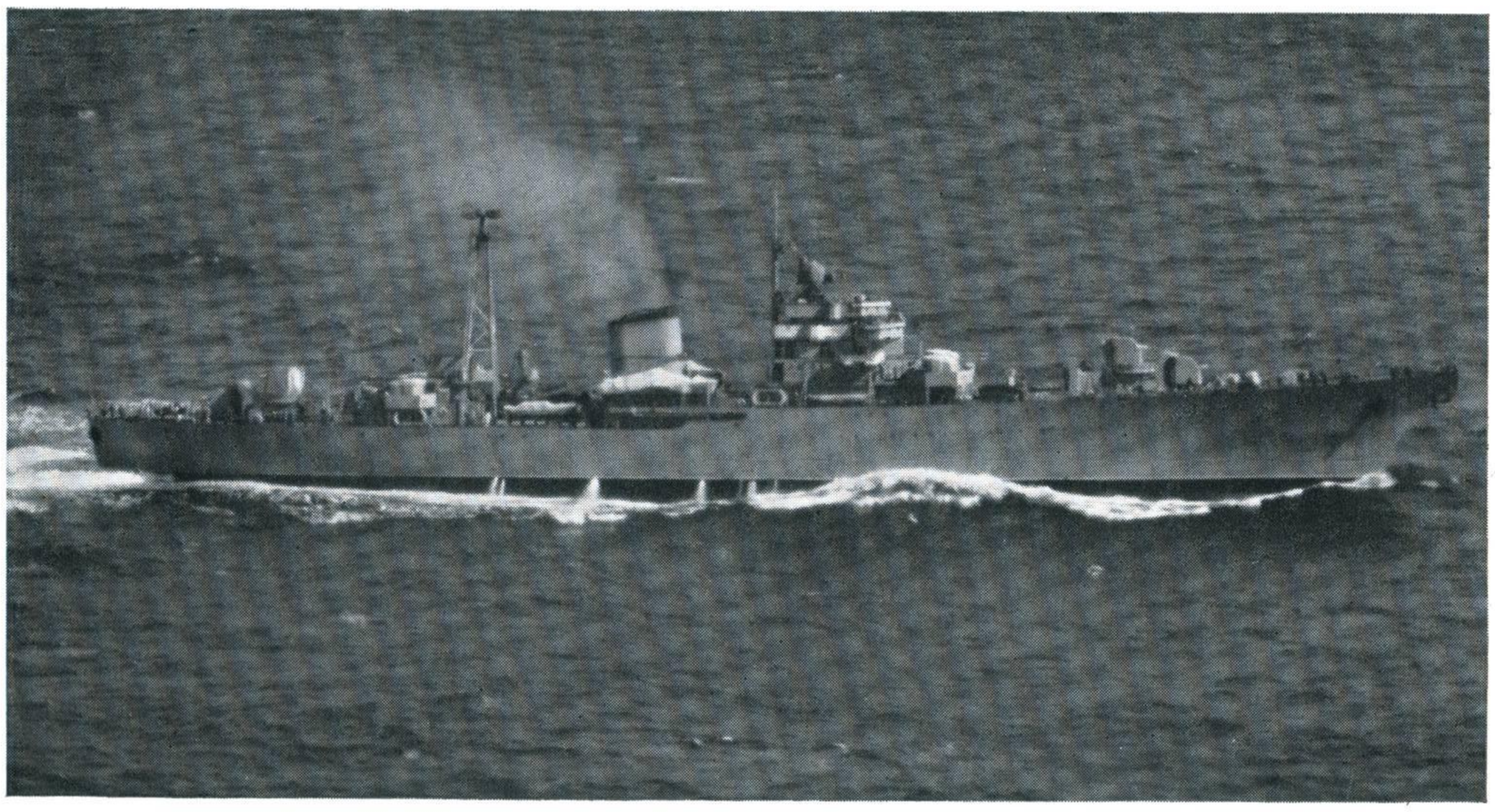
STARFIGHTER?



PHANTOM?



Solutions on the cover

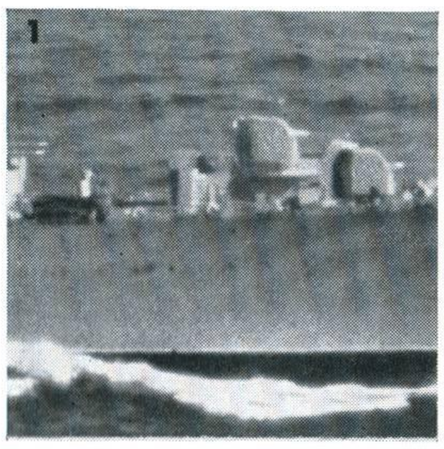


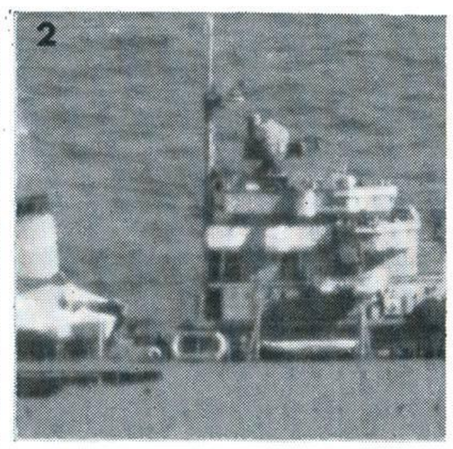
The Don Class Escorts are ocean-going support ships and may be used in various roles including submarine depot ships

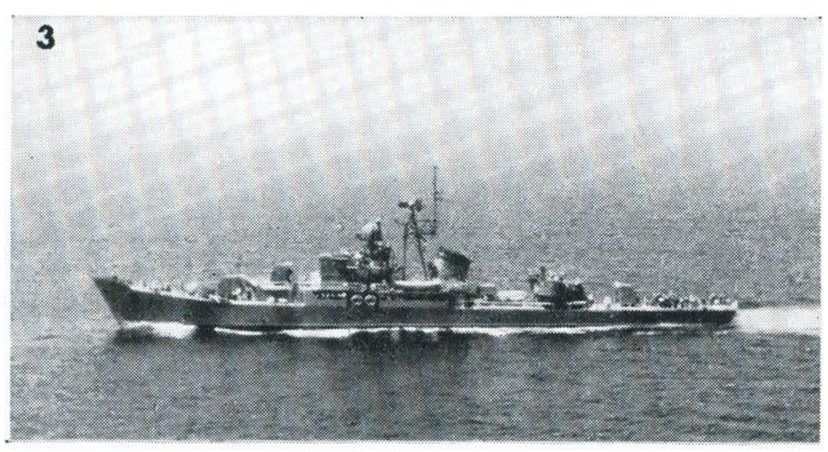
There are presumed to be some six ships of this class with slight variations in out-line, particularly aft where at least one Don has a helicopter landing deck.

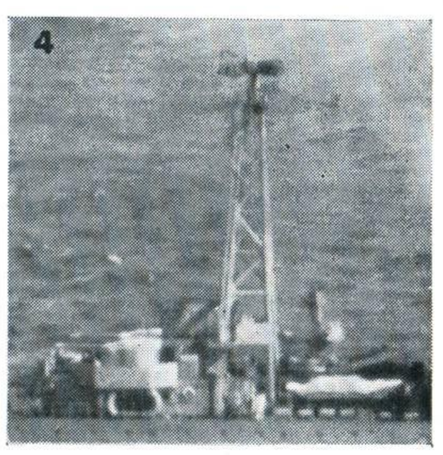
Armament is normally 4×3·9″ guns and a number of 45-mm anti-aircraft guns. There is provision for the carriage of 80 mines.

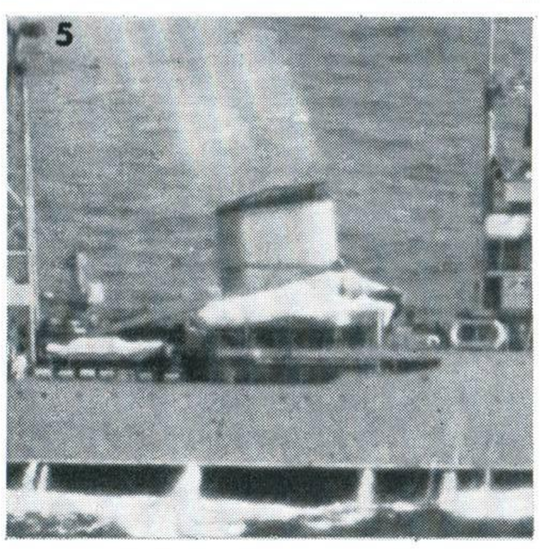
Standard displacement of this class is around 5,000 tons and the overall length 425 feet.

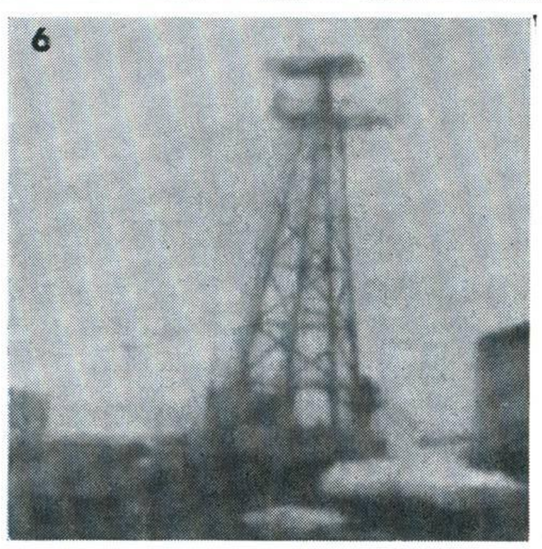

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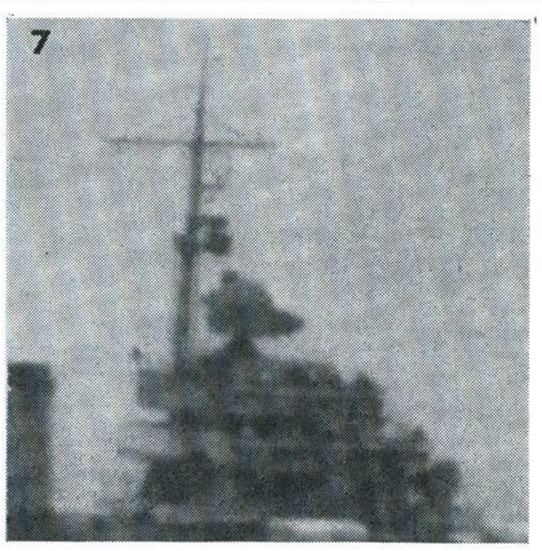

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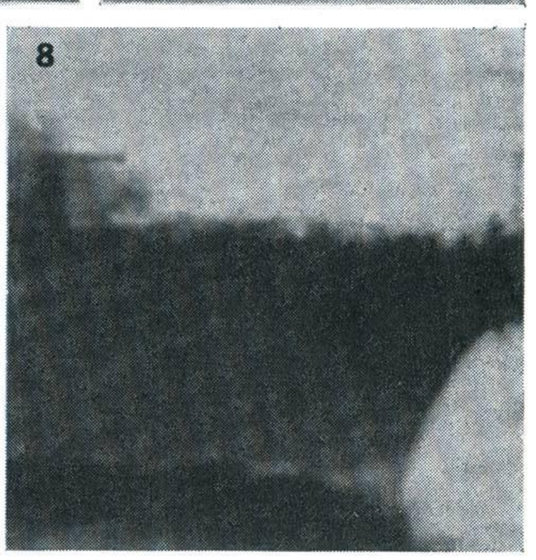

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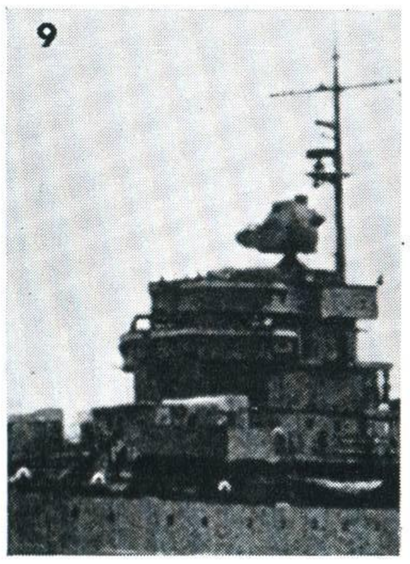

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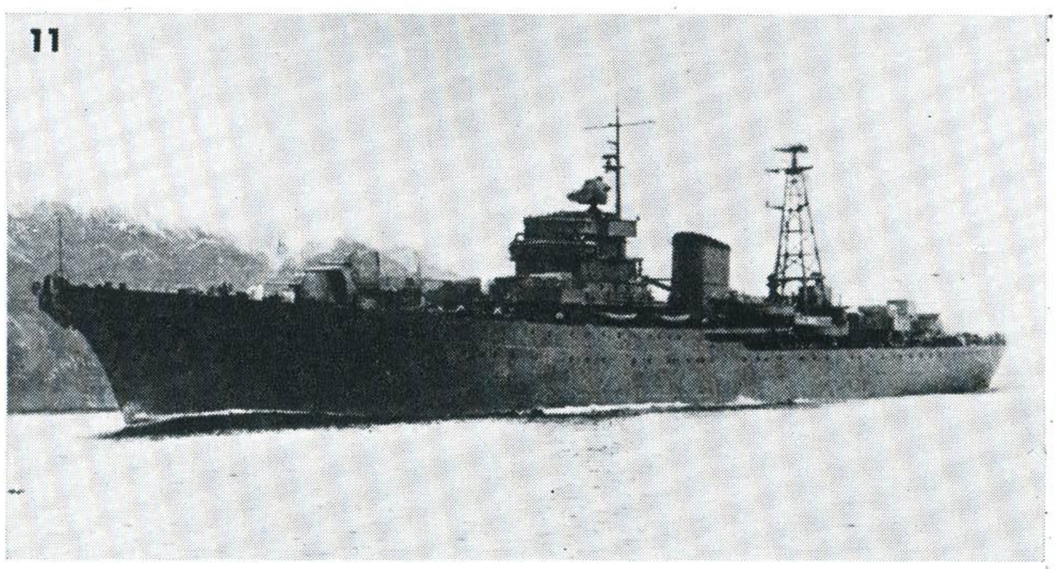

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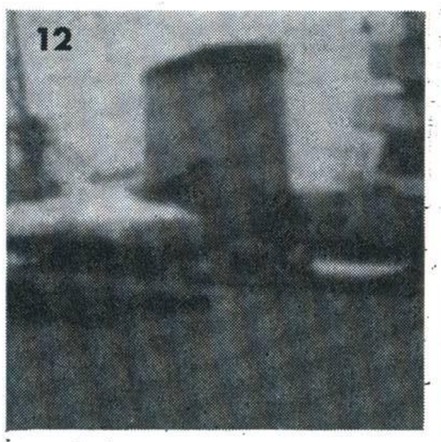

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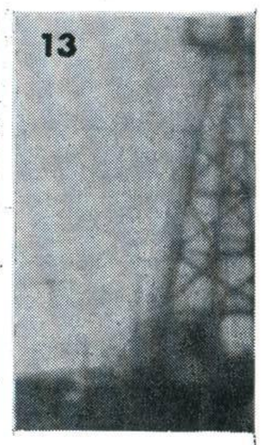

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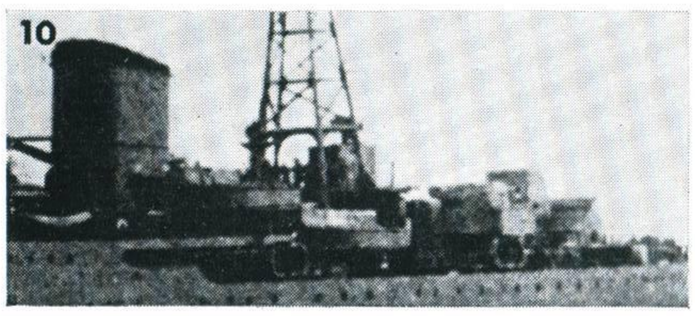

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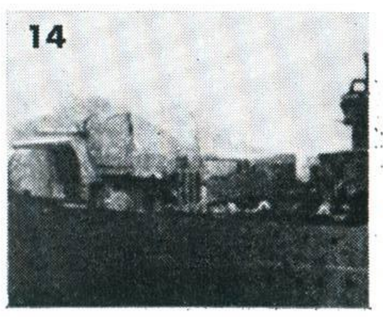

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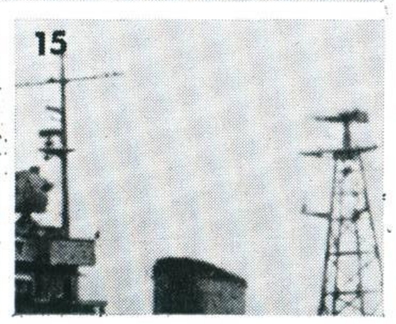

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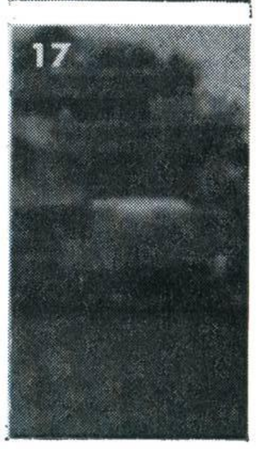

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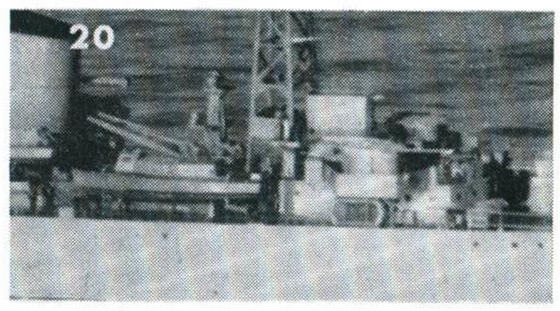

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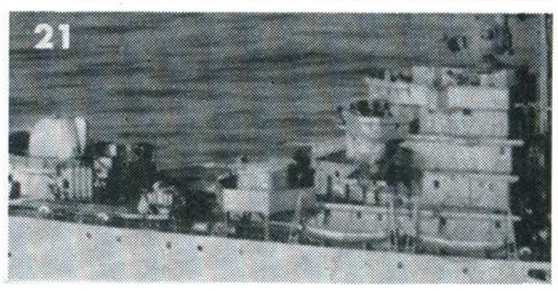
DON Class Escorts

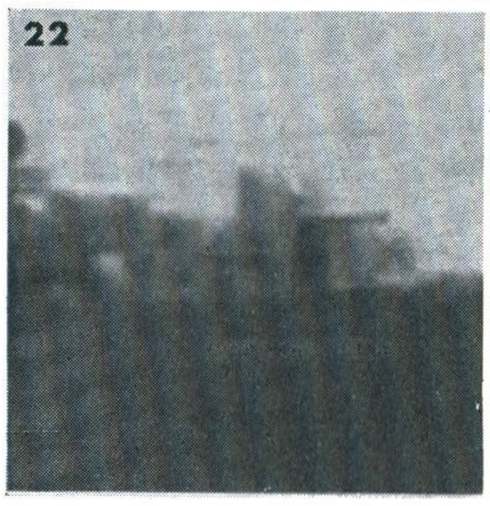


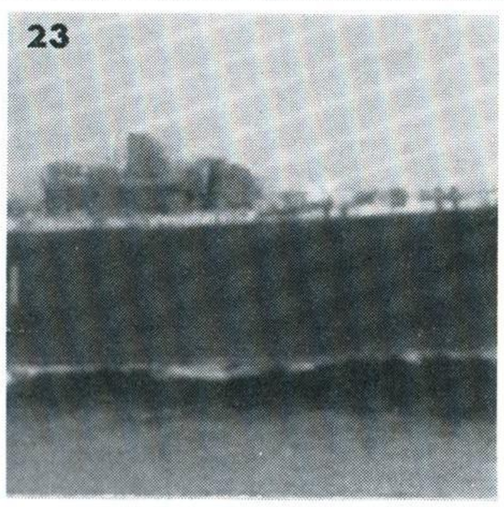

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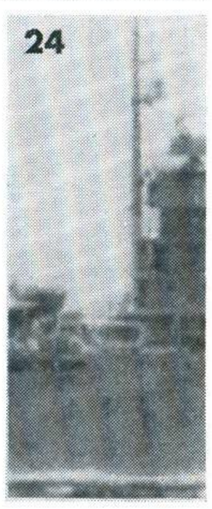

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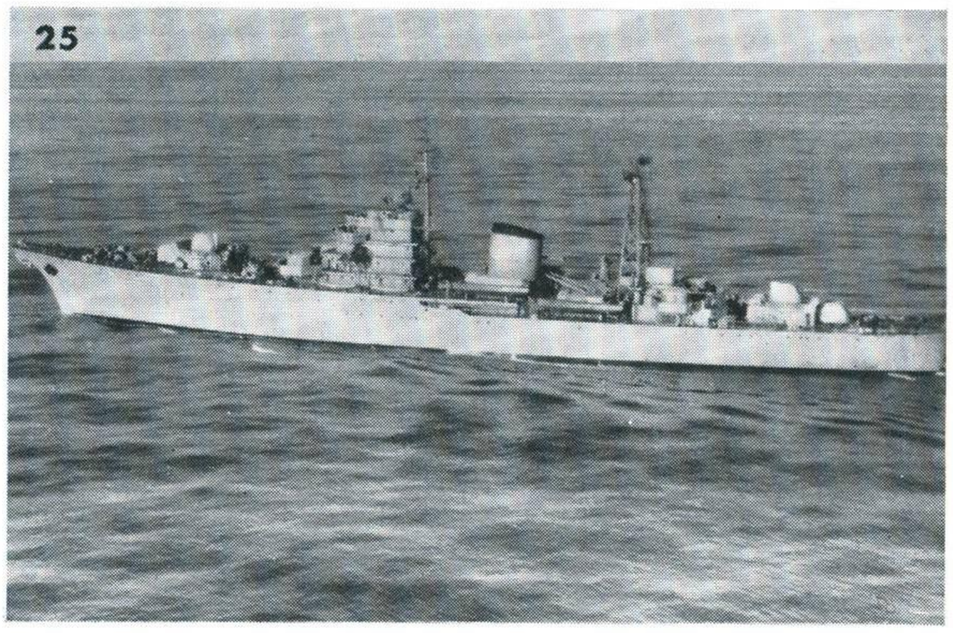

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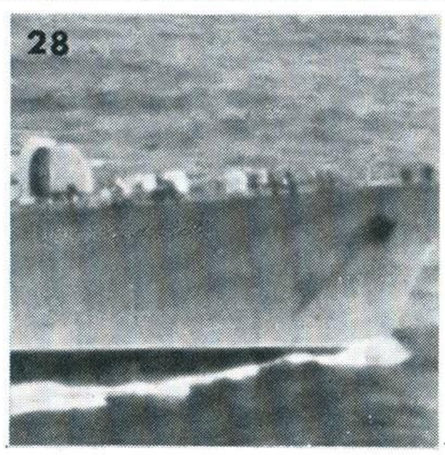

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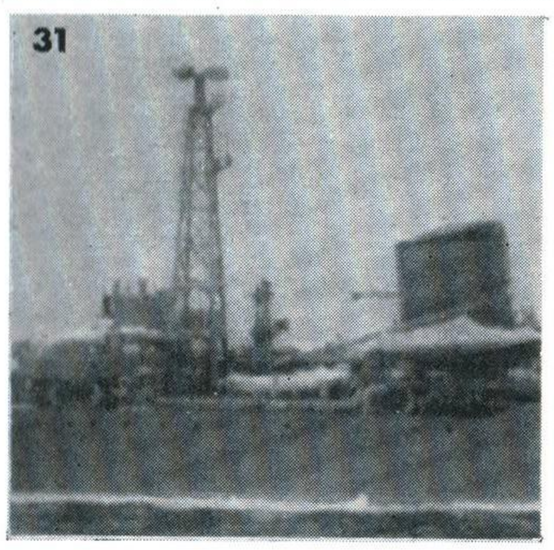

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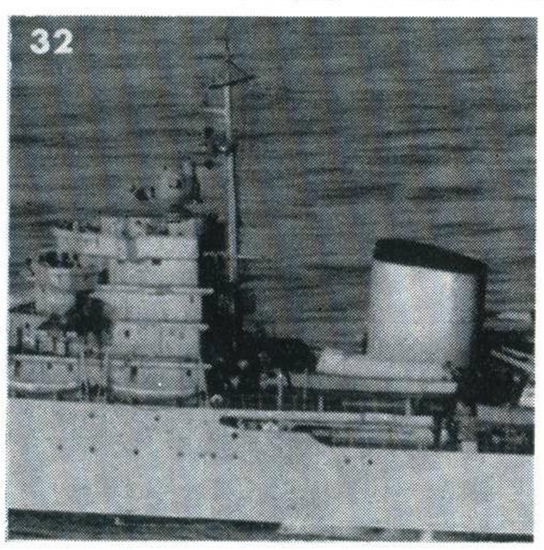

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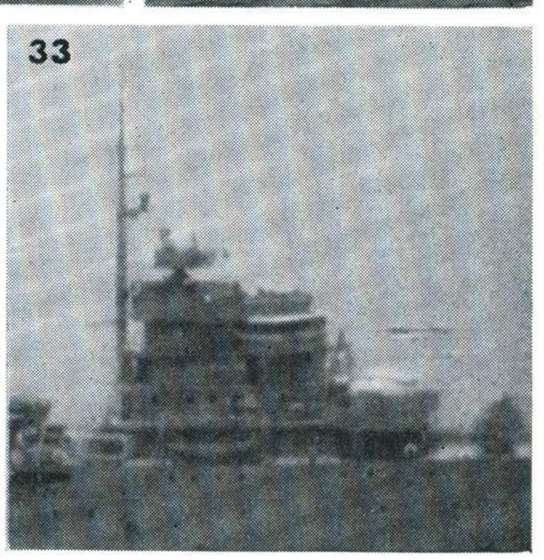

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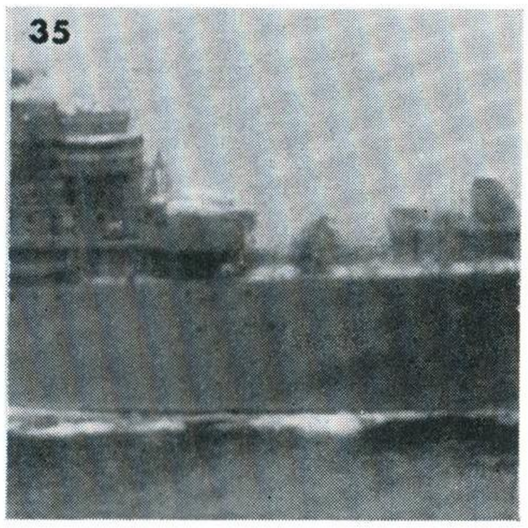

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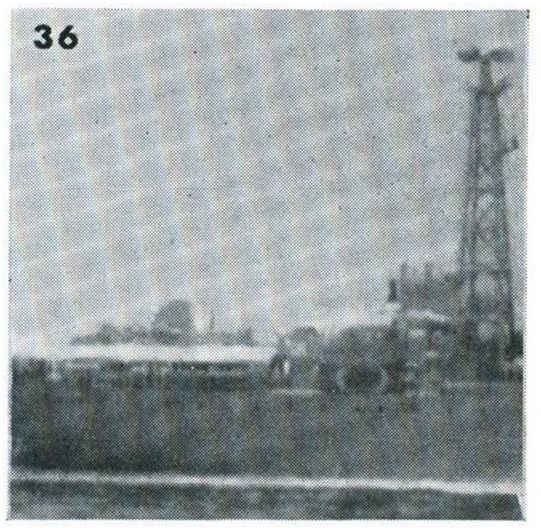

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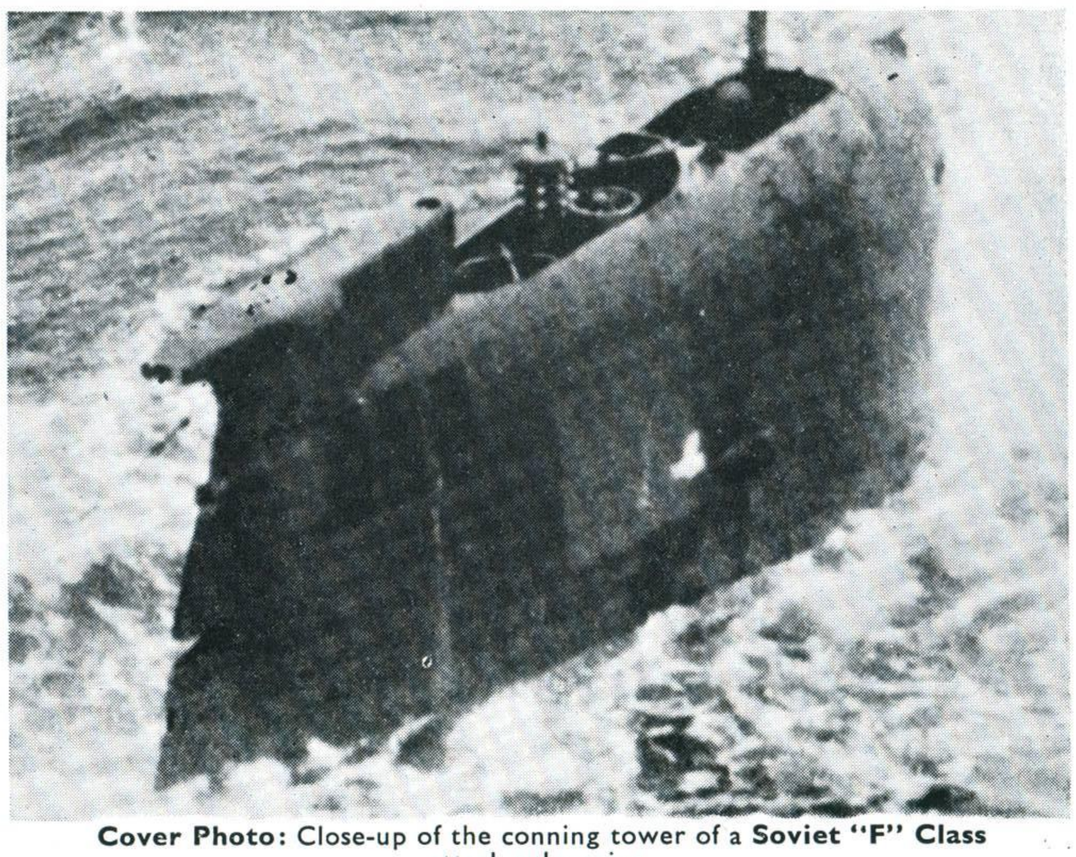

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Solutions on the cover



Cover Photo: Close-up of the conning tower of a **Soviet "F" Class** attack submarine.

TEST PAPERS

SARATOGA ?

			*	

TANKERS ?

			*	

PANHARD EBR ?

				*

SUPER SABRE ?

*				

STARFIGHTER ?

				*

PHANTOM ?

	*			
*				

* Jokers

SOLUTIONS TO TESTS AND EXERCISES

Page 228

MIRAGE IVA

All targets are of **Mirage IVAs** except No. 22 which is a **Mirage III** and No. 36 which is a **Draken**.

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TESTING TIME

1 Andover (HS748)
2 DC-9s
3 Belfast
4 Doves/Devons
5 Fiddler
6 Gnat
7 Victors
8 Scout
9 Dakota
10 Herald
11 Basset
12 Heron
13 Kestrel
14 VC10
15 Britannia
16 Bison
17 Phantoms
18 Classic
19 Drakens
20 Dominie
21 Belfast (air), VC10 (ground)
22 Flipper
23 Stratofortress
24 Shackletons
25 Vanguard
26 Crusader
27 VC10
28 Viscount
29 Caravelle
30 Hunter

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MARLIN

All targets are of **Marlins** except Nos 5 and 33 which are both of **Madge**.

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SAETA

All targets are of **Spanish Saetas** except for No. 5 which is of an **Italian MB326**.

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SOVIET "F" CLASS SUBMARINE

All targets are of **Soviet "F" Class** submarines except for No. 10 which is the experimental **H.M.S. Excalibur** and No. 29 which is a **British Porpoise Class** submarine.

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FRIENDSHIP

All targets are of **Friendships** (or Troopships) except for Nos 6 and 42 which are **Heralds** and No. 30 which is a **Coke**.

Page 250

DON CLASS ESCORTS

All targets are of **Don Class Escorts** except for No. 3 which is a **Riga Class Frigate.**

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WHAT WAS IT?

It was a **Supermarine Spitfire V**, the most widely used mark of the most widely used British fighter of WW2. The tropical radiator of this example operating from North Africa and its U.S.A.A.F. markings may have confused the issue; if so, it should be borne in mind that identification training needs doing properly so that modern aircraft are known irrespective of changes due to the carriage of underwing stores, and markings are an intelligence not a type identification matter.



A Dominie over the Varsity navigational trainers which this type is replacing.

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