

THE ROYAL



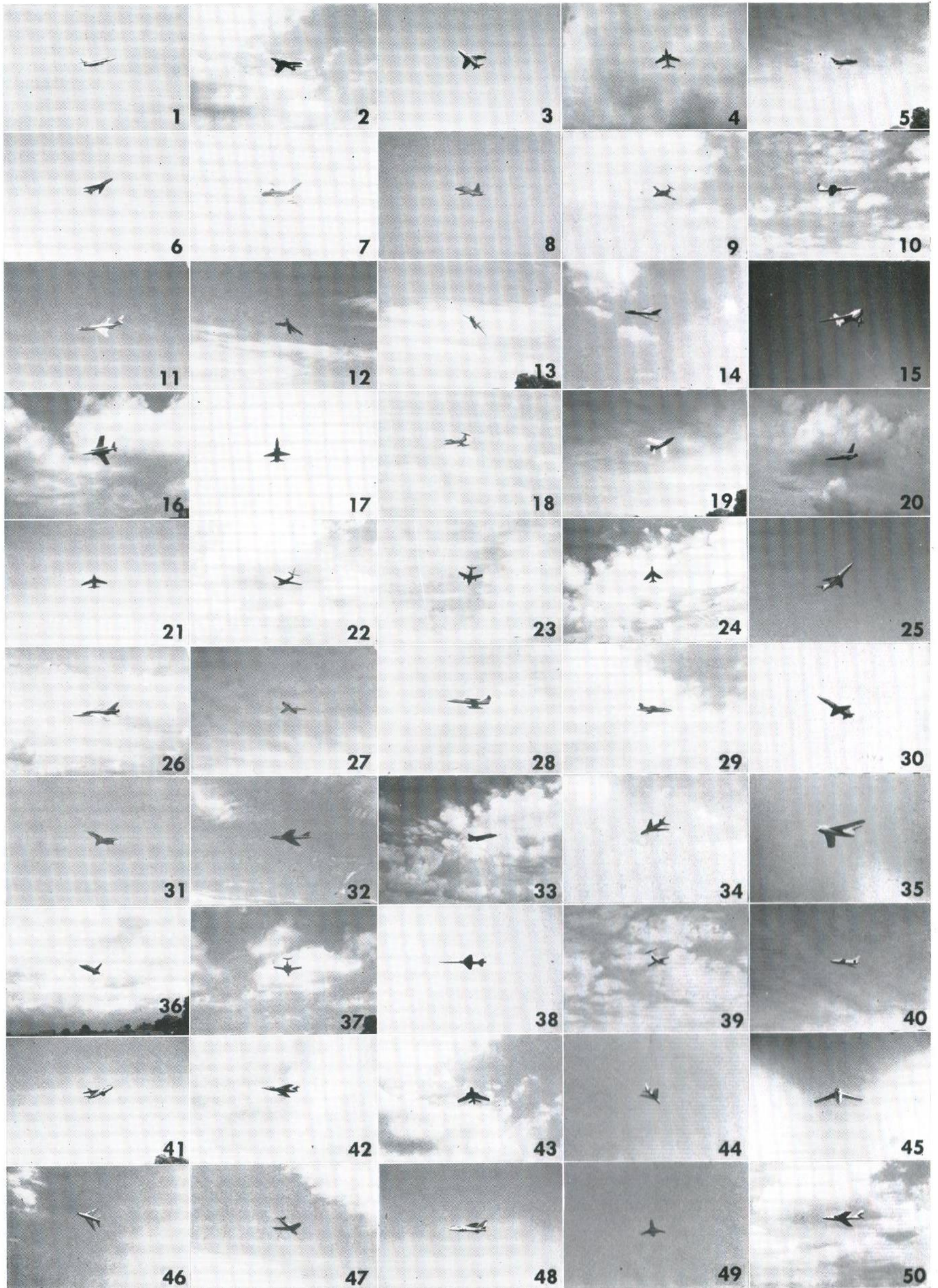
OBSERVER CORPS

RECOGNITION

Journal
and R.O.C. GAZETTE



Vol. 2 JULY 1960 No. 7



FIGHTER FANTASIA— an advanced spotting test with an international flavour.

THE ROYAL



OBSERVER CORPS

RECOGNITION JOURNAL
AND R.O.C. GAZETTE

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A High Flyer

The Lockheed U-2

THE DESIGN OBJECTIVE behind the Lockheed U-2 was to obtain the highest possible service ceiling: in the event an aeroplane was built which could fly at altitudes above any which fighters could reach.

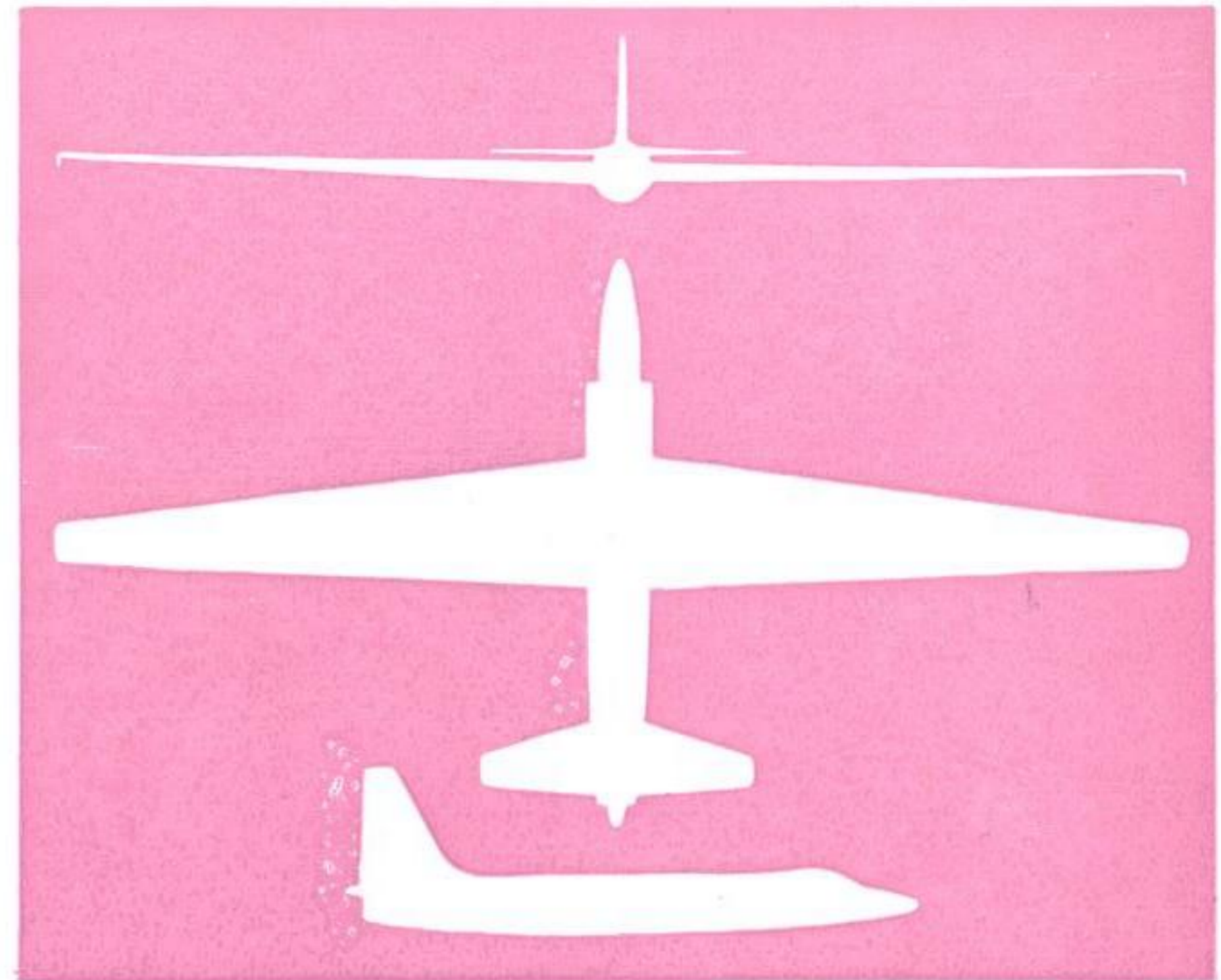
This high-altitude performance was obtained by using the lightest possible airframe incorporating a wing of the sail-plane type and a special version of the Pratt & Whitney J-57 engine able to "breathe" in rarefied air.

No official information or pictures of the U-2 are available, but a growing number of Press photographs have enabled us to prepare a short visual summary of the aeroplane which made what may well prove to be the historic flight of the century (not excepting that of Enola Gay, the B-29 which dropped the first Atom bomb) and which may, in the end, prove to have done more to preserve Peace than is perhaps thought probable at present.

The Lockheed U-2 weather, research and high-altitude reconnaissance aircraft is a graceful gull-like creature with an abnormal spread of highly tapered wing, spanning some 90 feet. Reports and photographs say the U-2 is painted blue-black, has no markings other than a number, and has a very smooth flush-riveted skin to keep friction-drag as low as possible.

The wing is mid-set midway along a short, simple fuselage and is stabilised by a stubby straight-tapered tail-plane set on top of the fuselage, and a tall, tapered fin and rudder.

The wing tips are turned down to support the wing clear of the ground when the U-2 "keels over" at the end of the landing run, there being only a very short centrally placed main undercarriage. When taking off, small pairs of wheels on "stems" are fitted under the wings which drop off as soon as the U-2 is airborne. This simplification of undercarriage gear saves



A characteristic silhouette based on photographs.

much weight. The turned-down "skid" wing tips, acting as end plates also add to aerodynamic efficiency.

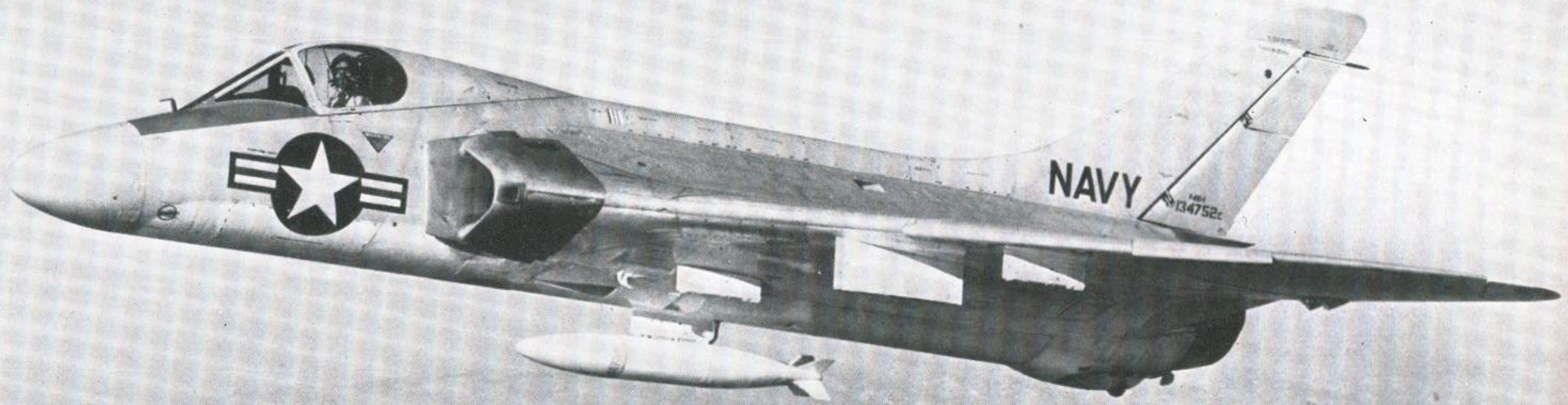
No official details of the performance of the U-2 are available, but Press reports speak of versions capable of operating at altitudes up to 90,000 feet with promise of even higher altitudes in subsequent models.

Press reports quoting eye witnesses also speak of "an incredible rate of climb" and even more remarkable alighting: because of its light wing-loading, the U-2 "tends to float" and it is said to be necessary, on occasion, to stop the engine to make it touch down.

Some versions of the U-2 are fitted with auxiliary fuel tanks which jut like long, sharp pencils, from each wing leading edge about halfway along. Large rectangular airbrakes can be seen on the fuselage just abaft the mainplane.

The silhouettes appearing here concentrate on and provide good clues to visual characteristics of the U-2. We hope to publish photographs later.

Skyray



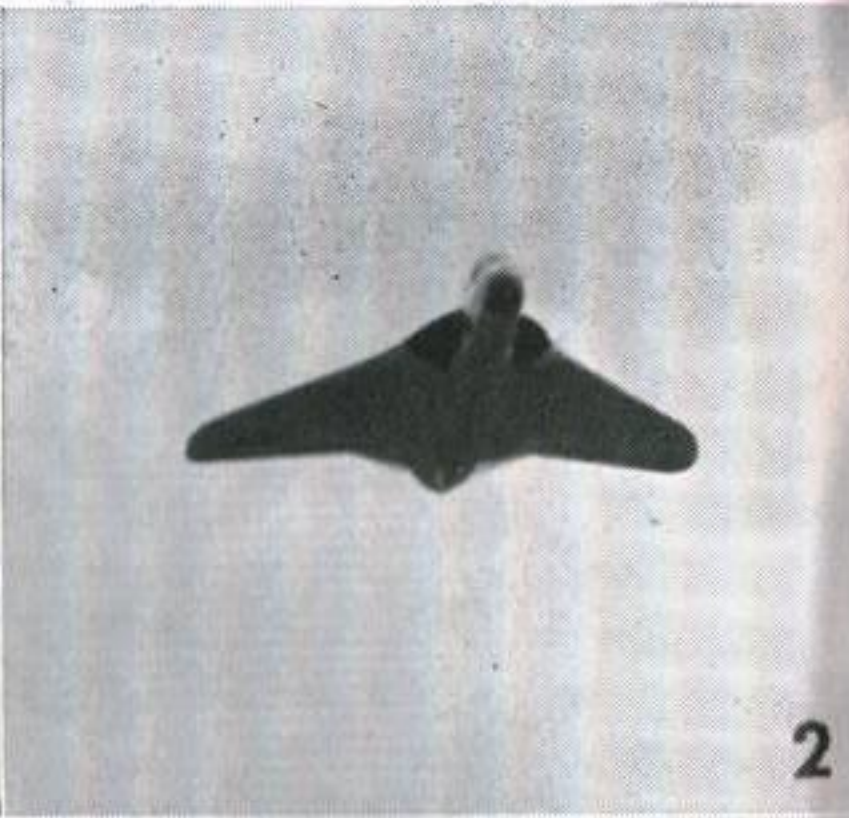
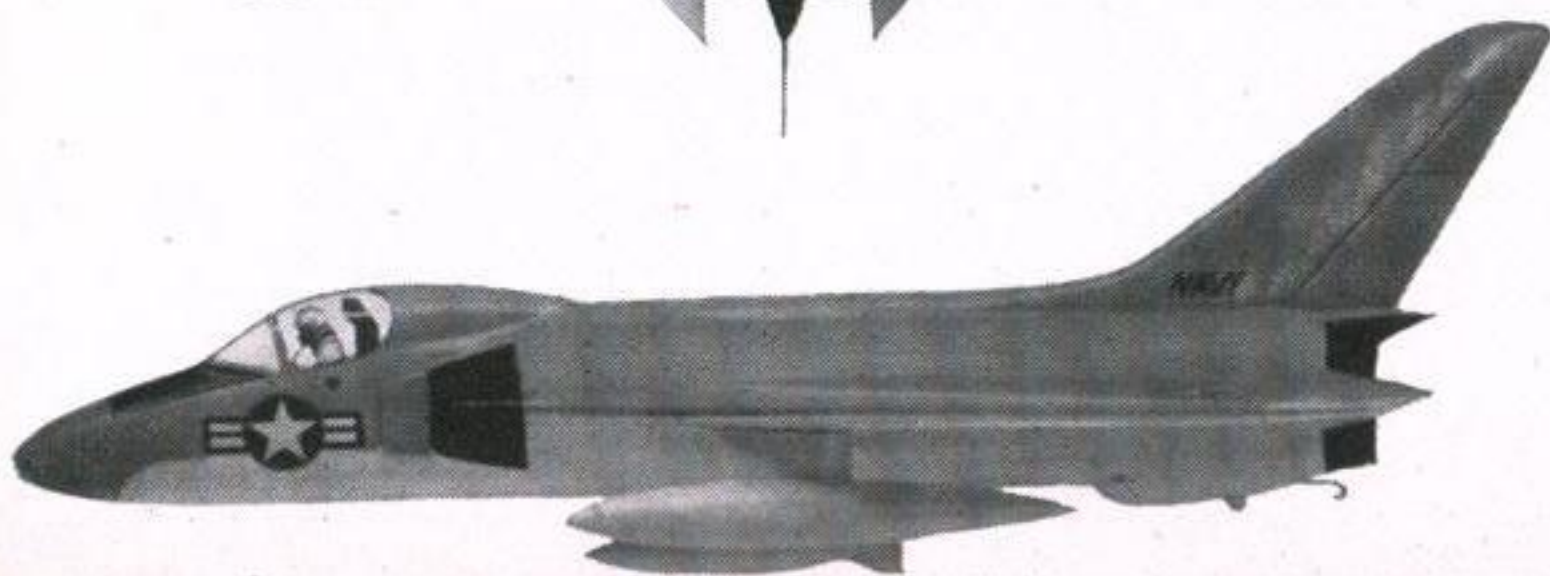
BATS IN BELL BOTTOMS

Several hundred Douglas Skyrays are in shipborne service with the United States Navy for fleet defence, and with the United States Marines in a strike fighter/bomber role. The United States Navy also flies them from some land bases as all-weather interceptors. This tail-less Delta is likely to be seen in many parts of the globe, in fact, it could appear almost anywhere—and at short notice. It has a distinctive bat-like appearance but this cannot be depended on for identification. Like other Deltas it needs to be known thoroughly and as a whole “character”—and whenever you see it, the word “Skyray” must slip off the tongue instantly. With or without under-wing additions, the Skyray’s distinctive outline will be well known to you by the time you have written down an answer to each of the thirty targets in this lesson and what is more to the point, you will be able to identify it. Mind you, the aircraft shown here may not all be Skyrays.



**SKYRAY
(F4D-1)**

Strike/
Interceptor Fighter
Wing Span 34 feet



2

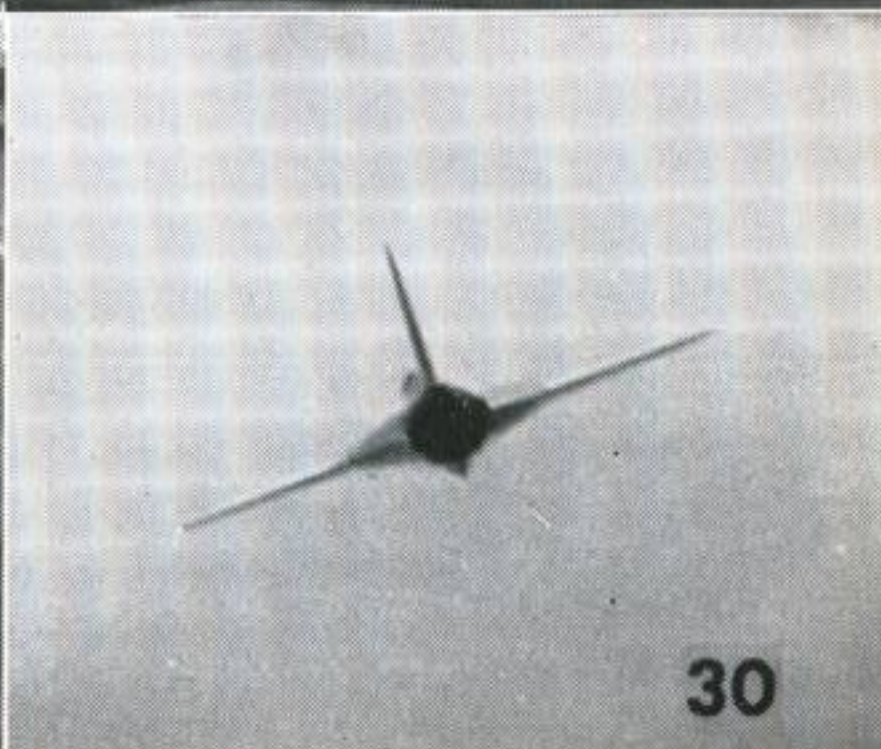
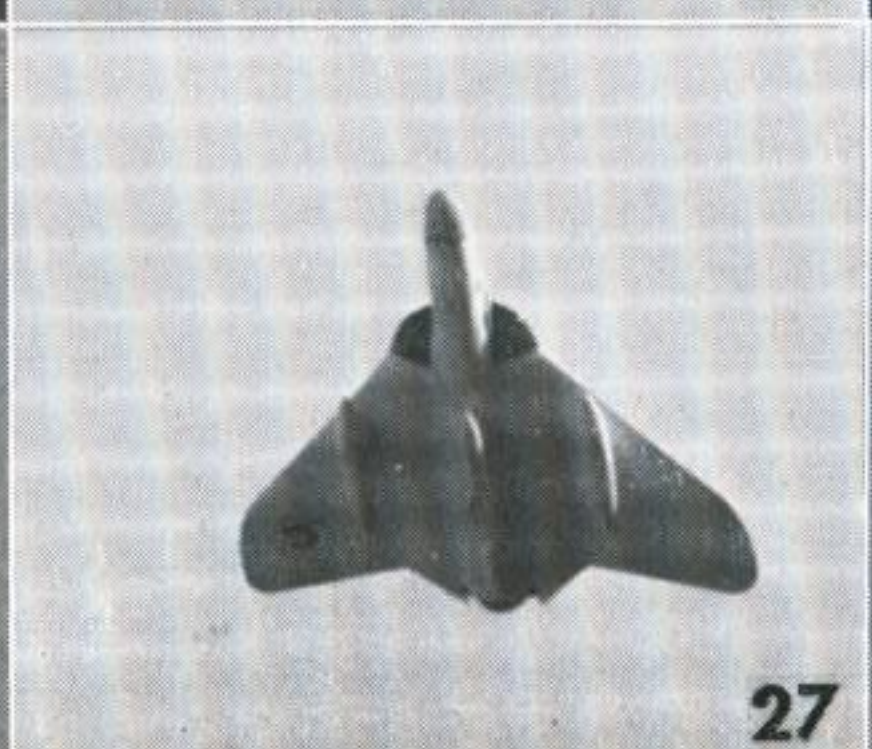
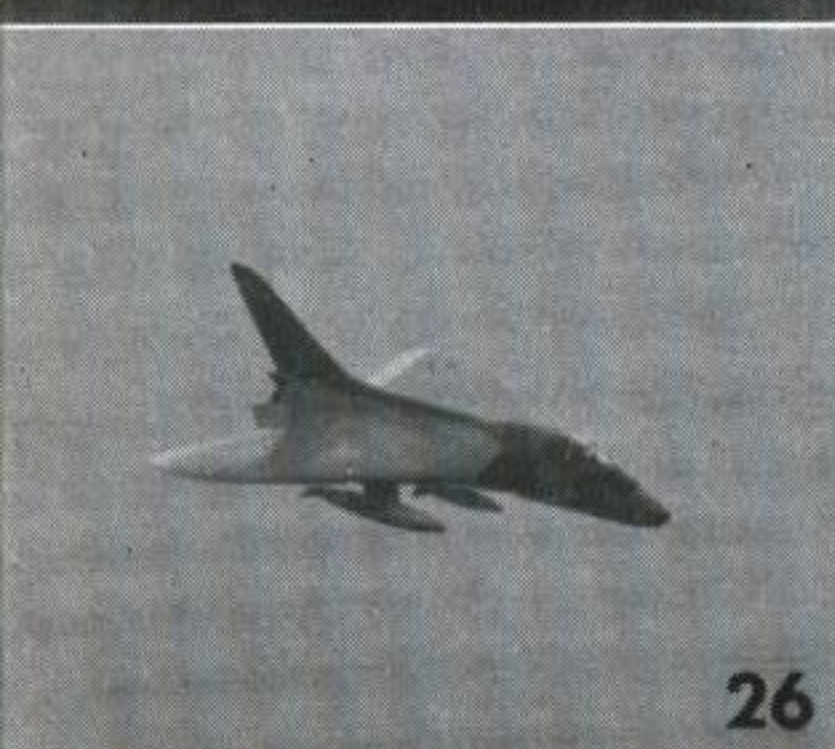
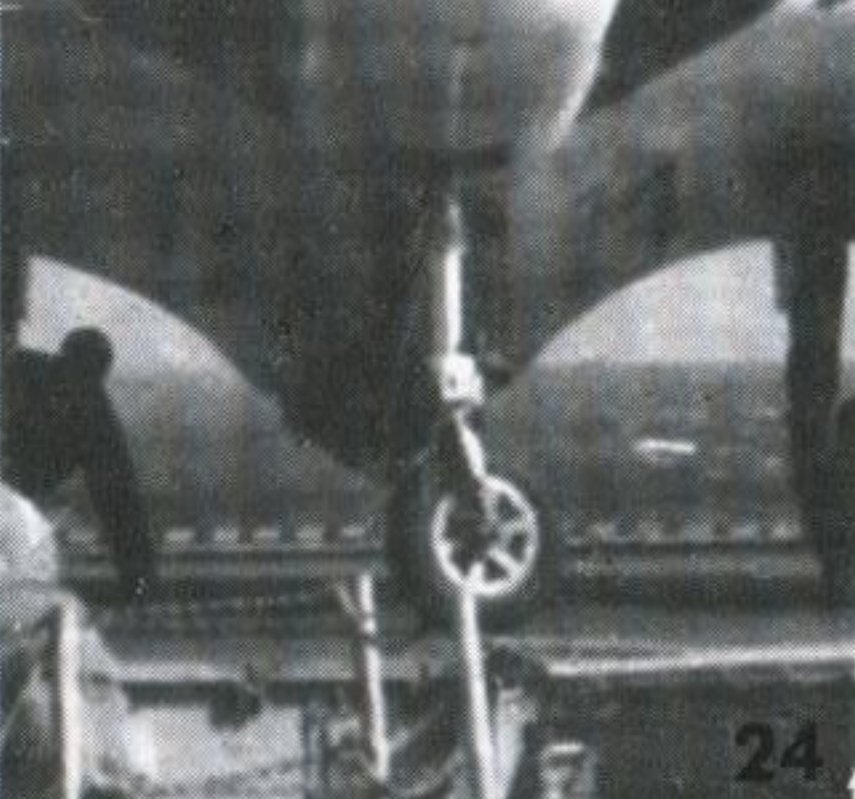
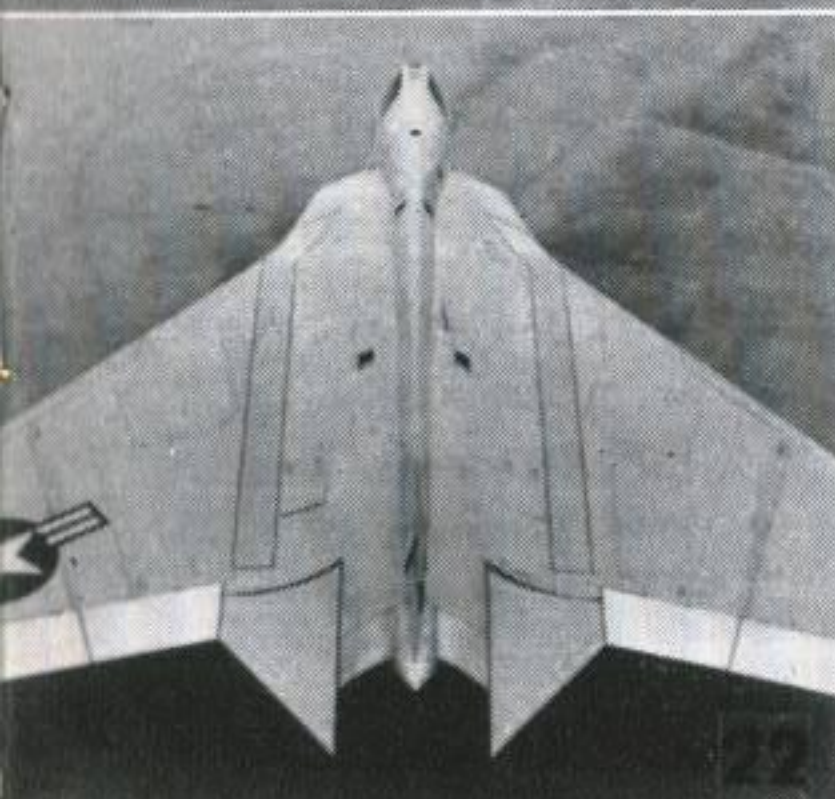
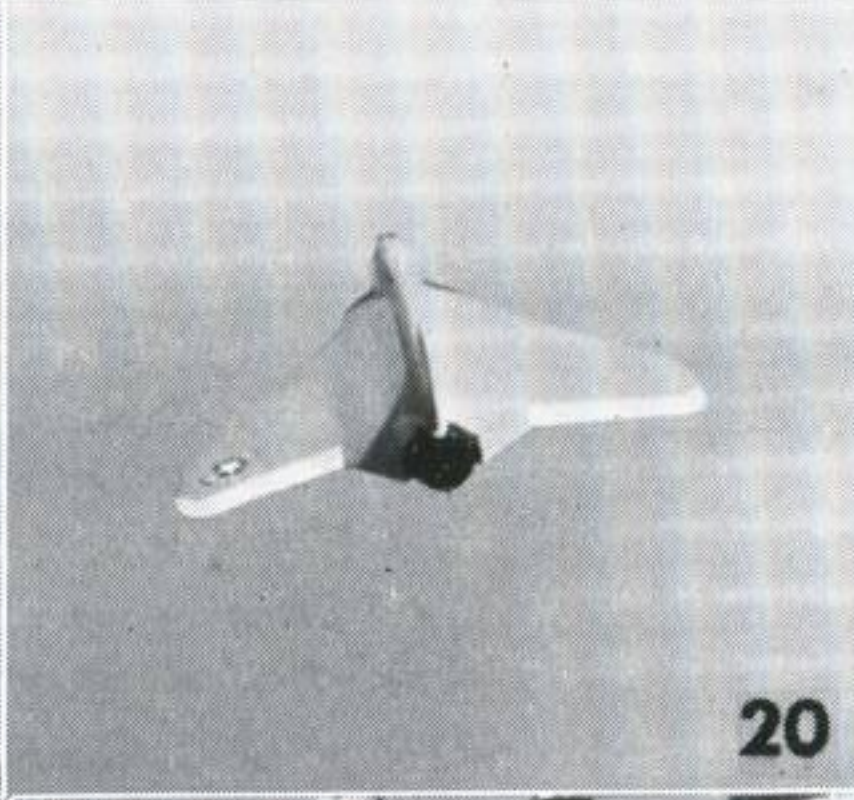
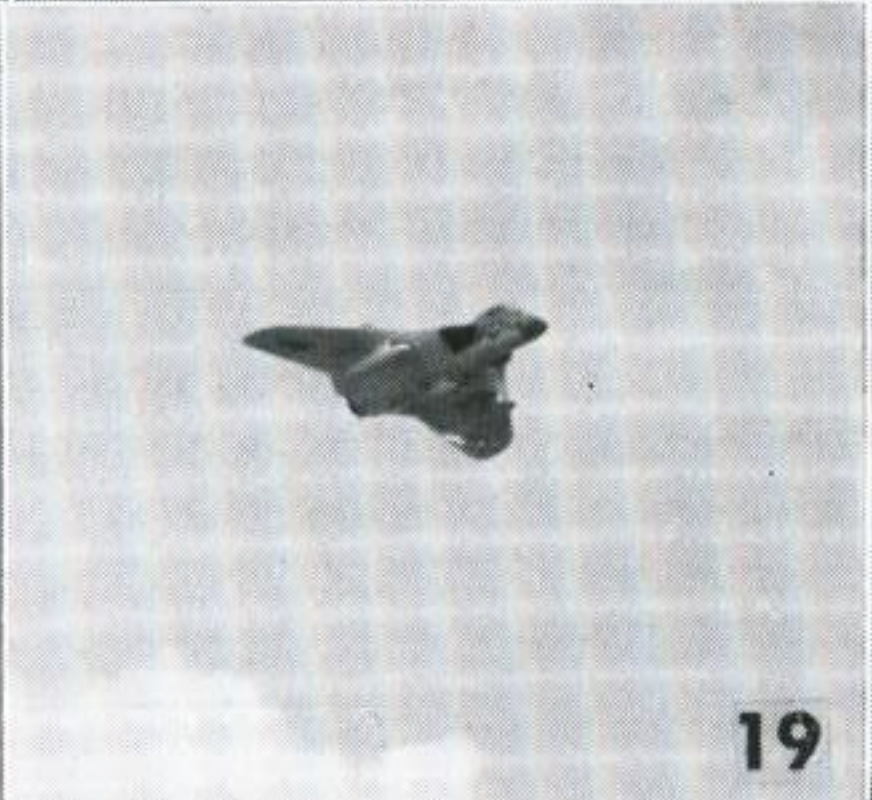
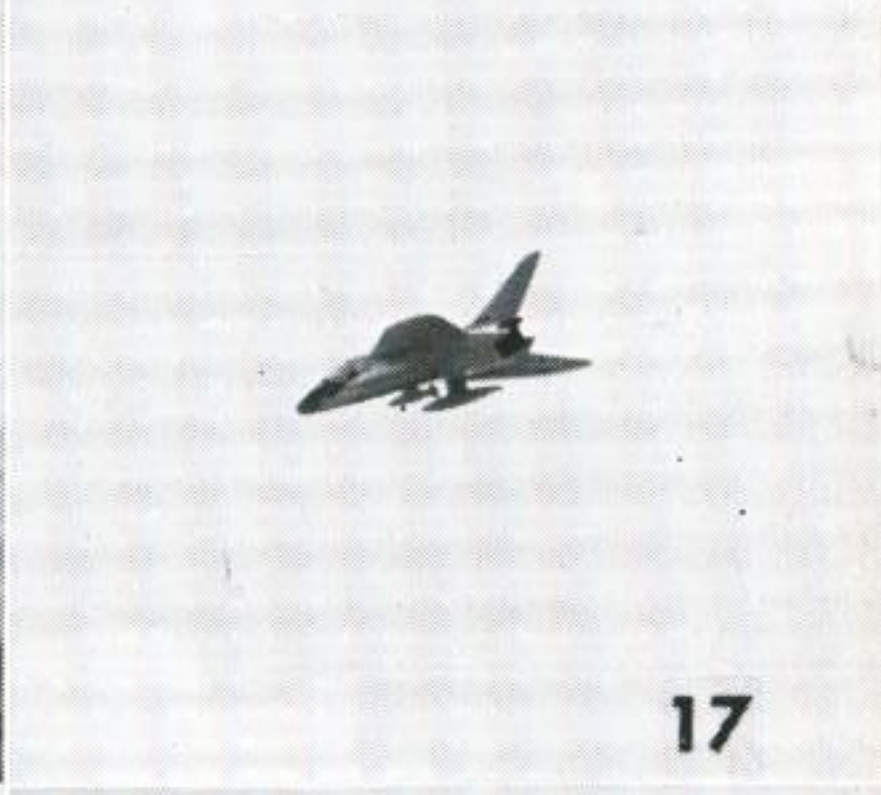
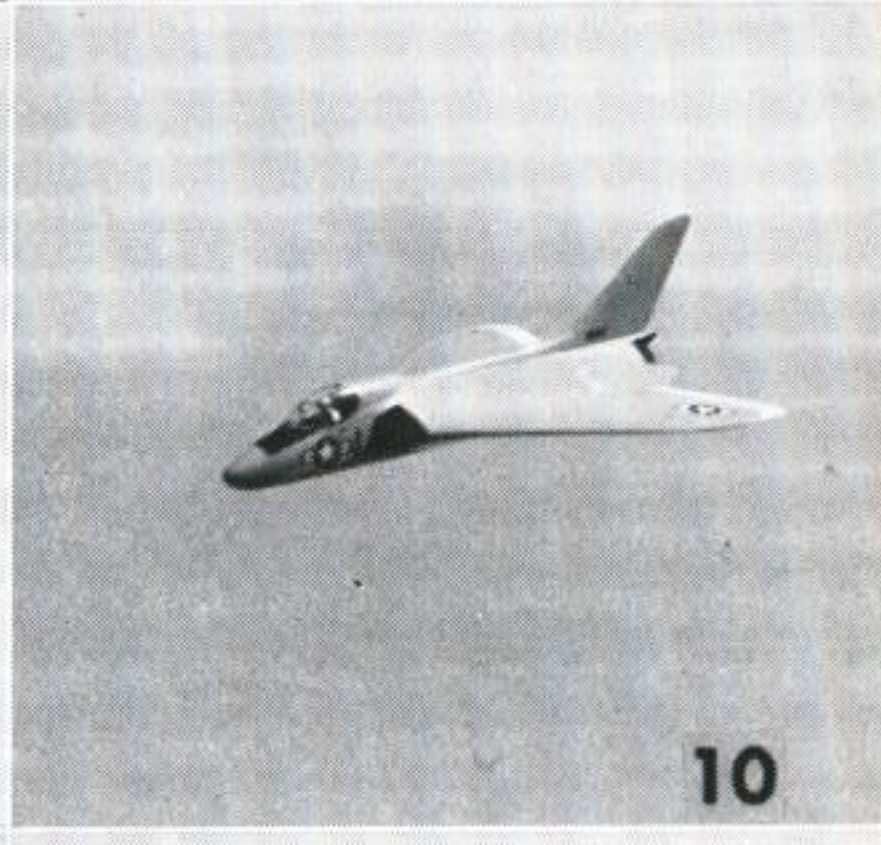
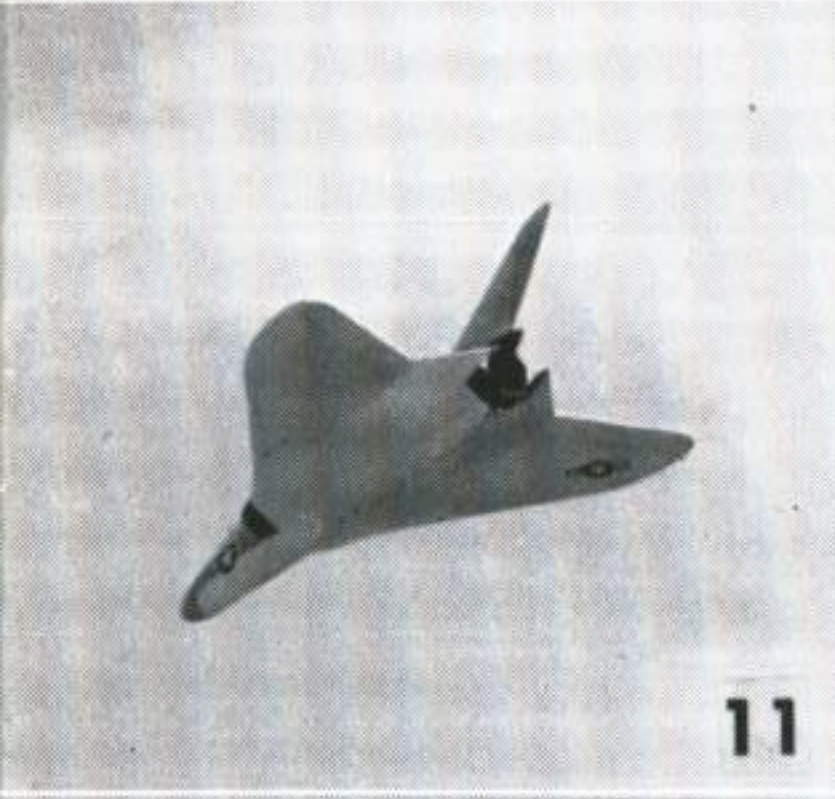
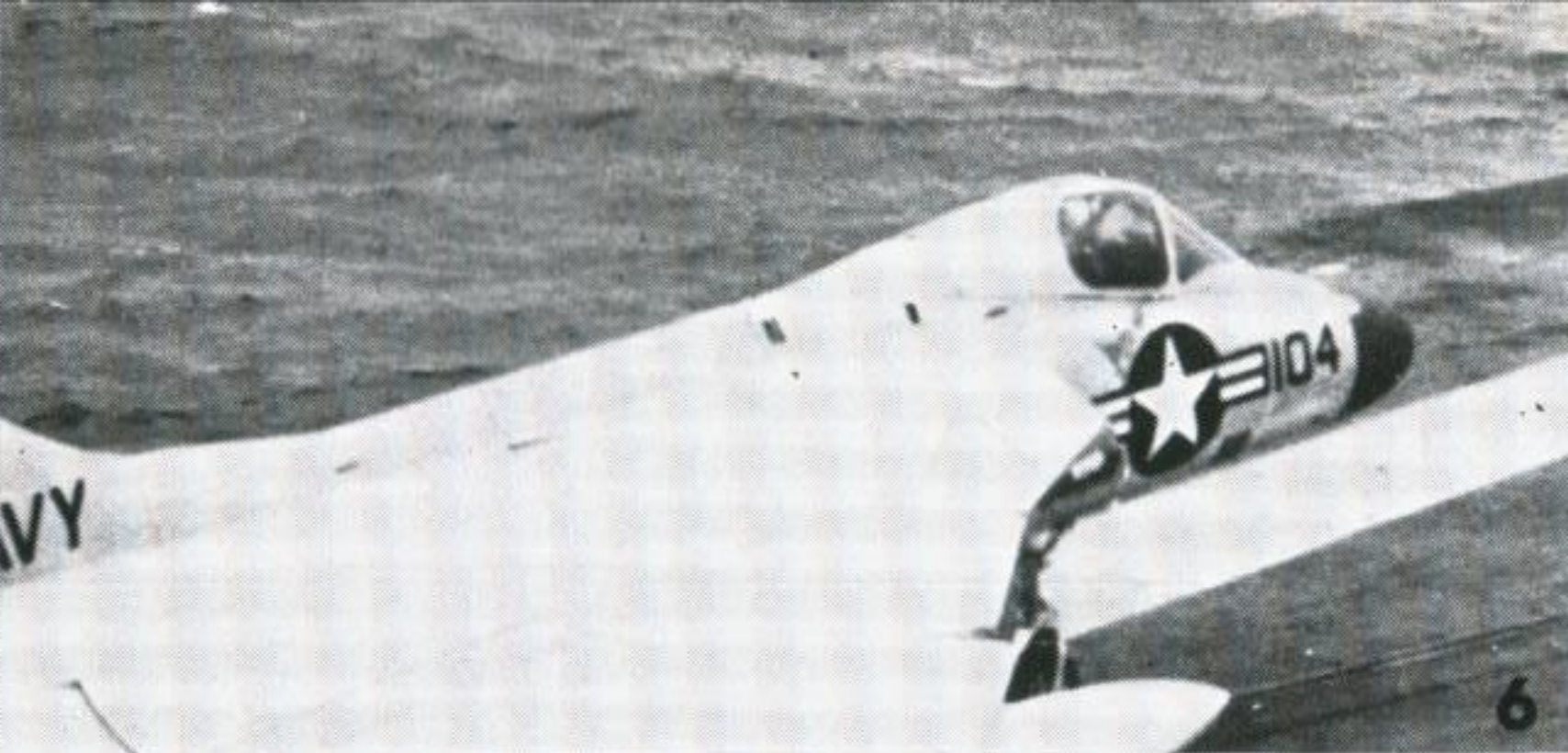
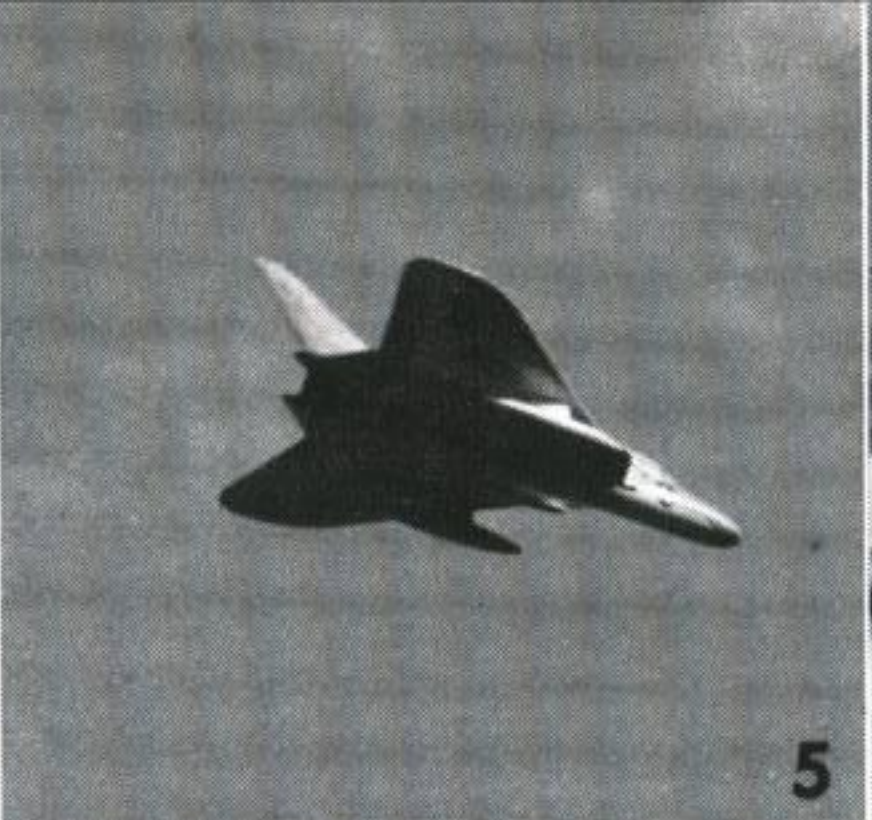


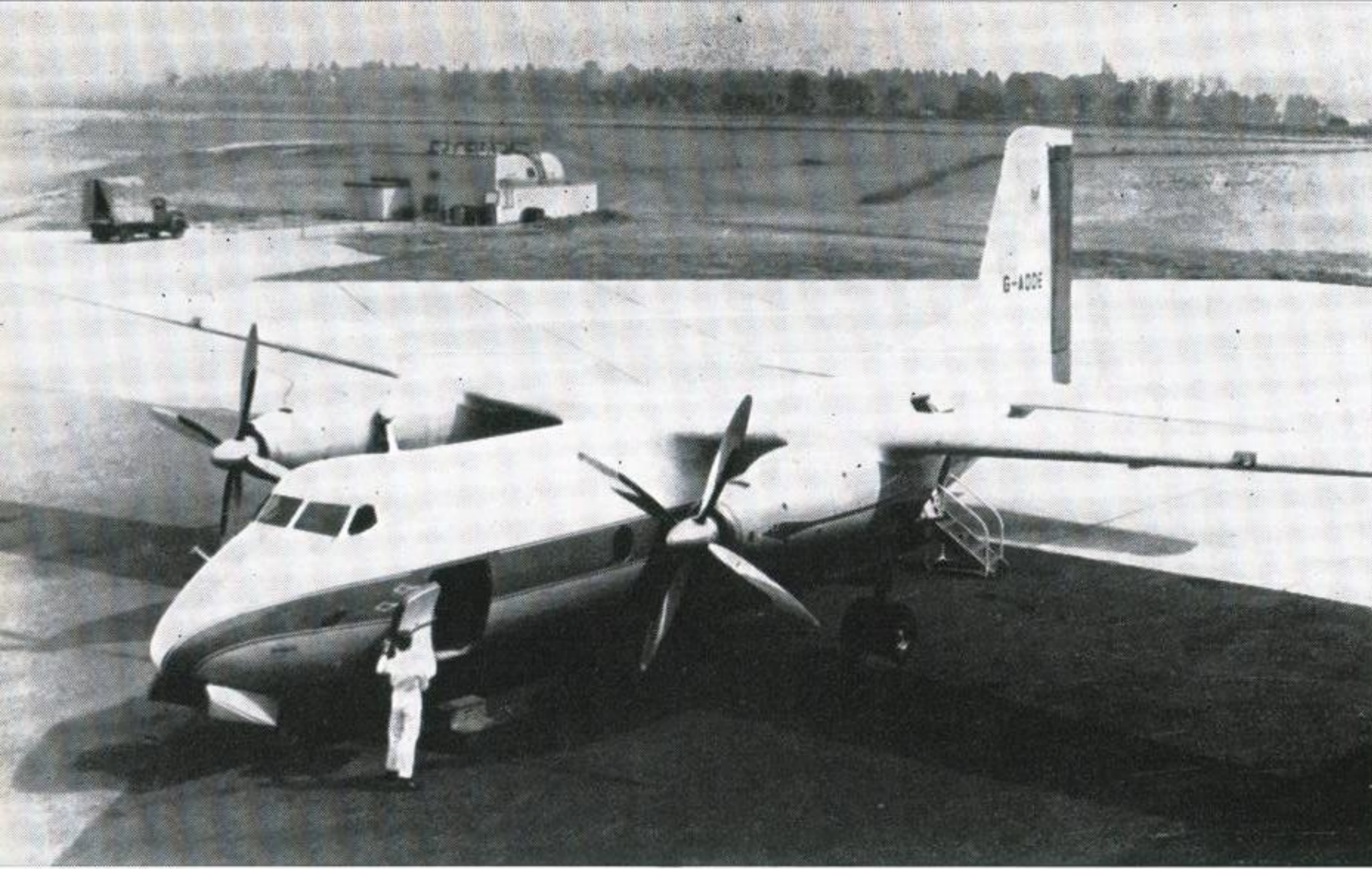
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4





Dart Herald **Span 95 feet**

Dart Herald

THE HANDLEY PAGE DART HERALD is a pressurised civil transport designed to operate from both urban and primitive airfields under a wide range of climatic conditions. The Herald is powered by two Rolls-Royce Dart Mk. 527 turboprop engines. It can carry up to forty-seven passengers, or a maximum freight payload of 13,000 lb., or versatile combinations of passengers and freight. Cruising at 275 m.p.h., the Herald has a fully-laden range of 575 miles. B.E.A. is putting the Herald to work on its Scottish services. Spot the Dart Heralds in the group below.



Briefs

A collection of items
of news and interest.

Another Hunter

The Hunter F(GA) Mk. 9 (Fighter, Ground Attack) is now coming into R.A.F. squadron service in the Middle East in increasing numbers; the first squadron to be equipped was No. 8 in March. The Hunter F(GA) Mk. 9 is a development of the Mk. 6 fighter in a ground attack role with an Avon Mk. 207 turbojet of greater thrust, a drag-shute, boosted air conditioning, and other modifications, such as cut-away flaps to accommodate the large external fuel tanks. Last year an F(GA) Mk. 9 flew non-stop from Dunsfold to El Adem (1,800 miles) in 3½ hours.

* * *

Desert Dart

The Convair F-106A Delta Dart is shown here during a demonstration of low-level strike ability and its versatility when, in March, it hedge-hopped across 300 miles of Southern Californian desert at an average of 700 m.p.h. This low-altitude flight included flying 100 feet below sea level over Death Valley and climbing to 8,000 feet while crossing the Panamint Mountains. In December last year another F-106A made a record 1,525.95 m.p.h. high-altitude run.



High Flight

A Beech Model 65 Queen Air executive transport (see photograph) flew to an altitude of about 35,400 feet in February, establishing a new national and international altitude record for its class. At the time of writing F.A.I. official confirmation was awaited. The Queen Air has a range of over 1,500 miles.

* * *

Soviet Supersonics

General Thomas, U.S.A.F. Chief of Staff, stated in Washington recently that production, at a reduced rate, of heavy bombers continues in the U.S.S.R. Also, that a new supersonic Russian four-engined aircraft in the 300,000-lb. class "has been seen," and that a Russian transport is being developed capable of operating at supersonic speeds.

* * *

Flying Boats Again?

It is reported that the choice of the Japanese Maritime Self-Defence Force for a replacement for their present anti-submarine aircraft (Neptunes and Sentinels) may be a new military flying boat and that the Kawanishi Aircraft Company will build it. This is interesting in view of the general trend away from flying boats: the last new design, the Martin Seamaster, ended in the cancellation of production last year after only six had been produced.

* * *

Hypersonic VTO Aircraft

"Les Ailes" report that the Messerschmitt VTO aircraft being built will have Mach 3 capability and be of modified delta plan-form. Two of the six Rolls-Royce turbojets will be installed vertically in the fuselage for direct lift, the other four will be mounted in pairs in nacelles pivoting at the extremities of the wings for lift as well as for propulsion.

* * *

Pushed from Behind

A. V. Roe designs recently announced are the Avro 761 and the Avro 771 branch liners. Both will be powered by two jet engines mounted in the rear and are designed for short- and medium-haul airliner service, carrying 50 (Type 761) or 65 (Type 771) passengers.

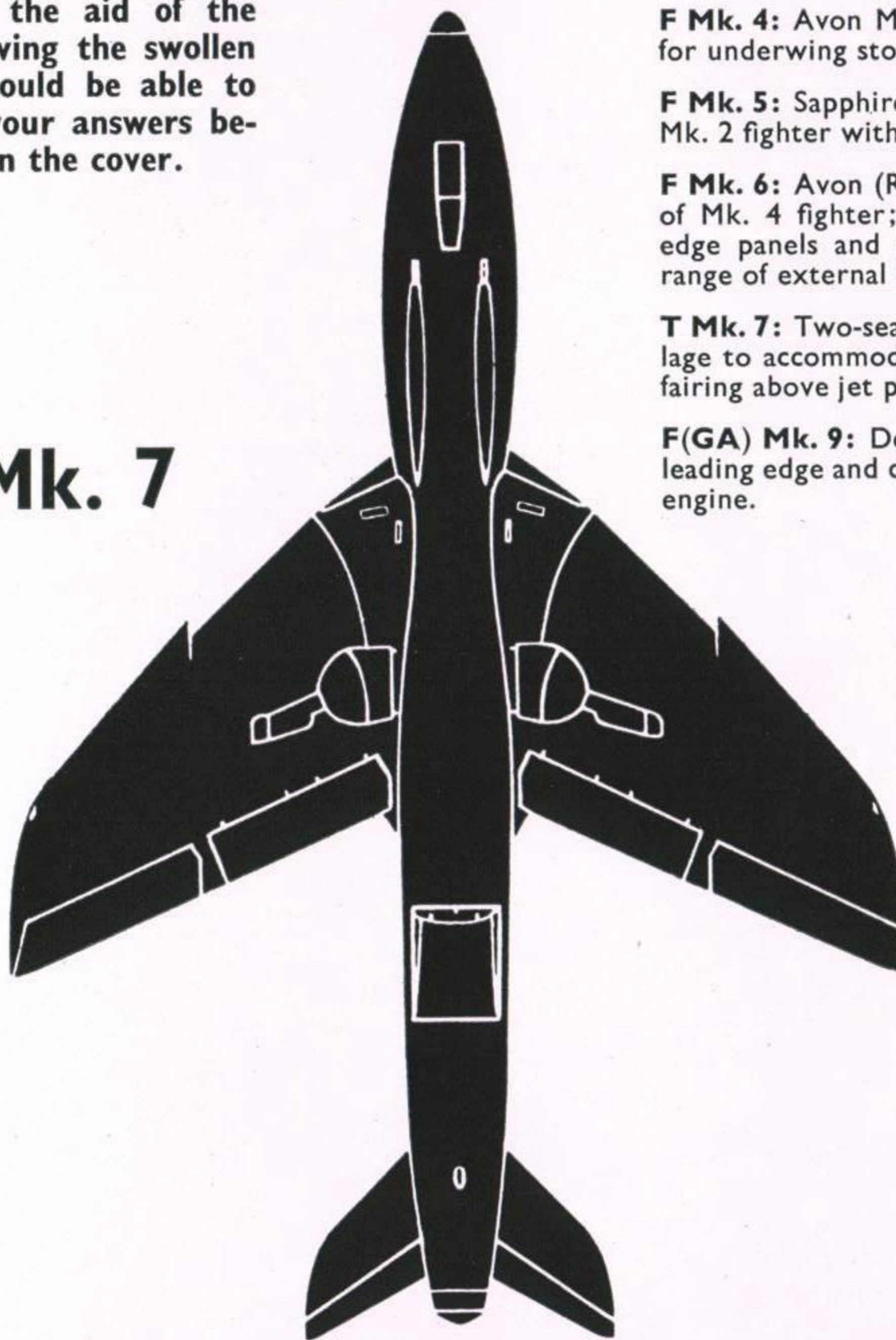
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Hunters Galore



There are six marks of Hunter in this lesson as detailed opposite. You will not in all cases be able to identify Mark numbers precisely, but, have a go, anyway. With the aid of the silhouette and view 25 (showing the swollen cockpit and canopy) you should be able to identify the Mark 7s. List your answers before turning to our list on the cover.

Hunter T Mk. 7



Span 34 feet



F Mk. 2: Bristol Siddeley Sapphire (ASSa.6) Mk. 101 engine.

F Mk. 4: Avon Mk. 113 or 115 engine and provision for underwing stores and drop tanks.

F Mk. 5: Sapphire Mk. 101 engine; development of Mk. 2 fighter with Mk. 4 modifications.

F Mk. 6: Avon (RA.28) Mk. 203 engine; development of Mk. 4 fighter; introduction of dog-tooth leading edge panels and four underwing pylons for greater range of external stores.

T Mk. 7: Two-seat trainer having wider forward fuselage to accommodate new cockpit; drag parachute in fairing above jet pipe and dog-tooth leading edge.

F(GA) Mk. 9: Development of Mk. 6; dog-tooth leading edge and drag parachute fairing; Avon Mk. 207 engine.



1



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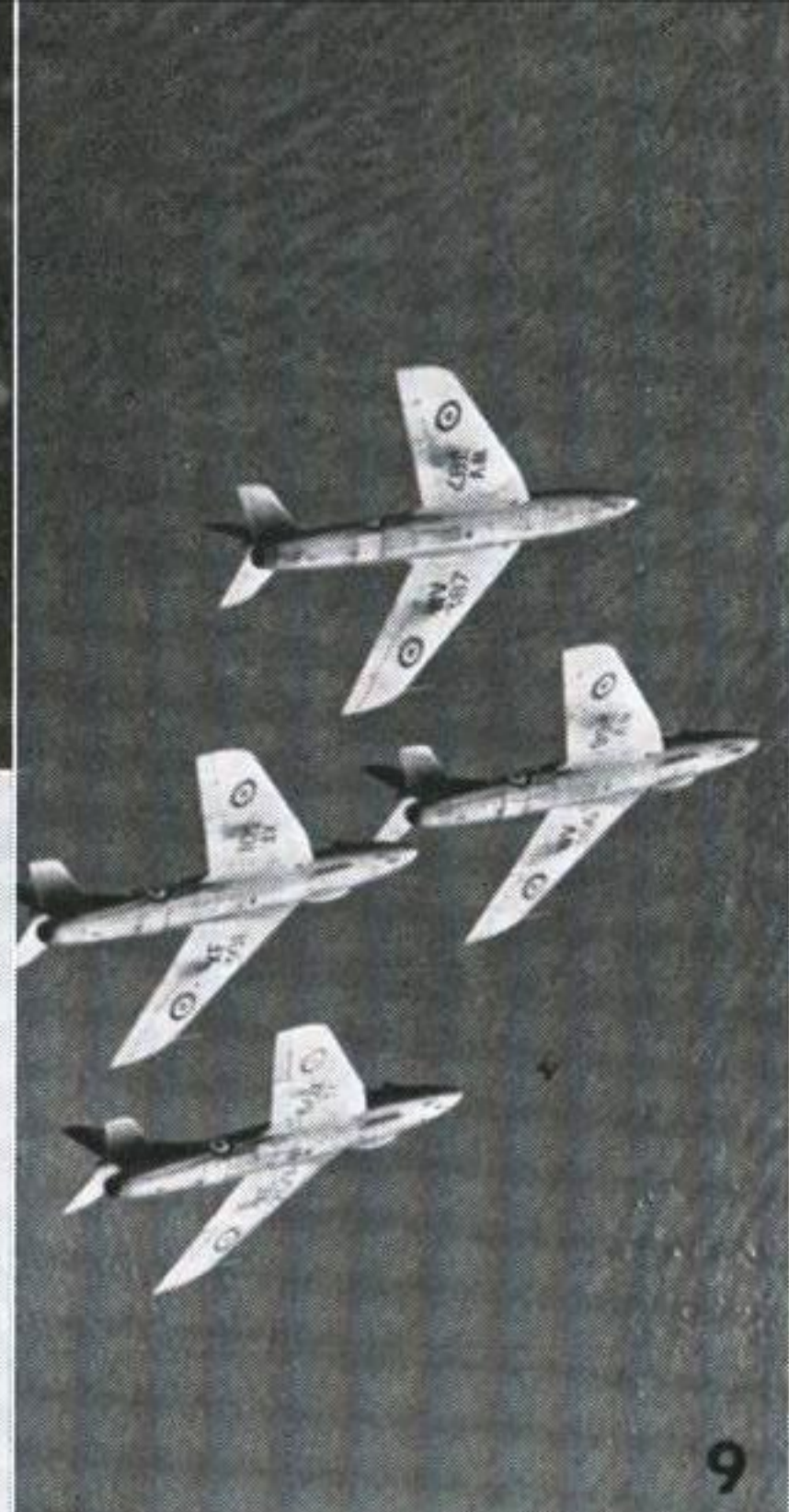
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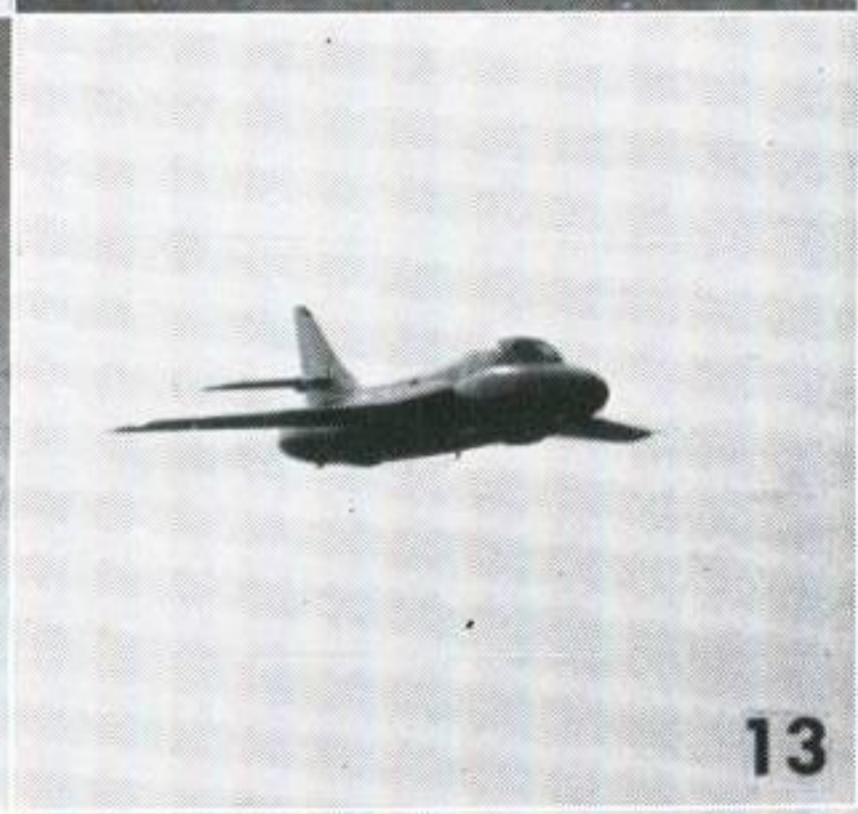
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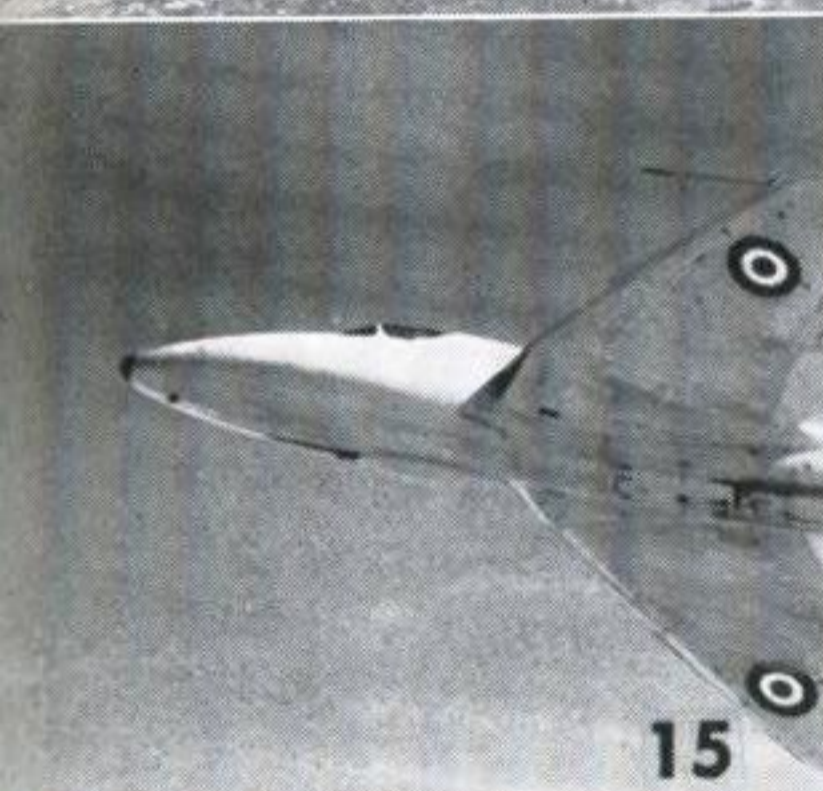
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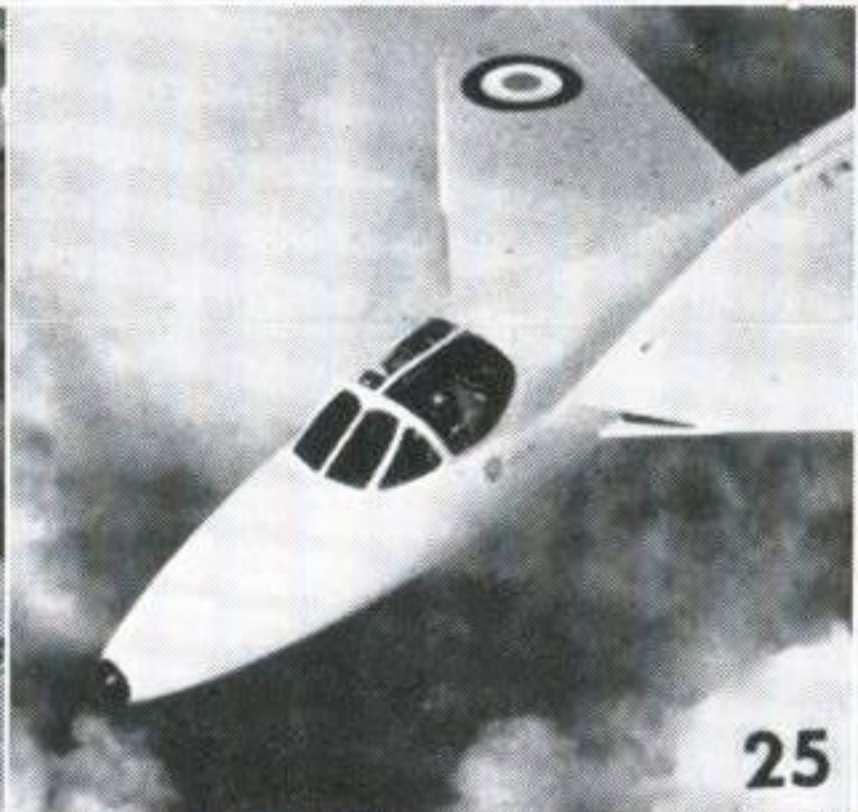
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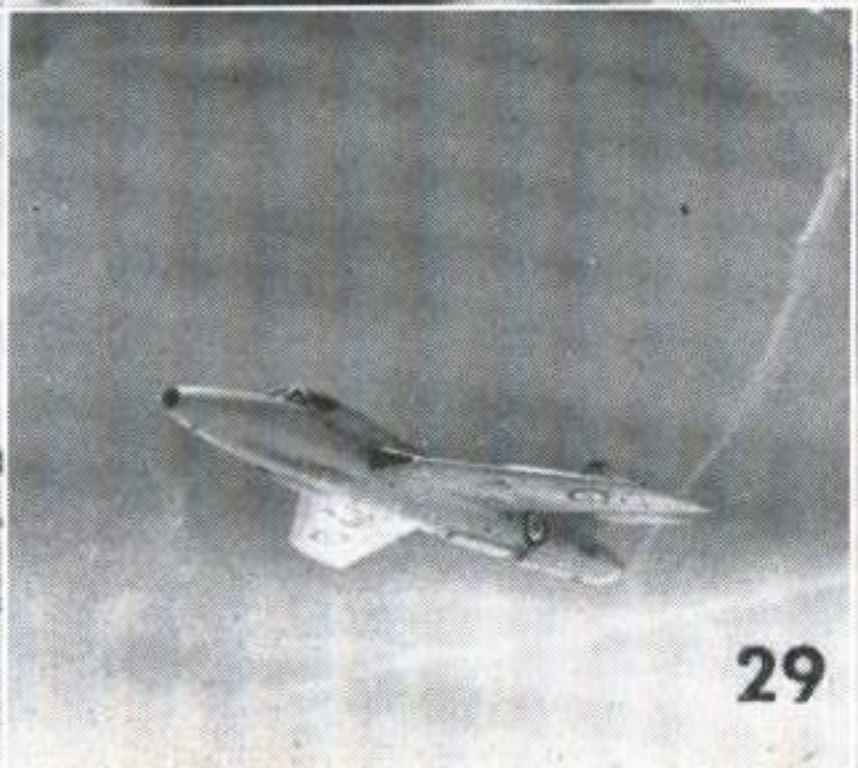
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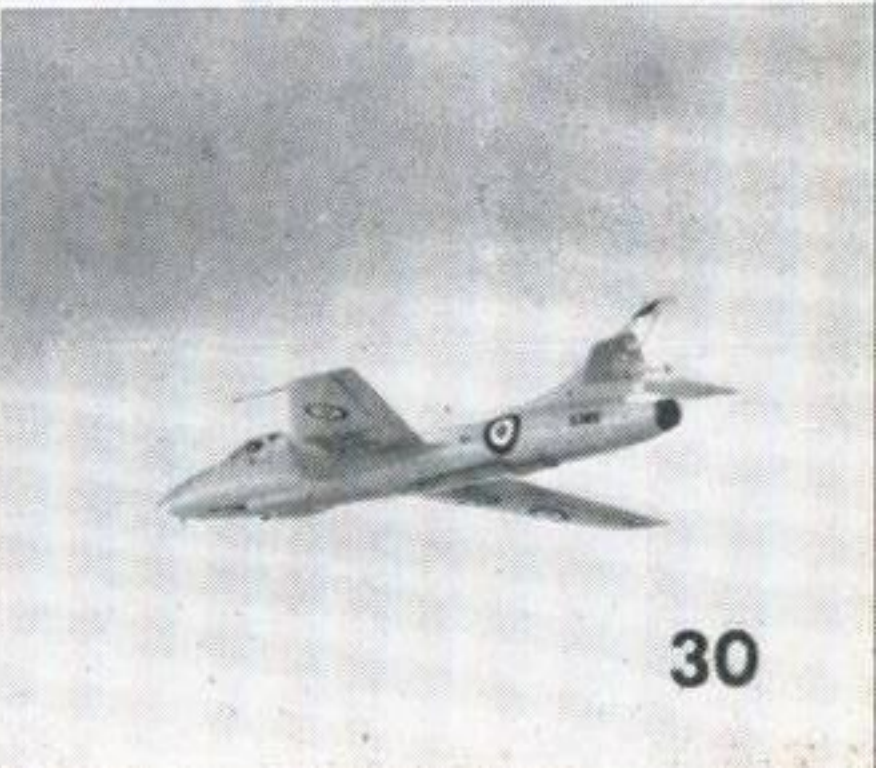
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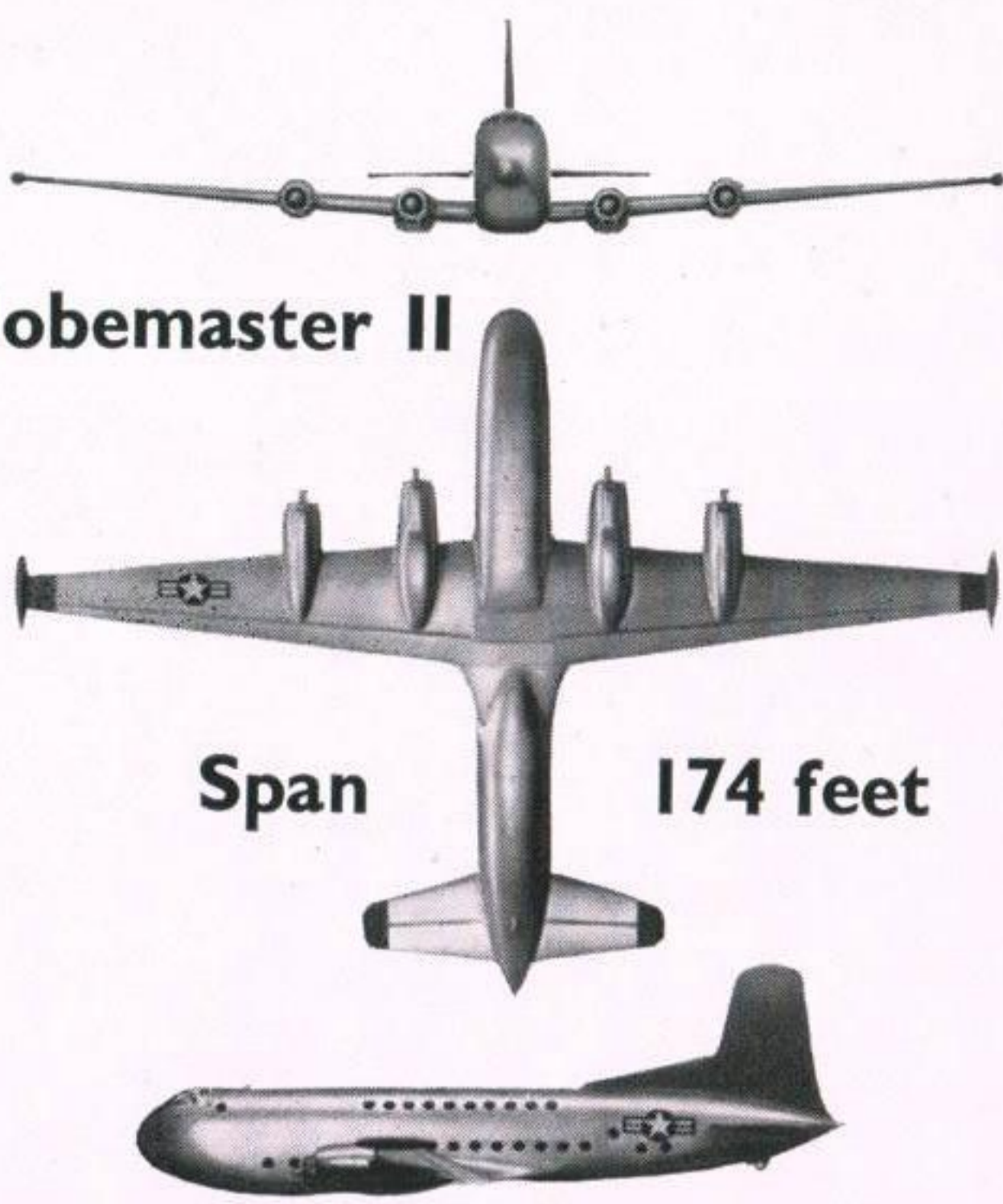
29



30

An Ugly Customer

Globemaster II



Span

174 feet

THE GLOBEMASTER II is a military transport with the ability to load without dismantling 95 per cent. of all types of the Army Field Force's equipment. It has nose-loading doors with vehicle ramps, a rear cargo hatch with elevator loading and auxiliary floor for double loading. The Globemaster cruises at 272 m.p.h. and has a range of 1,232 miles. The payload is 56,000 lb., which means the ability to carry 200 troops and their field equipment.

Our key-pictures illustrate both versions of the Globemaster: the C-124A (3,500-h.p. engines) and the C-124C (3,800-h.p. engines). In this lesson we don't ask you to pick out the two types, but the C-124C has the distinctive nose radome, cleaner engine lines, and altered window positions. The original C-124A's had none of these features, but several aircraft were "re-worked" to include some or all of the above modifications. Wing-tip pods are optional.



Globemaster C-124A



Globemaster C-124C

Don't forget in this, and indeed in any other lesson, to follow the usual lesson instructions: list the target numbers before you start; use the key information to identify easy targets first so as to gain experience, and use known targets to help you identify unknown ones; above all write down your solutions before consulting the oracle on the rear cover.





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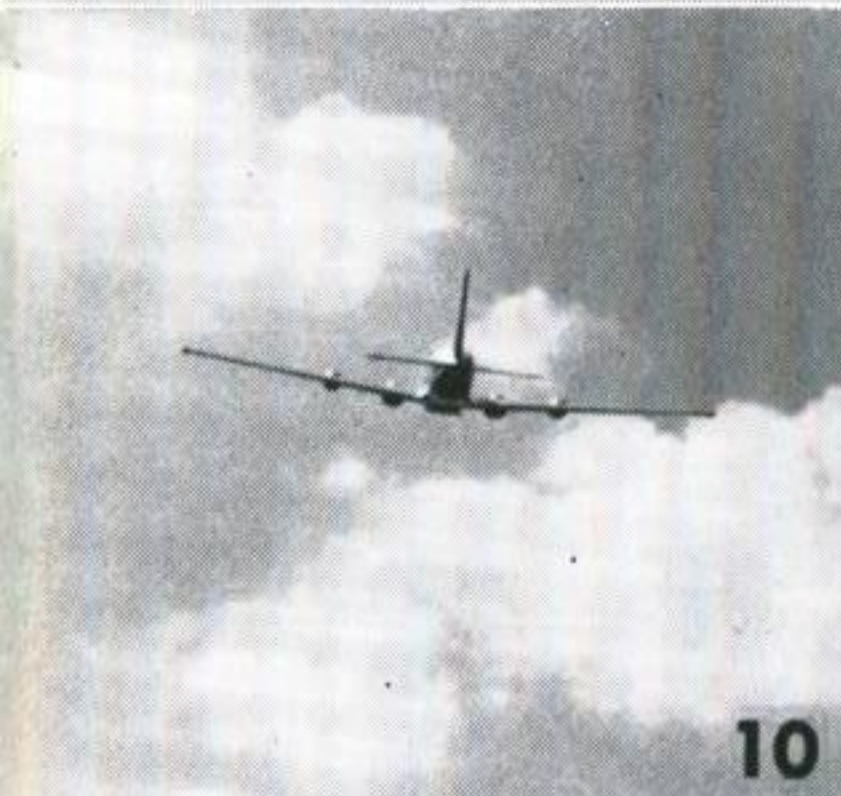
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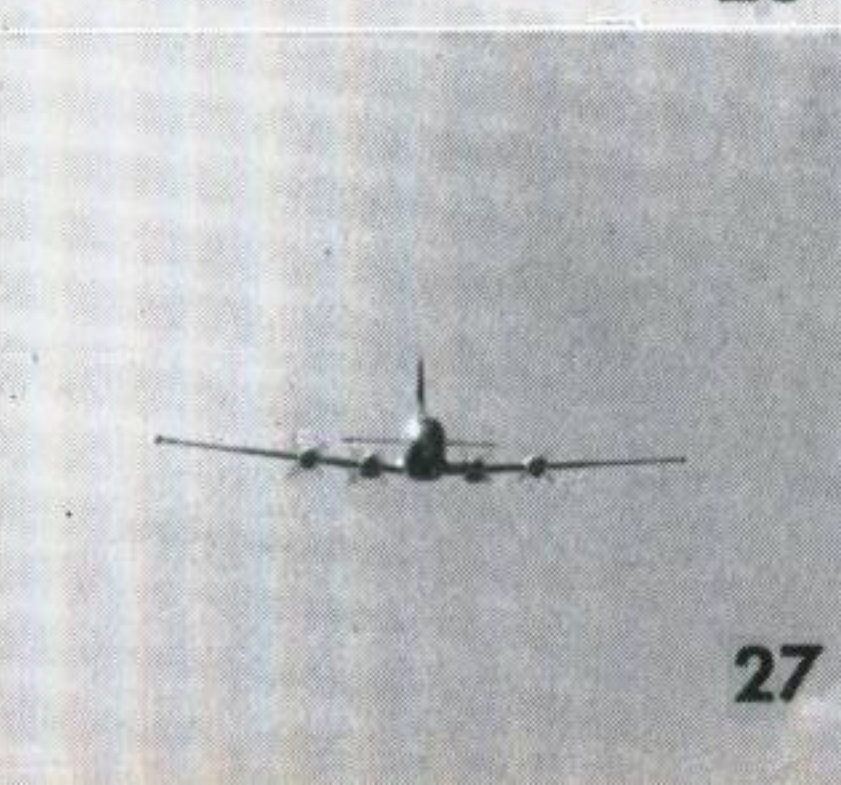
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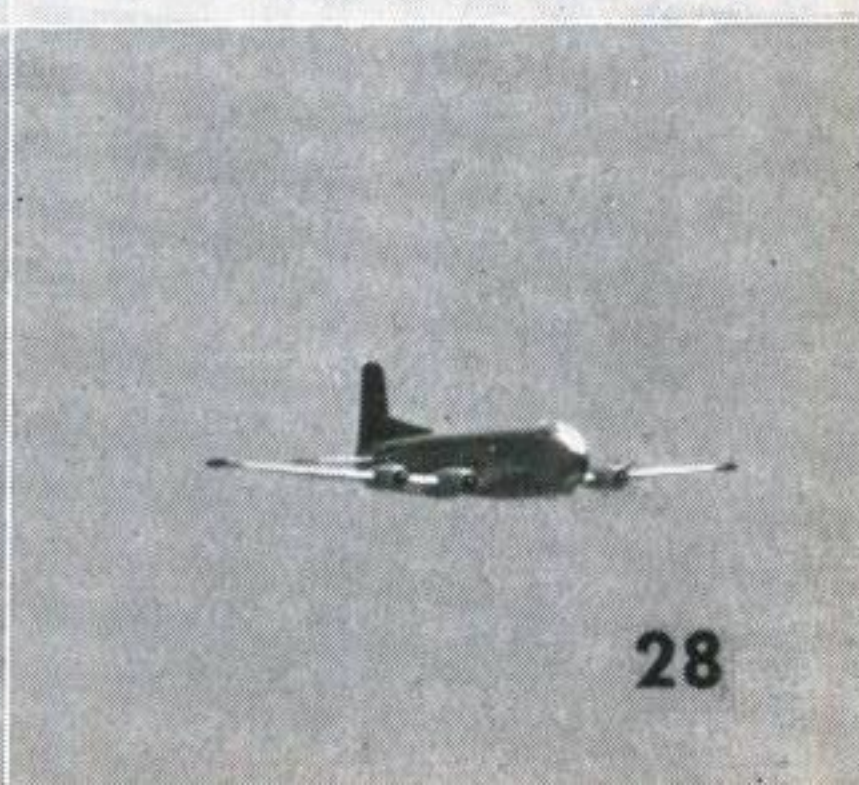
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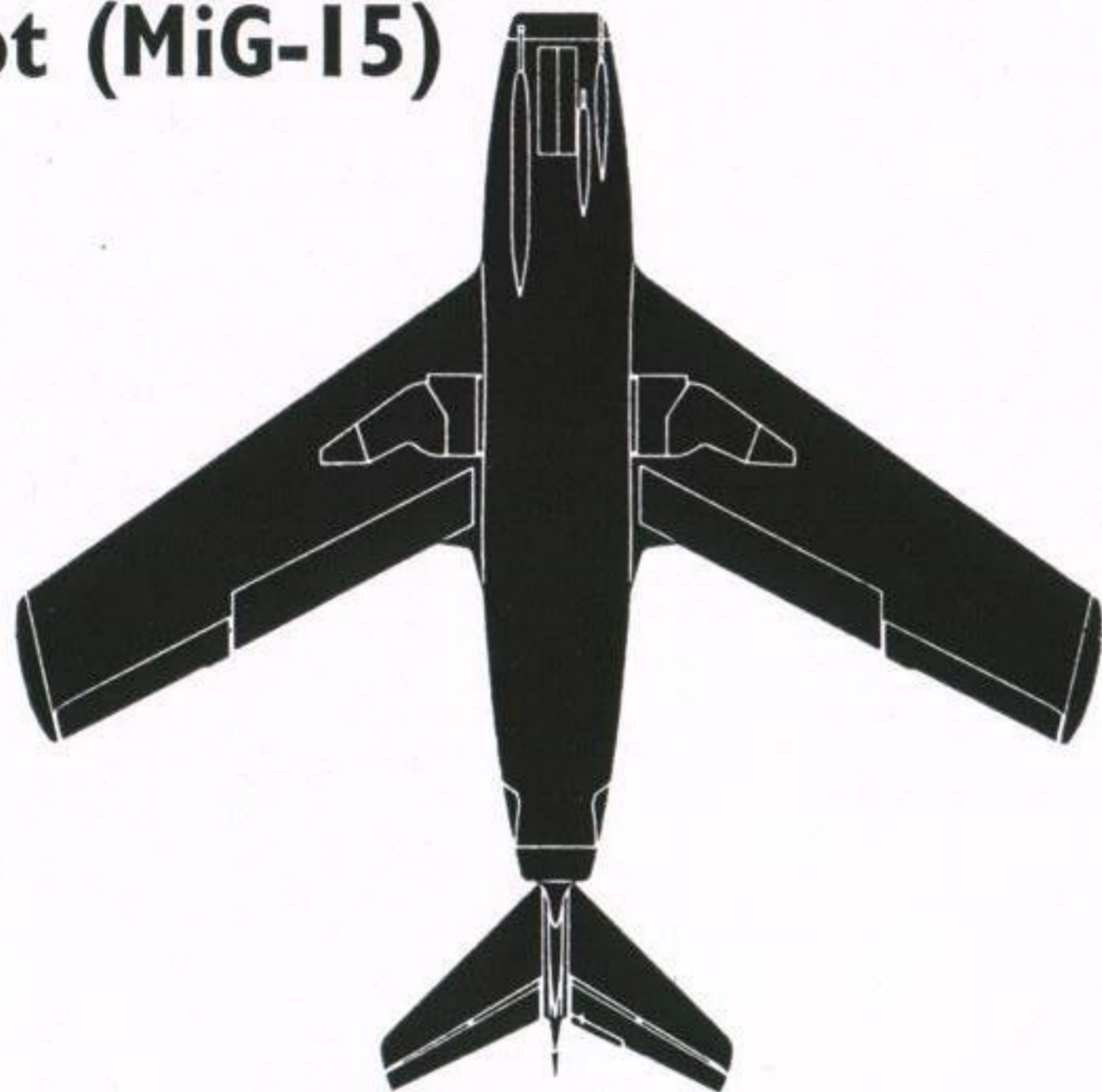


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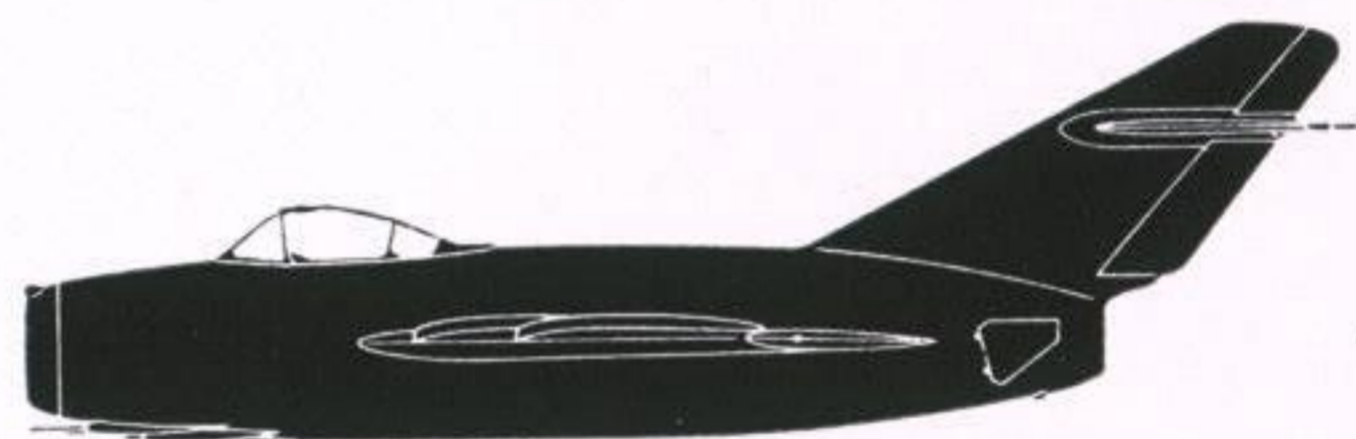
The Three "F's" (Fagot, Fresco and Farmer)

F is also for familiarisation, which you must achieve, not to mention "F" for effort you must make to learn to identify these fighters. To do that, all you have to do is to list the target numbers—on the opposite page and overleaf—and then identify each target in turn with the aid of the three-view silhouette and the captioned photographs which provide additional clues. You'll find a list of answers on the cover.

Fagot (MiG-15)



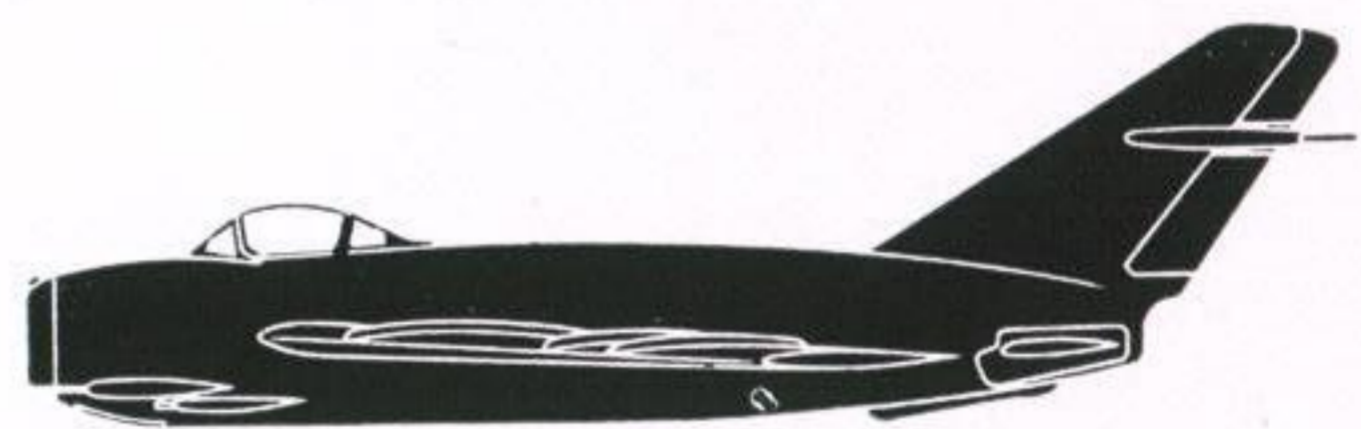
Wing Span 33 feet



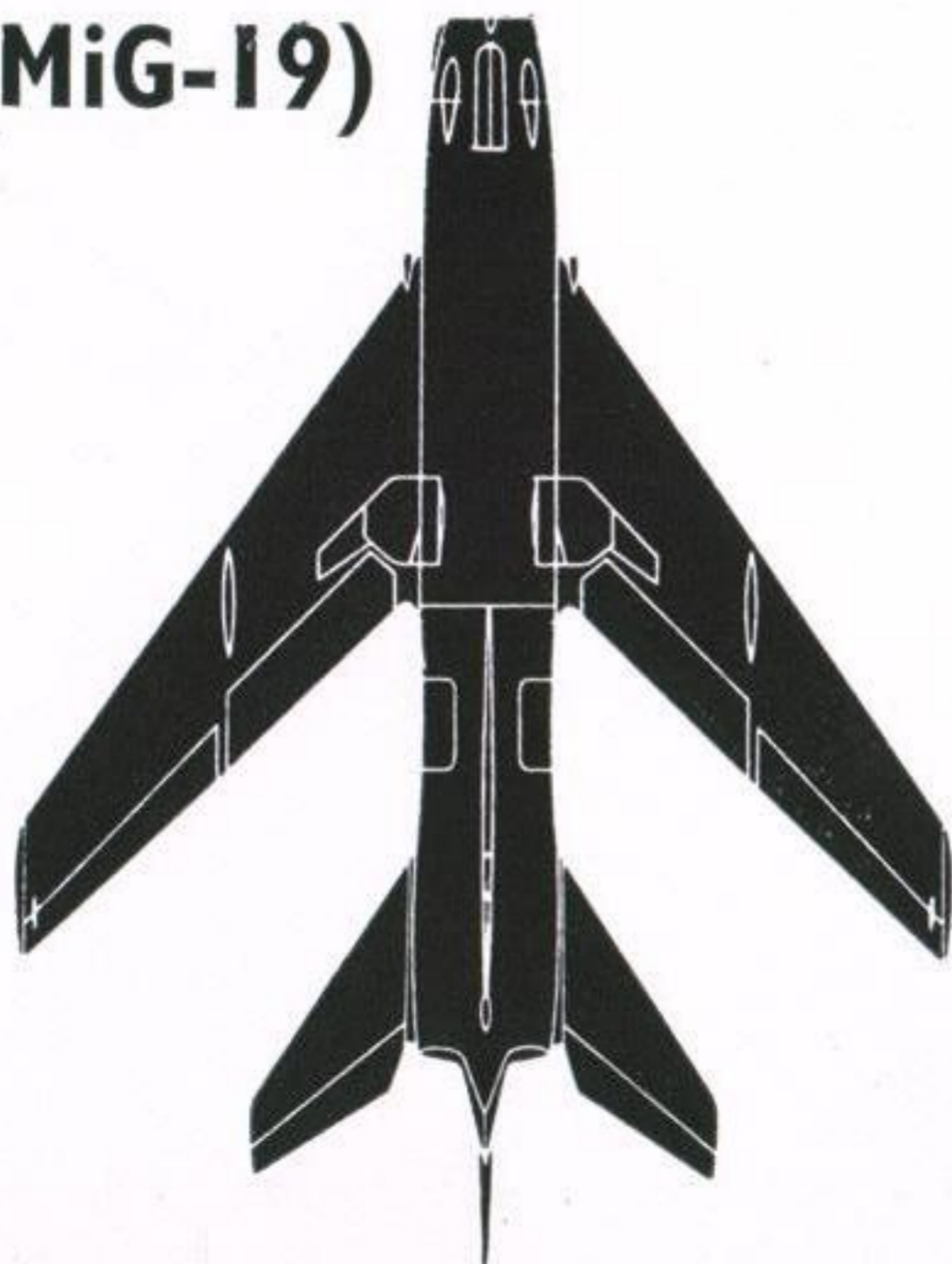
Fresco (MiG-17)



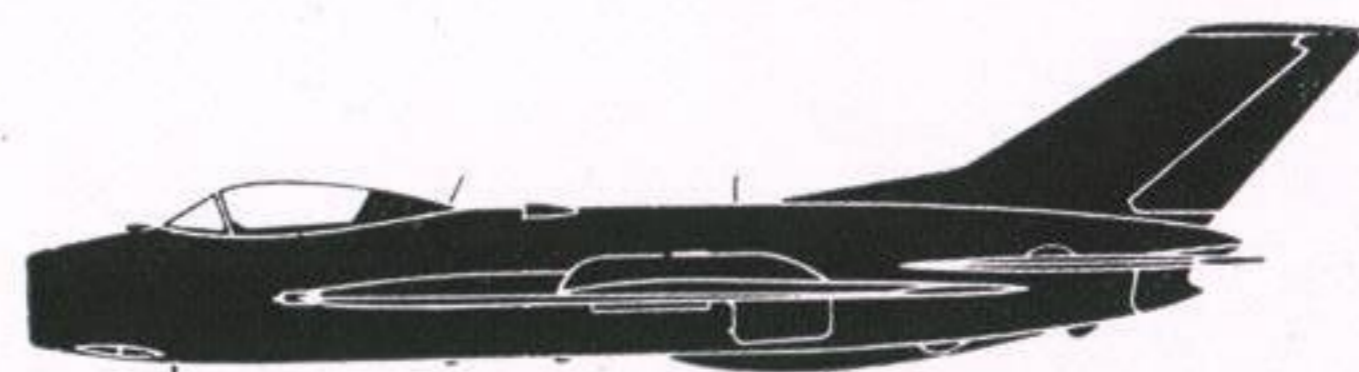
Wing Span 36 feet

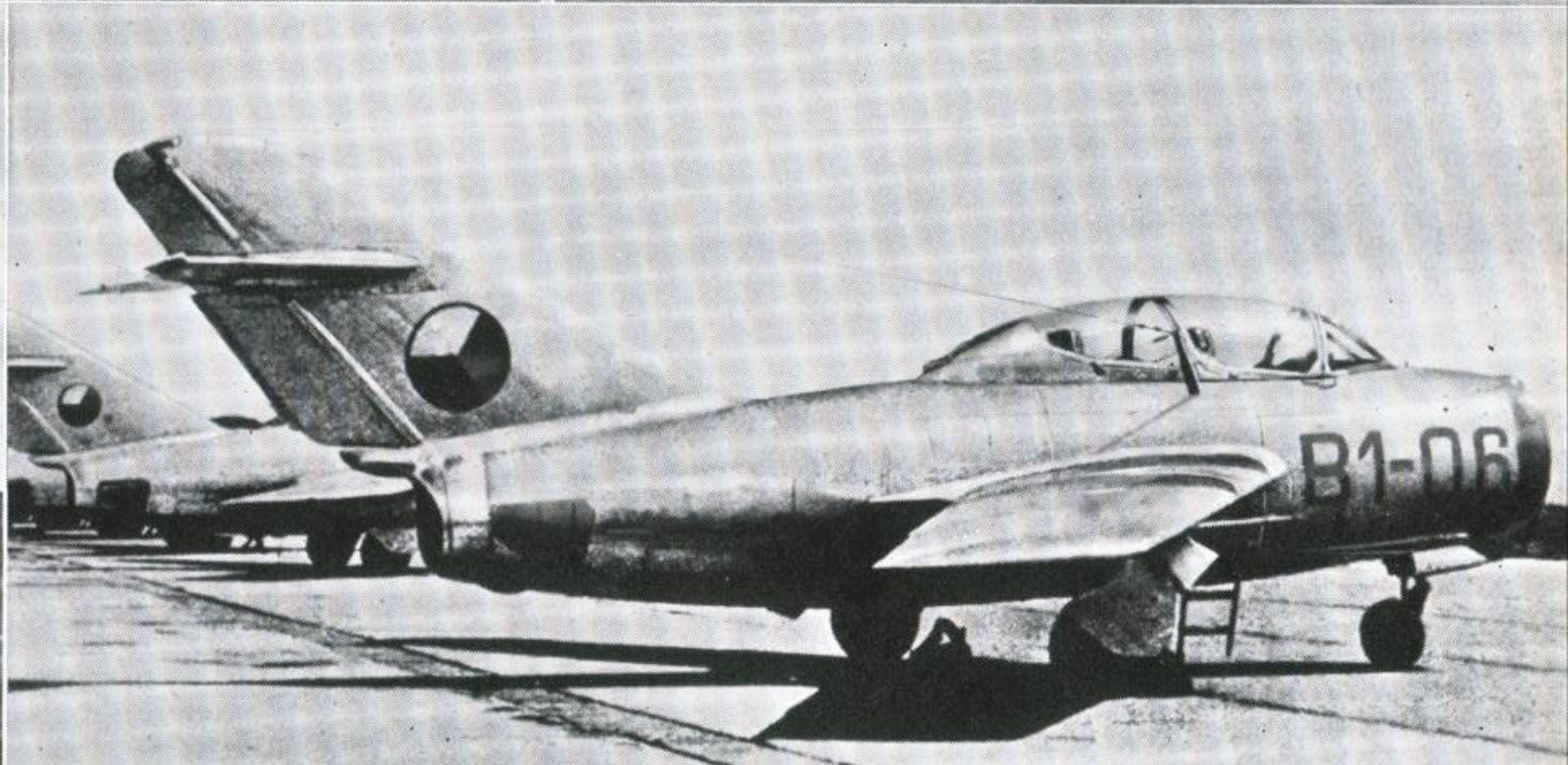
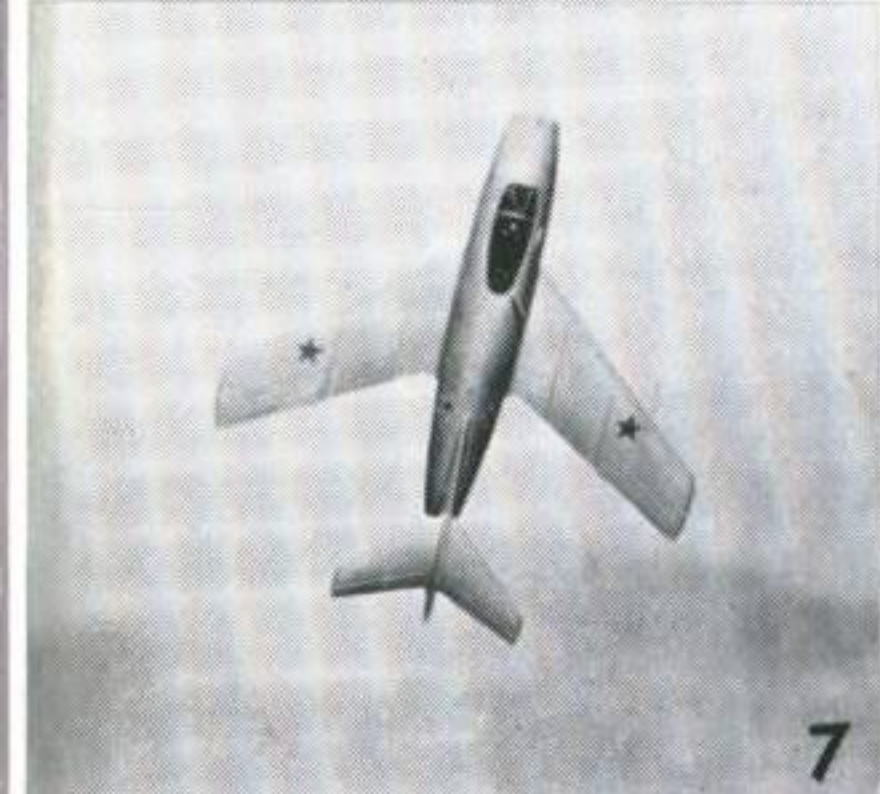
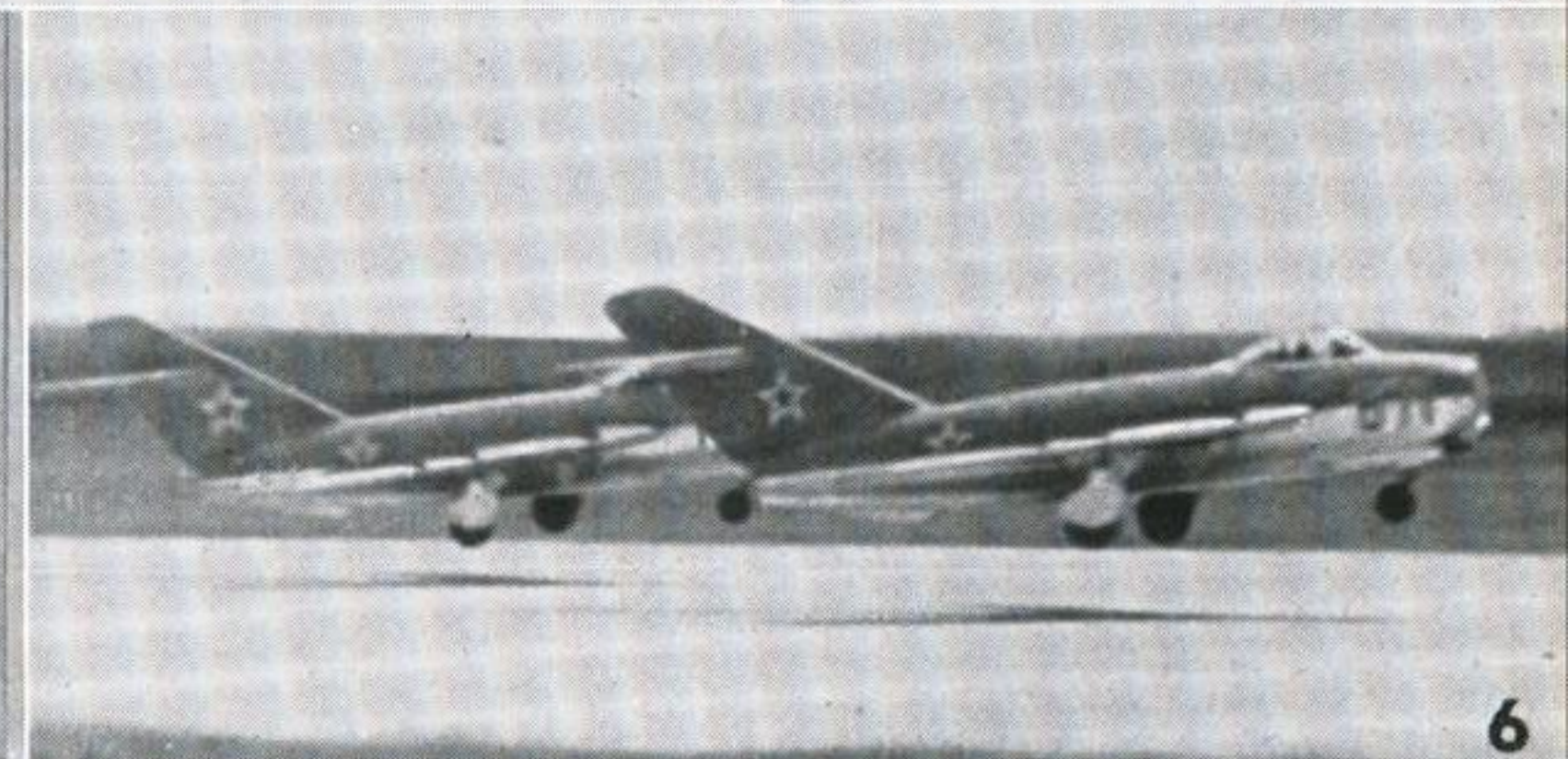
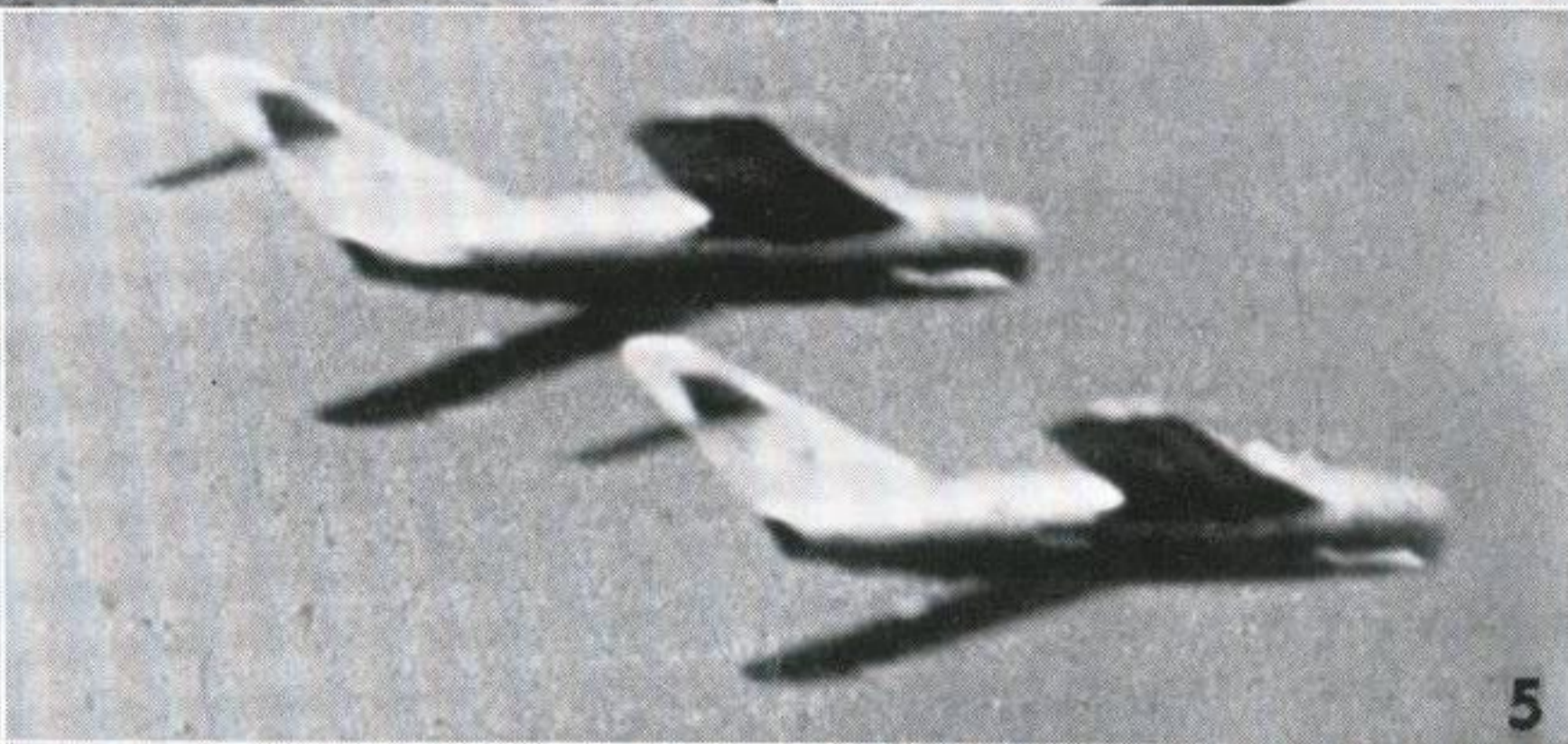
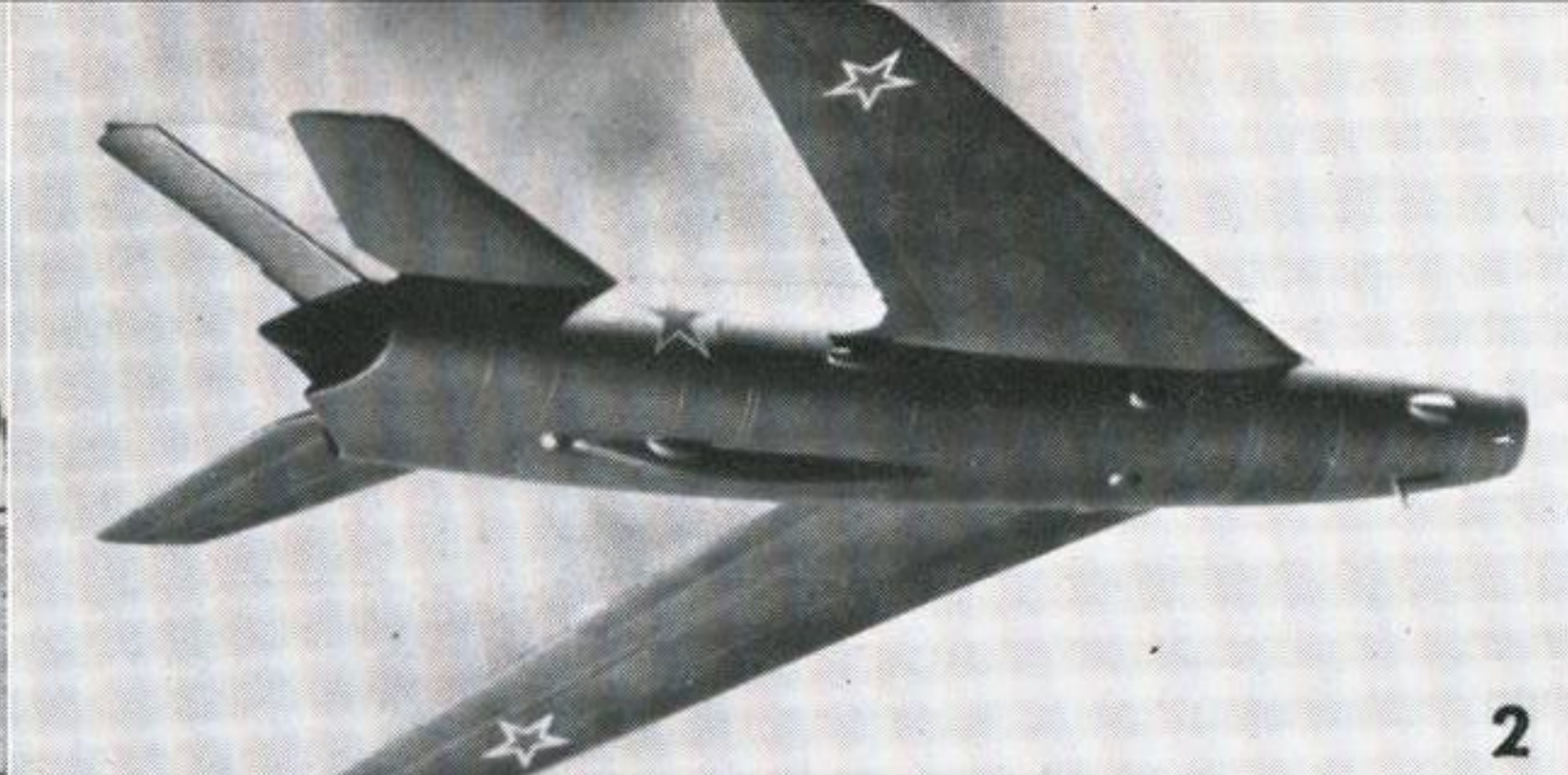
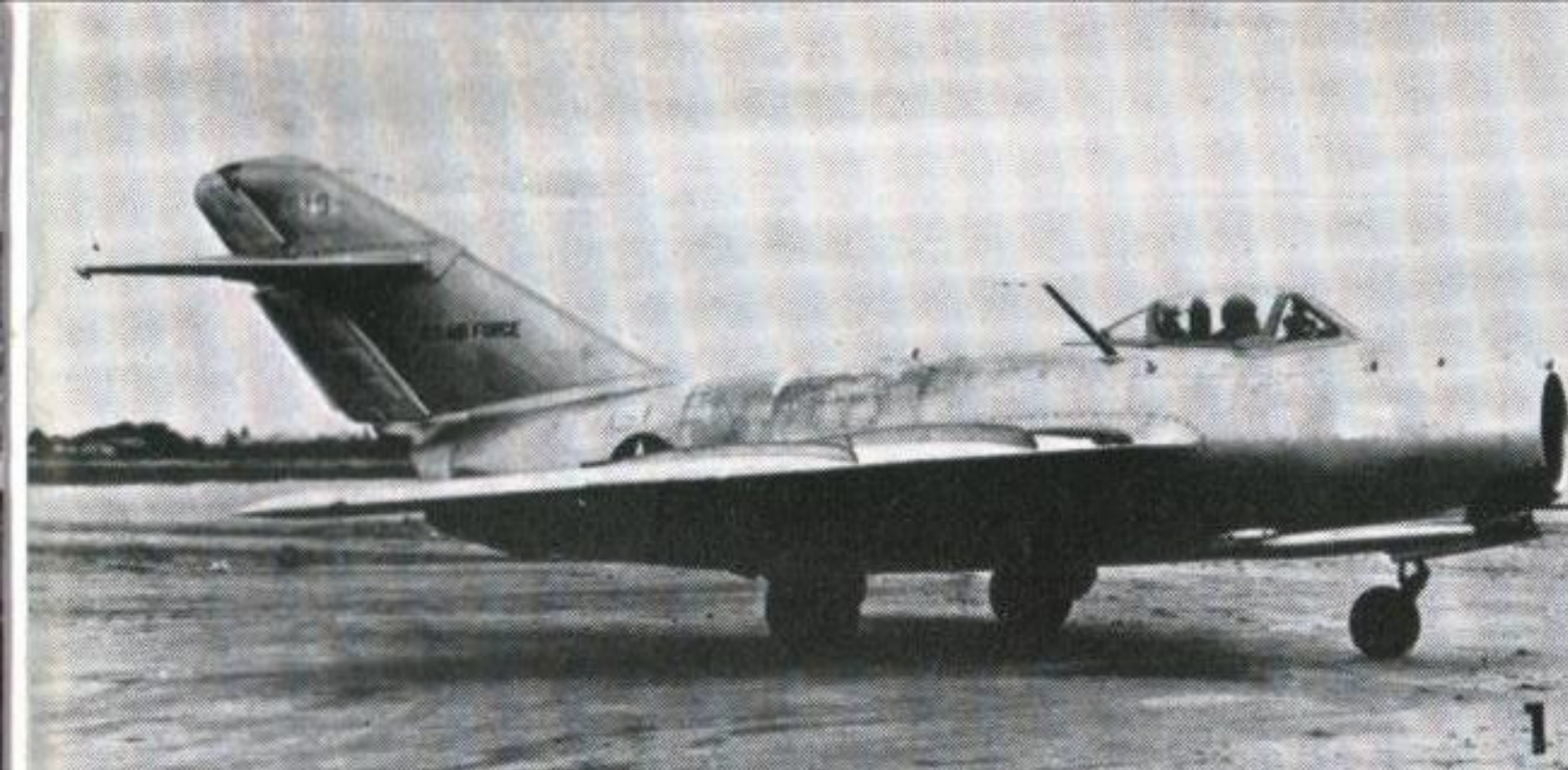


Farmer (MiG-19)



Wing Span 37 feet



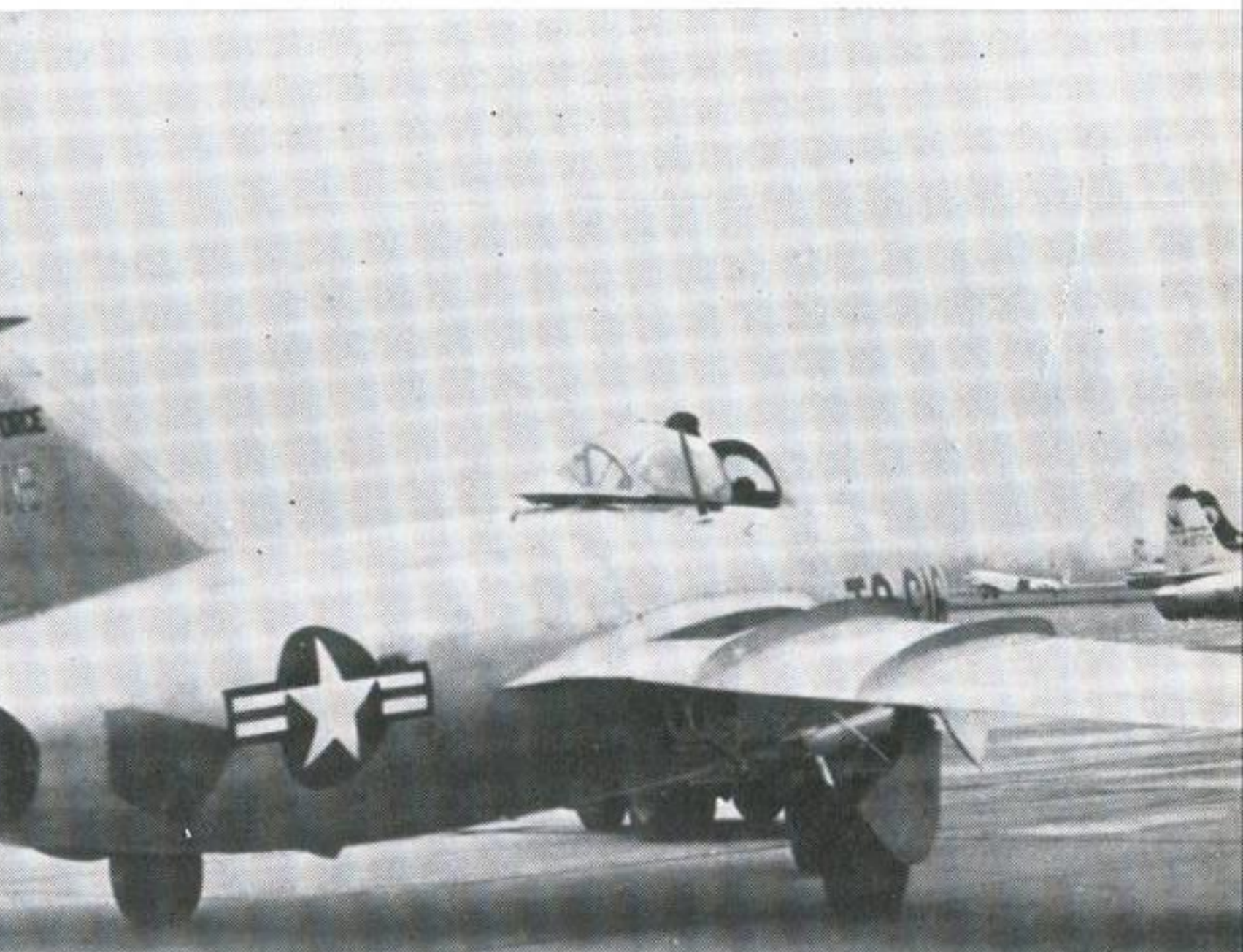


Midget : (MiG-15UTI)

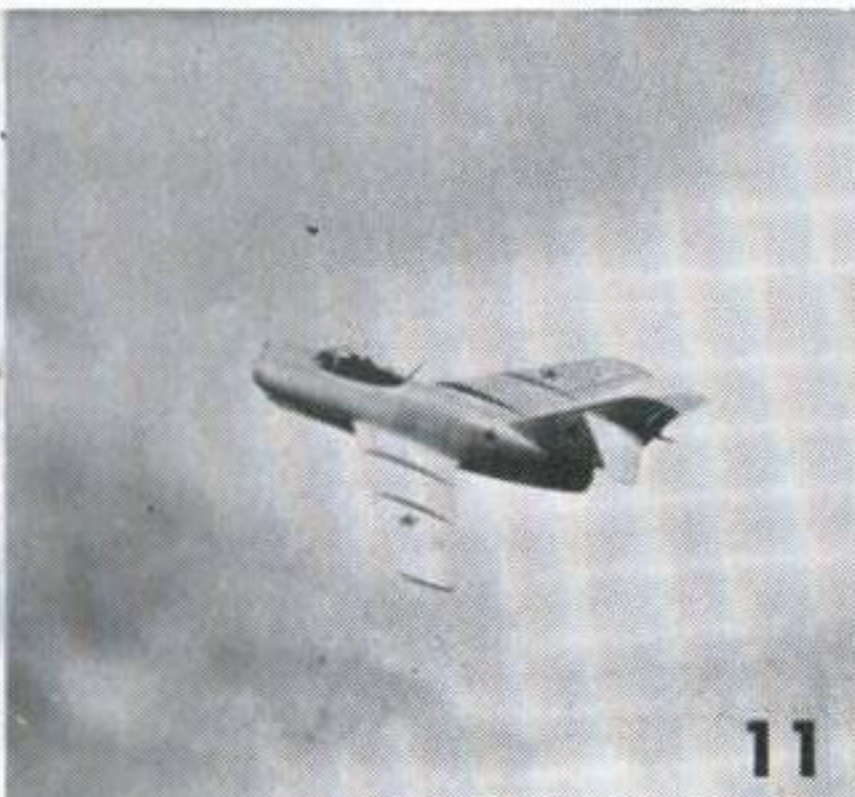
Two-seat version. May be used for training or close support of Army

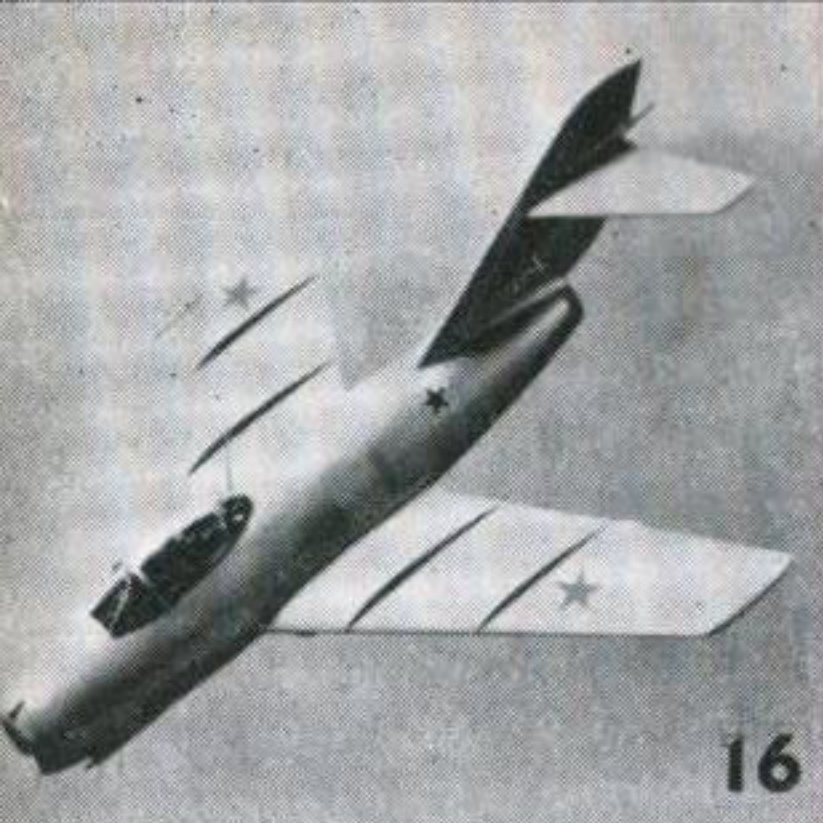


Farmer : (MiG-19) Twin-jet, single-seat fighter



Fagot : (MiG-15) Single-jet, single-seat fighter





Fagot (MiG-15)



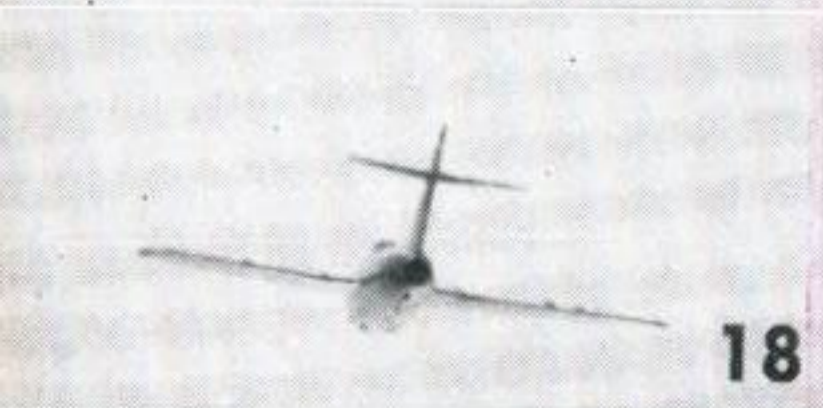
Wing Span 33 feet



Fresco (MiG-17)



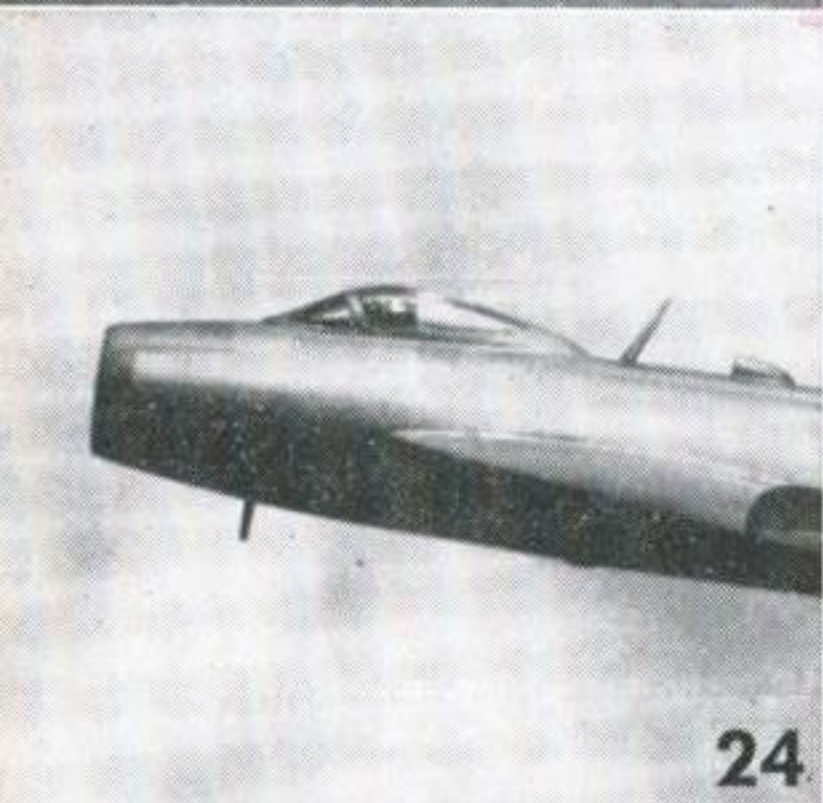
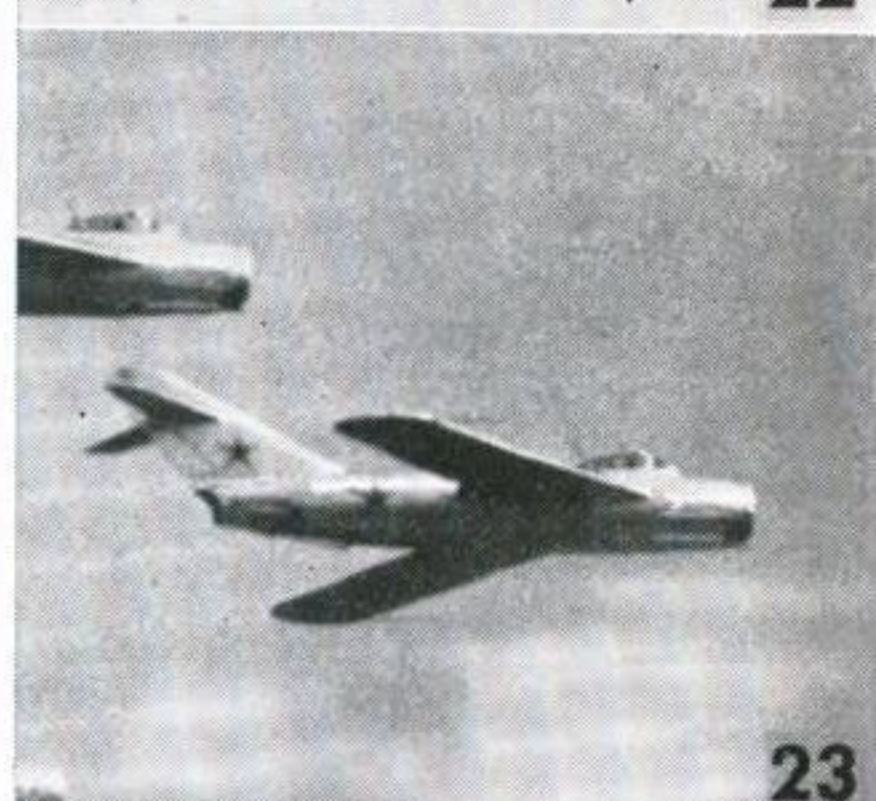
Wing Span 36 feet



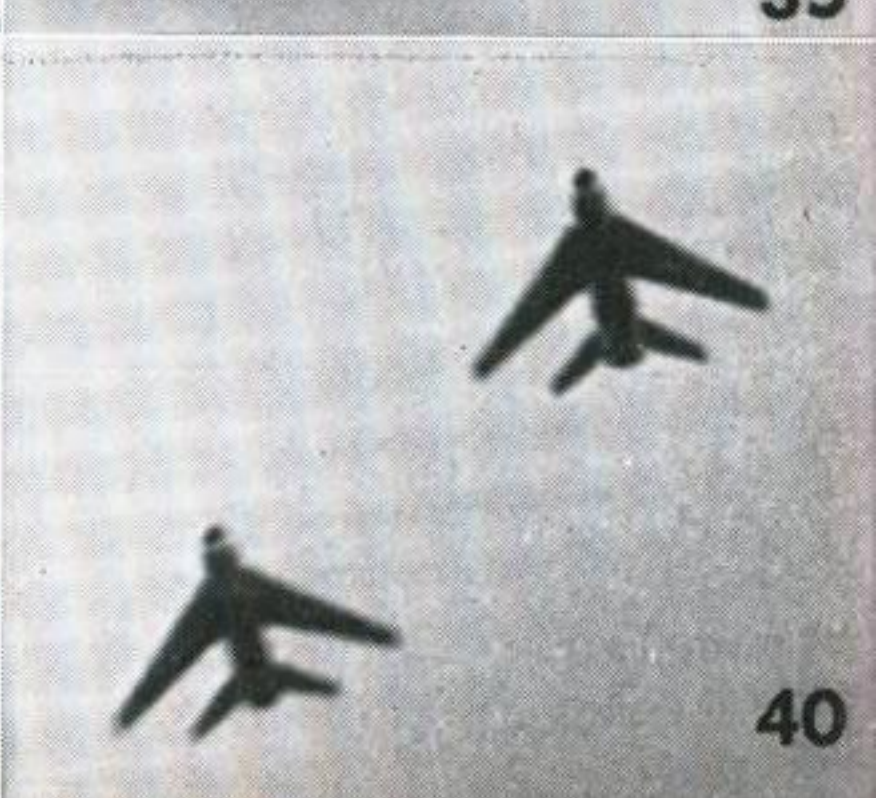
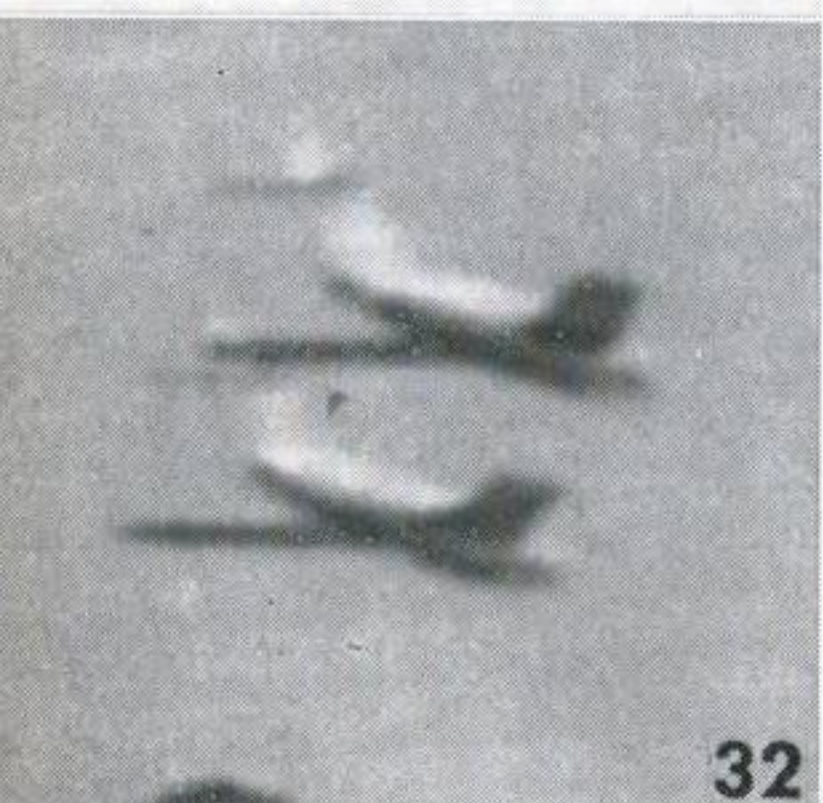
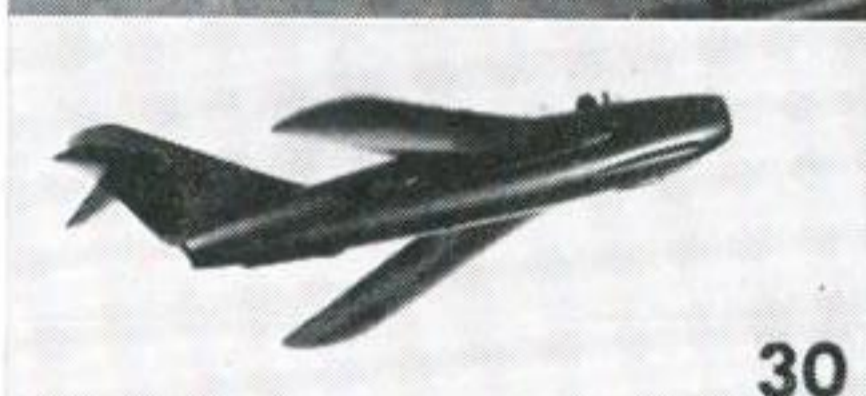
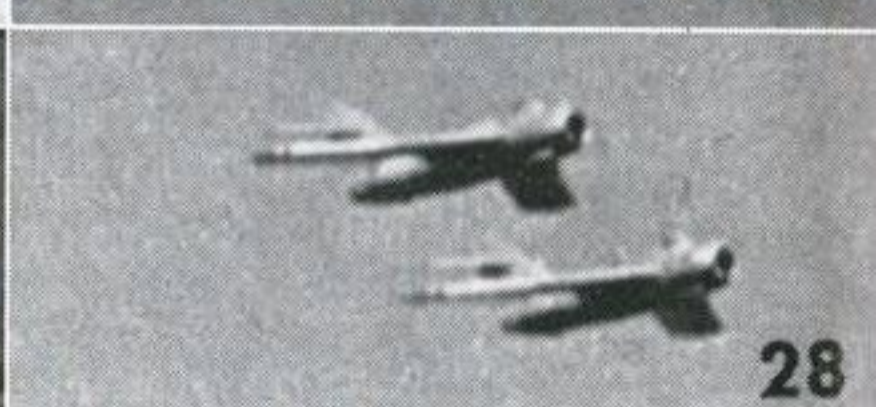
Farmer (MiG-19)



Wing Span 37 feet



Fresco C (MiG-17) is widely used in all Soviet and Satellite Air Forces and some other foreign air forces.





VISCOUNT 701



Wing Span 94 feet



Who's Who?

A Refresher Course

Well, who is who? No one surely, can mistake a Viscount for a DC-6 or 7, can they? Their shapes are so dissimilar—when you know them. But you must not only know them, you must be able to identify them and you ought to know how to do that by now. If you don't, there are some general instructions at the foot of page 106. And, as usual, you will find the answers on the cover. Your solutions need only say "Viscount or DC-6 or 7."

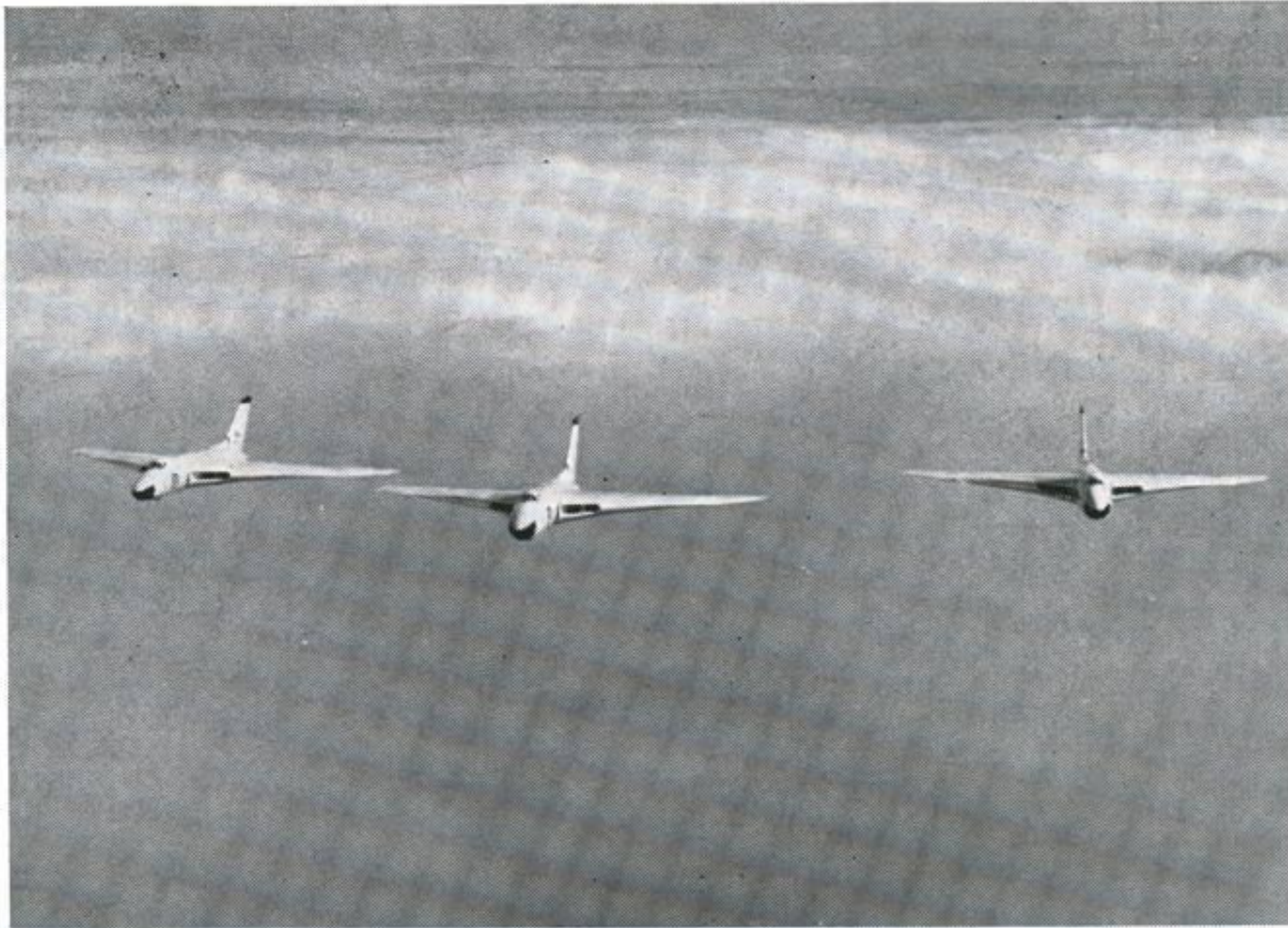


DOUGLAS DC-6 or 7



Wing Span 118 feet





Cover Picture: Avro Vulcan's of the R.A.F.'s V-bomber force. The atmospheric serenity of this picture makes a strange contrast with the power and destructive force of these "weapons systems."

SOLUTIONS TO TESTS AND EXERCISES IN THIS EDITION

FIGHTER FANTASIA

	Span (in feet)		Span (in feet)
1. Étendard IVM (prototype)	32	26. Thunderchief	35
2. Thunderflash	34	27. Fiat G-91	28
3. Crusader	36	28. Starfighter	22
4. Thunderchief	35	29. N.A.39	43
5. Fiat G-91	28	30. Talon	25
6. Fitter	38	31. Voodoo	40
7. Fresco	36	32. Hunter Mk. 6	34
8. Talon	25	33. Lightning	35
9. N.A.39	43	34. Fitter	38
10. Starfighter	22	35. Fresco	36
11. Voodoo	40	36. Thunderchief	35
12. Hunter Mk. 6	34	37. N.A.39	43
13. Hunter Mk. 6	34	38. Talon	25
14. Fitter	38	39. Starfighter	22
15. Fresco	36	40. Fiat G-91	28
16. N.A.39	43	41. Crusader	36
17. Talon	25	42. Étendard IVM (prototype)	32
18. Starfighter	22	43. Thunderflash	34
19. Fiat G-91	28	44. Lightning	35
20. Thunderchief	35	45. Fresco	36
21. Étendard IVM (prototype)	32	46. Fitter	38
22. Thunderflash	34	47. Hunter Mk. 6	34
23. Étendard IVM (prototype)	32	48. Crusader	36
24. Lightning	35	49. Voodoo	40
25. Voodoo	40	50. Thunderflash	34



WHO'S WHO?

1. DC-6B	13. DC-4M	25. Viscount 701
2. Viscount 701	14. Viscount 802	26. Viscount 802
3. DC-7	15. Viscount 802	27. DC-6A
4. Viscount 701	16. DC-7C	28. Viscount 701
5. Viscount 701	17. Viscount 701	29. DC-7
6. DC-4M	18. Viscount 802	30. Viscount 701
7. DC-7	19. DC-7B	31. DC-6B
8. Viscount 701	20. Viscount 802	32. DC-6B
9. Viscount 701	21. DC-6/7	33. Viscount 701
10. DC-7C	22. Viscount 802	34. Viscount 701
11. DC-7	23. DC-6B	
12. Viscount 701	24. DC-7C	



FAGOT/FRESCO/FARMER

1. Fagot	15. Farmer	29. Farmer
2. Farmer	16. Fagot	30. Fresco
3. Fagot	17. Farmer	31. Farmer
4. Fagot	18. Fresco	32. Fresco
5. Fresco	19. Farmer	33. Fresco
6. Fresco	20. Fresco	34. Farmer
7. Fagot	21. Fagot	35. Fagot
8. Fresco	22. Fagot	36. Farmer
9. Fagot	23. Fresco	37. Fagot
10. Farmer	24. Farmer	38. Farmer
11. Fagot	25. Fagot	39. Fagot
12. Farmer	26. Fresco	40. Farmer
13. Farmer	27. Farmer	
14. Fresco	28. Fresco	



GLOBEMASTER II

All targets are **Globemaster II** except target number 12, which is a **Vanguard**.



F4D-1 SKYRAY

All targets are **SKYRAY** except No. 25 which is a **A4D-2 SKYHAWK**.



DART HERALD

All targets are **Dart Herald** except numbers 8 and 14, both of which are **F.27 Friendships**.

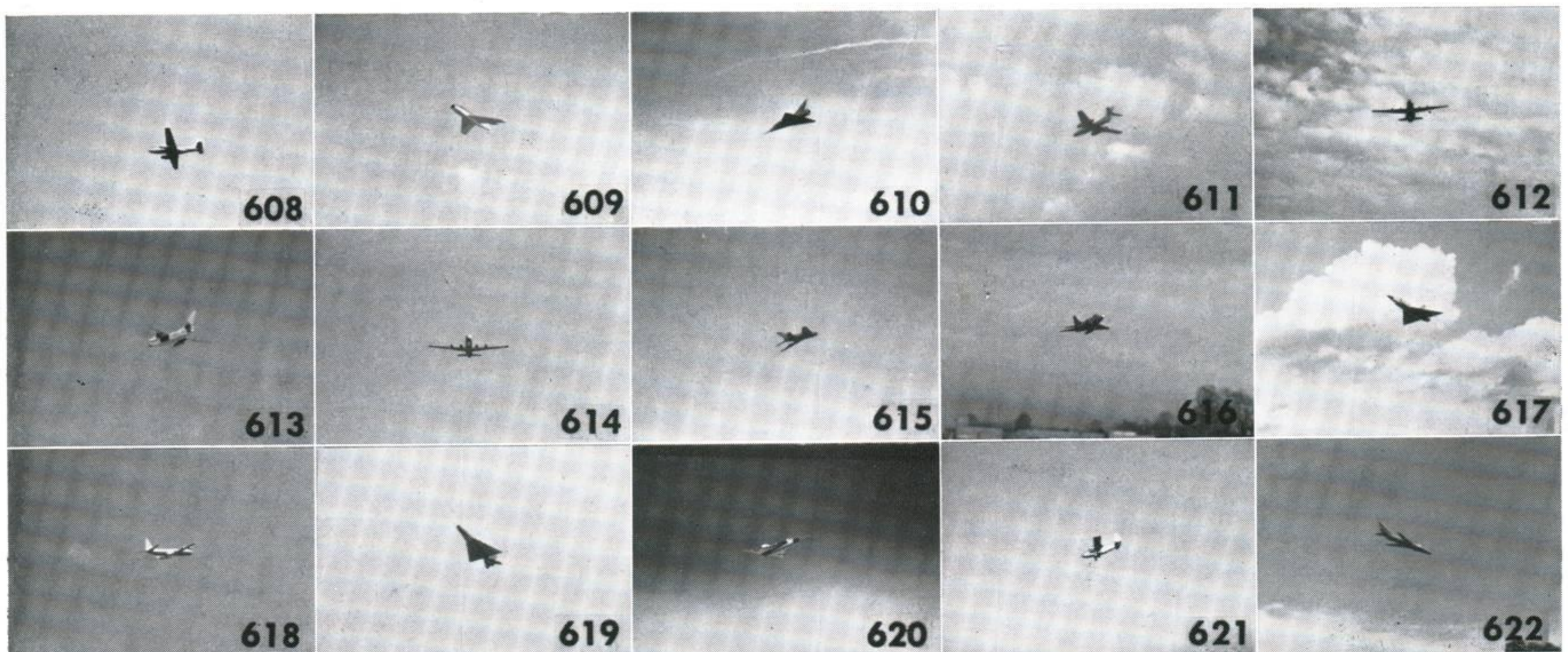


HUNTER

1. T Mk. 7	9. F Mk. 2	17. F Mk. 6	25. T Mk. 7
2. T Mk. 7	10. F Mk. 4	18. T Mk. 7	26. T Mk. 7
3. F(GA) Mk. 9	11. T Mk. 7	19. F(GA) Mk. 9	27. T Mk. 7
4. T Mk. 7	12. F Mk. 5	20. F Mk. 4	28. T Mk. 7
5. T Mk. 7	13. T Mk. 7	21. F Mk. 5	29. T Mk. 7
6. T Mk. 7	14. T Mk. 7	22. T Mk. 7	30. T Mk. 7
7. F Mk. 4	15. T Mk. 7	23. T Mk. 7	
8. F(GA) Mk. 9	16. T Mk. 7	24. F Mk. 2	

AIRBORNE HEADACHES

No. 70



Submission dates for answers to Airborne Headaches No. 70 will be notified at Group Headquarters.