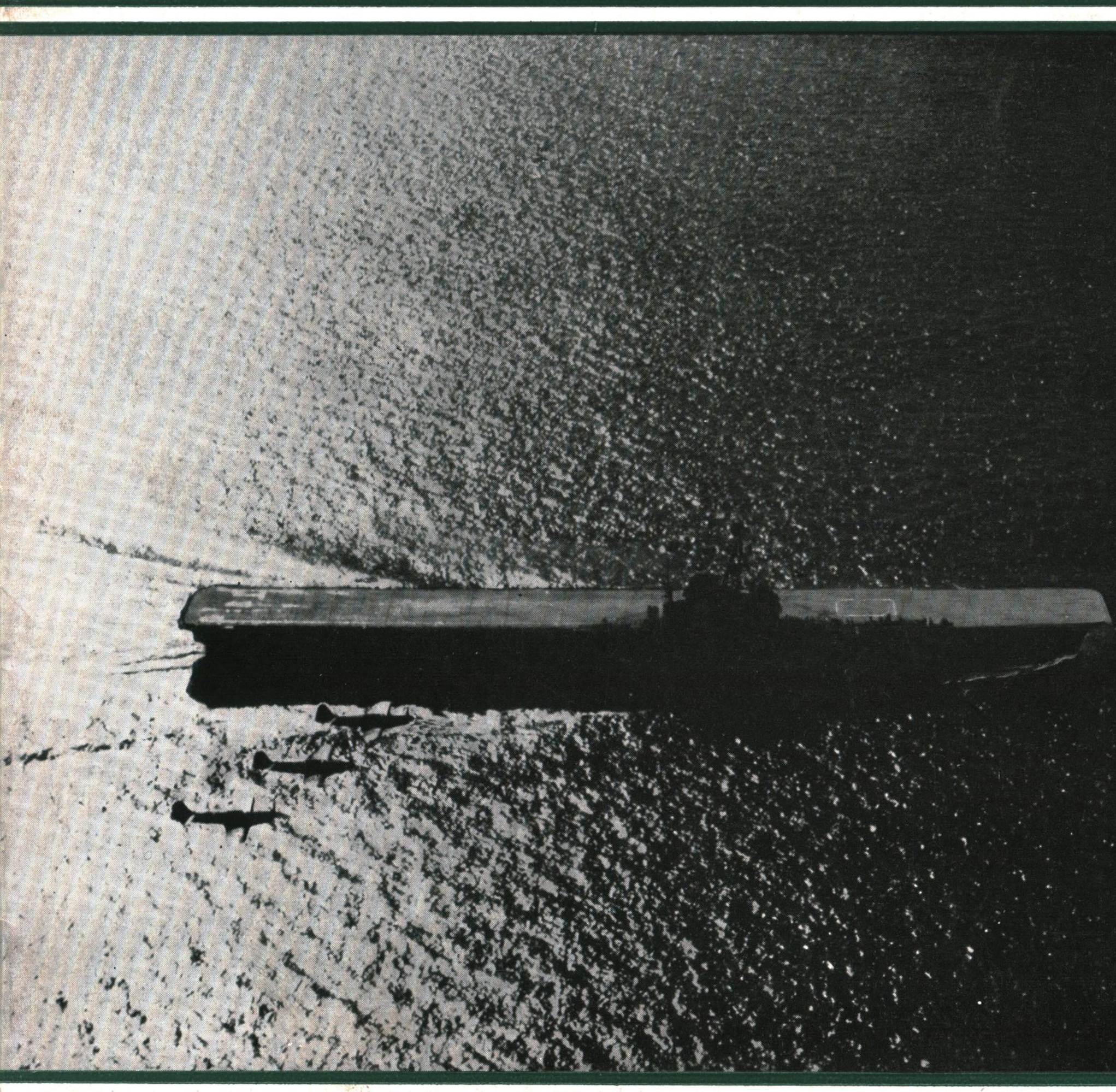
JOINT SERVICES

RECOGNITION *Journal*



Vol. 6 MARCH 1951 No. 3

For official use only



Super Constellation—Said by its makers—Lockheed—to be the link between current transport aeroplanes and the American jet airliner of the future, the Super Constellation series will be powered by many different types of engine ranging from the conventional reciprocating type, through the newly developed compound engines to turbo-prop installations.

MARCH 1951 **Vol. 6 No. 3**

JOINT SERVICES

RECOGNITION JOURNAL

The *Joint Services Recognition Journal* is a monthly publication prepared and produced by the Assistant Chief of Air Staff (Training), Air Ministry, in collaboration with the Ministry of Supply—Controller of Supplies (Air)—Air Technical Publications. Contributions and correspondence should be addressed to the Editor, *Joint Services Recognition Journal*, Air Ministry, Room 213, Metropole Buildings, Northumberland Avenue, W.C.2.

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HELICOPTERS ARE SWARMING. From the rice paddies of Korea to the choppy tide races of the English Channel comes news of helicopters. They seem, incidentally, to like dabbling in water, though this is but one of their activities.

The Royal Navy have had a series of trials with Westland S-51 Dragonflies to see to what extent helicopters operating from the decks of merchant ships are affected by weather. So far, very satisfactory results have been obtained and further trials are to take place in rougher weather. Helicopters are already in limited communication service in the Royal Navy between ship and ship and ship and shore. The object of the present trials is to extend their use to anti-submarine and air/sea rescue work.

The United States Navy's carriers in Korean waters already use the more nimble helicopter for rescue work in place of the time-honoured attendant destroyer. When a carrier flies off its aircraft, the first machine away is a helicopter, which, keeping station a short distance from the ship, watches each take-off, prepared to pounce on any aircraft which has to ditch and to pluck its pilot to safety. Ditchings are so rare that Navy helicopter crews describe this work as monotonous.

U.S.A.F. helicopters in Korea have a splendid record of saving the lives of hundreds of battle casualties by express evacuation from battle areas. Seriously wounded soldiers who would not survive land travel of any kind are smoothly and quickly conveyed to hospital, often in a matter of minutes. Helicopters have frequently whirled their way into enemy infested territory to collect crashed U.S. Navy and Marine pilots, restoring them to their ships and enabling many to undertake further missions within a short time of their forced landings.

The Royal Air Force, too, is well in the helicopter picture. The Casualty Evacuation Flight of the Far East Air Force has been operating three Westland S-51 Dragonflies in Malaya since May 1950. After some initial difficulties, they eventually worked up to between 30 and 40 sorties per month, clearing badly wounded men from extremely inaccessible places in the jungle, the Dragonfly needing only about a 50 yard-square clearing from which to work. The success of these operations in Malaya has inspired the ordering of two more Dragonflies for use with the Casualty Evacuation Flight. Incidentally, the Royal Air Force has also placed an order for three Bristol 171 helicopters for further evaluation trials in the United Kingdom.

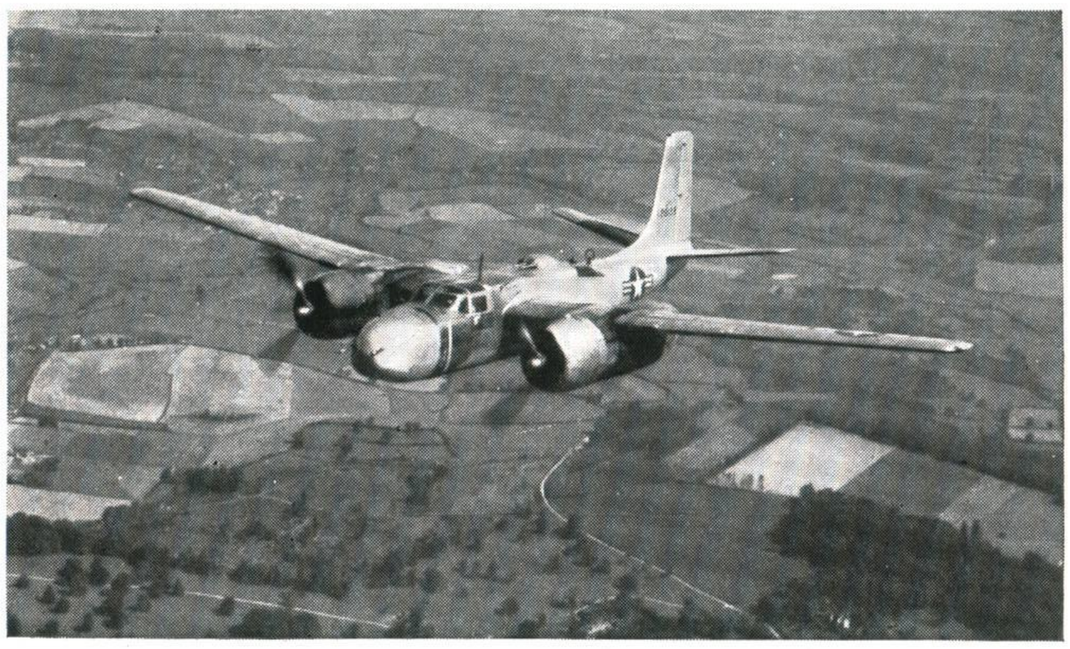
The Merchant Ship-Helicopter Trials. A Westland Sikorsky S-51 Dragonfly preparing to alight on the platform erected on the poop of the *Fort Dusquesne*, a fleet supply ship. It was possible to land a helicopter on the ship in a swell which caused the ship to rise and fall as much as twenty feet. Further experiments in yet rougher conditions are going on.



THE WAR IN KOREA

L/Obs. Denys J. Voaden

THE Far East has been the scene of many large-scale campaigns, not all of them very well reported in Europe. Notable are the actions at Buir Nor in 1939 and at Changkufeng in 1938. These both ranked as "frontier incidents", in much the same way as the earliest stage of the war now progressing in Korea. Since the fighting between the Korean People's Democratic Republic (hereinafter called North Korea) and the Republic of Korea (hereinafter called South Korea) broke out on 25th June, 1950, there has been a full stream of information—understandably so, as the South Koreans have been assisted actively by troops of many countries of the United Nations. Soldiers of the Chinese People's Central Republic have aided the North Koreans since November.



B-26 Invader

The increasing use of aeroplanes in modern warfare, especially in tactical rôles, has been well illustrated in Korea. Some strategic bombing has been carried out, but the bulk of the attacks have been made by single-engined aircraft. Leaflet-dropping has been practised, mainly by the United Nations side.

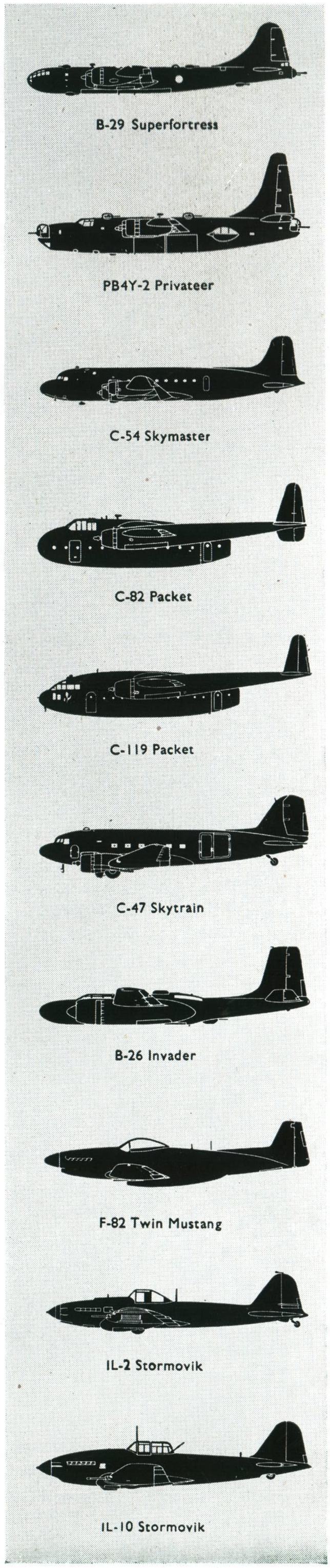
The air fighting began with both sides having air forces at their disposal, and until United Nations air strength was built up, North Korean aircraft were active over a wide area. After the end of July only very few North Korean aeroplanes were seen. The North Korean air force was claimed to have been reduced to about 15 aeroplanes by the end of August, roughly 10 per cent. of the total of 183 said, by a North Korean pilot who defected early in the war, to have constituted the air force.



F-82 Twin Mustang

The air force of the South Koreans, which consisted of 10 North American T-6s and some Stinson L-5s, was apparently largely destroyed on the ground at the beginning of the war. It was revived by the transfer from the U.S.A.F. in Japan of 10 F-51s. For a while these were flown by U.S.A.F. pilots, but later, Koreans flew them. One was Colonel Li Kum Suk, senior pilot of the South Korean air force, who dived his F-51 into an enemy tank column after his ammunition had been expended. Lt. Chong Yong Chin was the first South Korean pilot chosen to fly a mission over enemy territory. But on one take-off in September his F-51 skidded into the Yellow Sea and he was drowned.

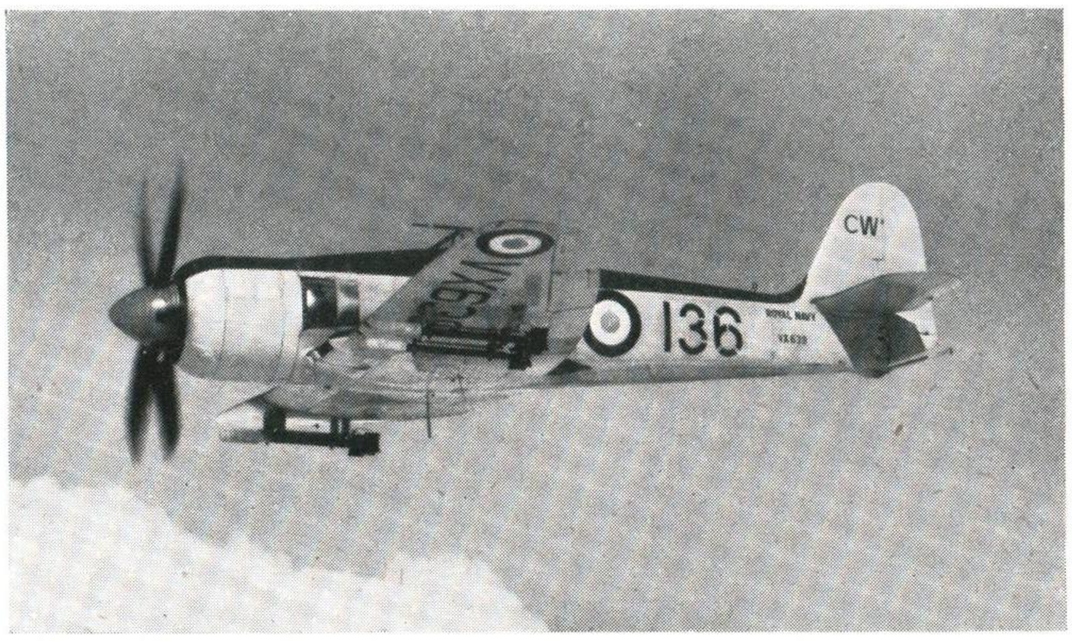
In the first few months of the war, most of the North Korean aeroplanes made strafing and bombing attacks on United Nations troops, ships and aerodromes. In spite of a general superiority of the United Nations in the air, the large Northern armies were able to make rapid advances, especially by virtue of their initial superiority in AFVs. For some weeks there was small-scale air fighting but according to American communiqués no United Nations aeroplane losses were due to enemy aircraft, although the enemy light Ack-Ack seemed to be quite effective, and a number of United Nations aeroplanes were destroyed on the ground at various airfields. However, pilots Kim Gi Ok and Li Mun Sun were made Heroes of the North Korean Republic for allegedly shooting down 4



Firefly FR Mk.4

of 10 United States aircraft in one engagement. Perhaps their claims were premature and too hastily accepted.

Detailed identifications of the aeroplane types used by the North Koreans are scanty, at least where they can be relied upon, but IL-10s and a sub-type of YAK-9 (possibly YAK-9P) are definitely known to have been in use. Probably there were LA-7s, IL-2s, Bell P-63 Kingcobras, a small number of twin engine aeroplanes, and perhaps earlier



Seafury FB Mk.11

Yakovlev fighters. Less certain are unconfirmed reports of North American F-51 Mustangs, an SU-2, and—once—YAK-15s.

The United Nations forces have used the B-29 Superfortress, Douglas B-26 Invader, F-82 Twin Mustang, F-80 Shooting Star, F-51 Mustang, C-47 Skytrain, C-54 Skymaster, C-119 Packet, L-5 Sentinel and probably the C-82 Packet. There has been some patrolling by PB4Y Privateers and rescue missions by HO3S-1s (Sikorsky S-51 helicopters), and the

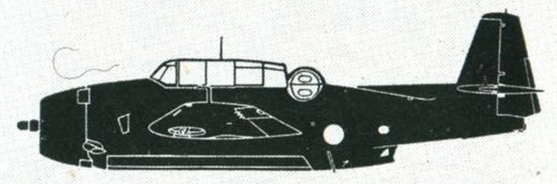


An F-51 Mustang, carrying napalm bombs, photographed on a Korean airstrip.

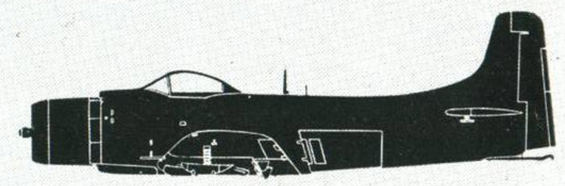
United States Navy has hit hard with carrier aeroplanes. The following types have been said to be based on the USS " Valley Forge" (CV-45) ; F8F Bearcat, F9F Panther, TBM-3 Avenger, AD Skyraider, F4U Corsair. Australia's No. 77 Squadron has fought hard with Mustangs, and South Africa arranged to send Vampires. Greece has released 8 military DC-3s (4 of them ambulances) and the United Kingdom has been in action with Seafires, Fireflies and Sea Furies, from the light fleet carrier HMS *Triumph*.

On 3rd July the R.A.A.F. and U.S.A.F. made over 100 sorties, and over 60 flights were made from Japan with transport aeroplanes with supplies. Two days later over 160 operational sorties were made. On 20th July, 70 fighter sorties and 16 B-26 sorties by the United States 5th Air Force resulted in the claimed destruction of 14 enemy fighters and one twin-engine bomber. The longer duration and generally high manœuvrability of the F-51 compared with that of the F-80 gave it a favoured position for aerial combat against the conventional type fighters of the enemy. Rockets were used by aircraft of both sides. The United States aircraft fired " Tiny Tims " of $11\frac{3}{4}$ in., and the " JCS Smasher "—a tankbuster of $6\frac{1}{2}$ in. calibre. Up to 24th July, United Nations aeroplanes had made 20,000 sorties. Later in the war, the number of daily sorties increased tremendously. In the Inchon landing, 350 aircraft gave support ; on 24th September, land-based aeroplanes made 728 sorties.

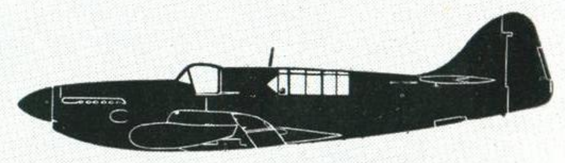
This period was marked in the land fighting by the regaining of lost ground, and although the United Nations troops had almost been expelled from Korea



TBM-3 Avenger



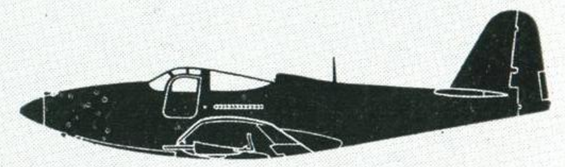
AD-2 Skyraider



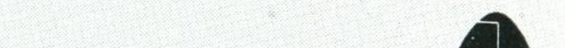
Firefly FR Mk.4



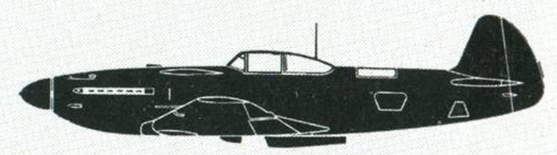
F-51D Mustang



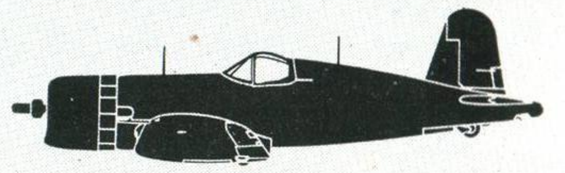
F-63 Kingcobra



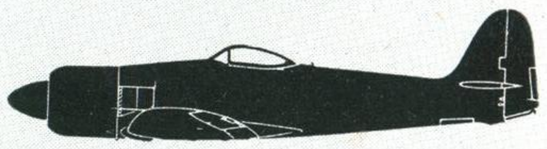
Seafire FR Mk.47



YAK-9P



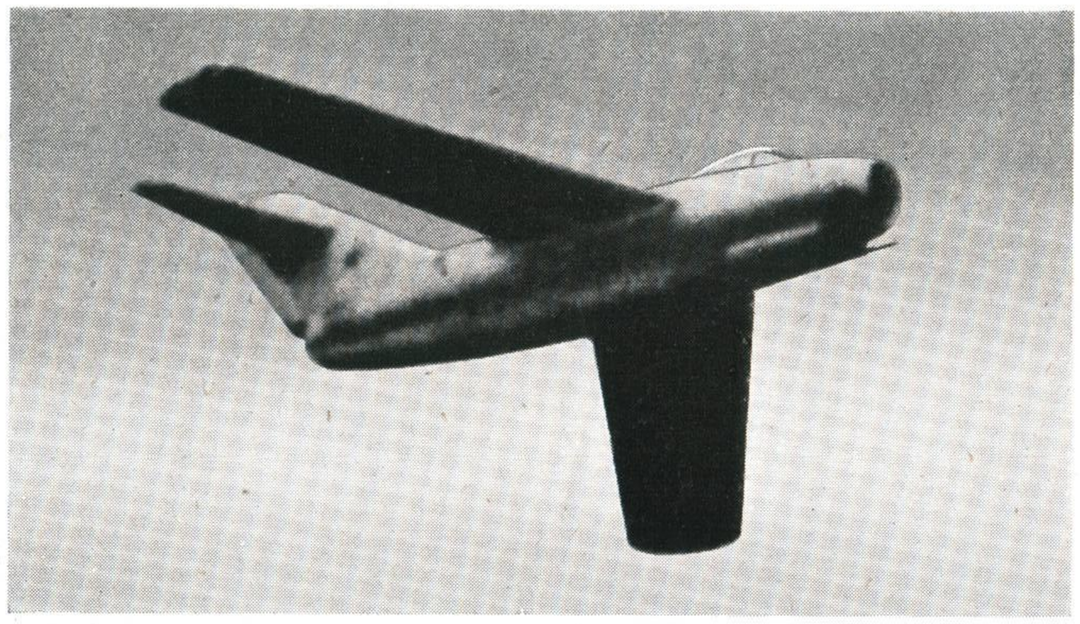
F4U-4 Corsair



Seafury FB Mk.11

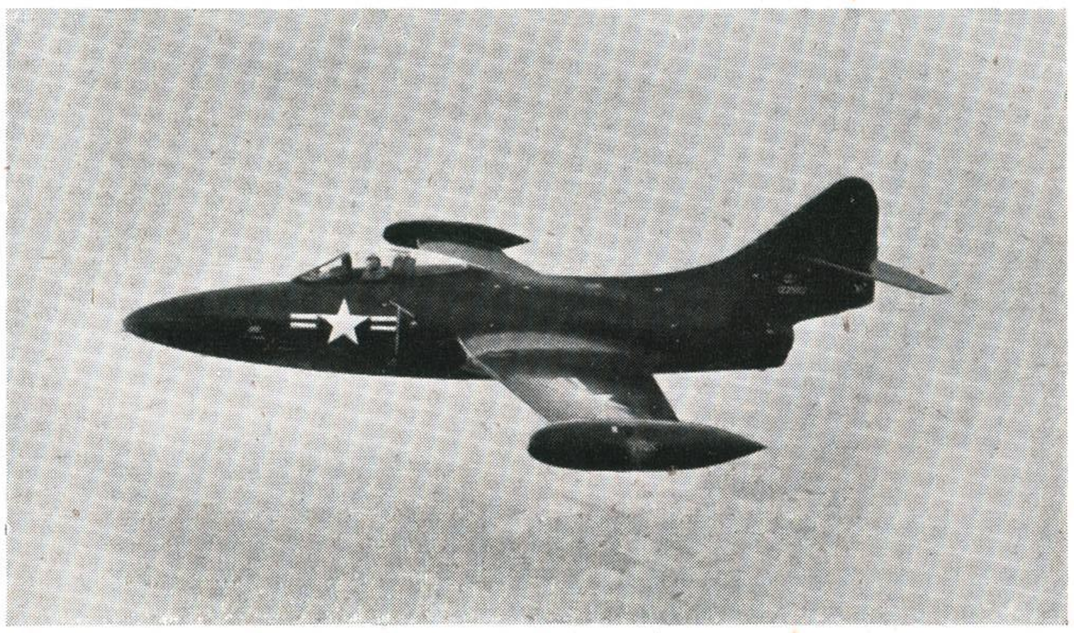


LA-7



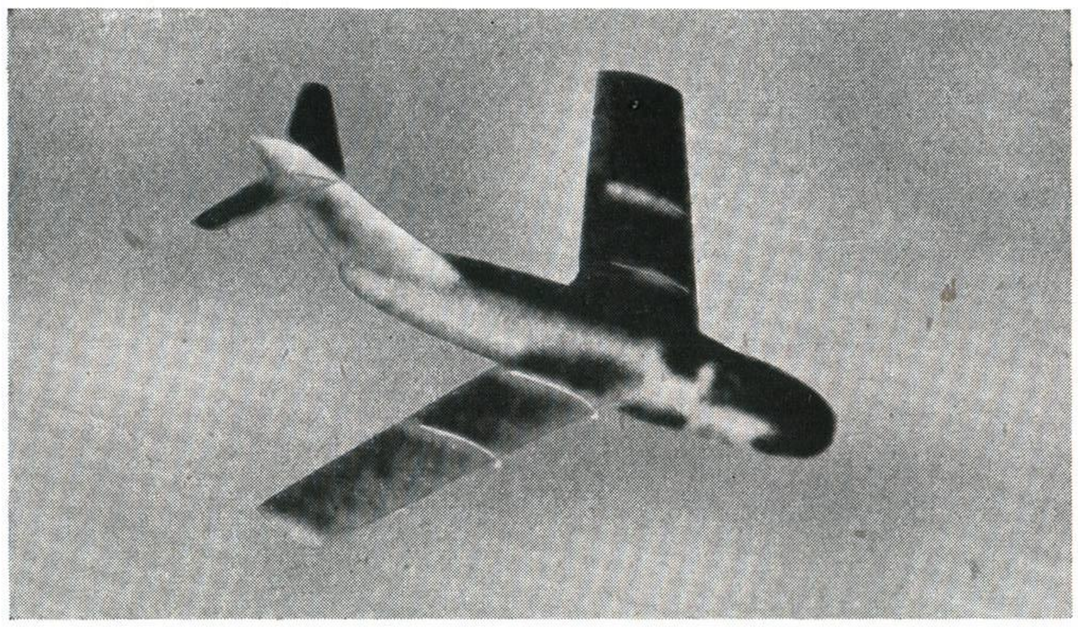
MIG-15

in July, Seoul was retaken in mid-September and Pyongyang a month later. At that time, however, North Korean Army communiqués still reported raids by their aeroplanes. A noteworthy use of transport aeroplanes occurred on 20th October, 1950, when about 80 C-54s and C-119s dropped 4,100 paratroops some 20 miles north of Pyongyang. They flew from Kimpo at Seoul. Soon after, the North Korean Army was smashed and United Nations troops advanced almost to the Yalu River.



F9F Panther

But in November a dramatic change occurred in the situation. Many troops of the Chinese Central People's Republic appeared, before whom United Nations forces gradually withdrew to the south. Surprises came from the air on 1st November. Yakovlev fighters were still being encountered, and these may have been supplied to the North Koreans after the outbreak of war, but on that date six MIG-15s fought F-51s and F-80s over Sonchon. Thereafter,



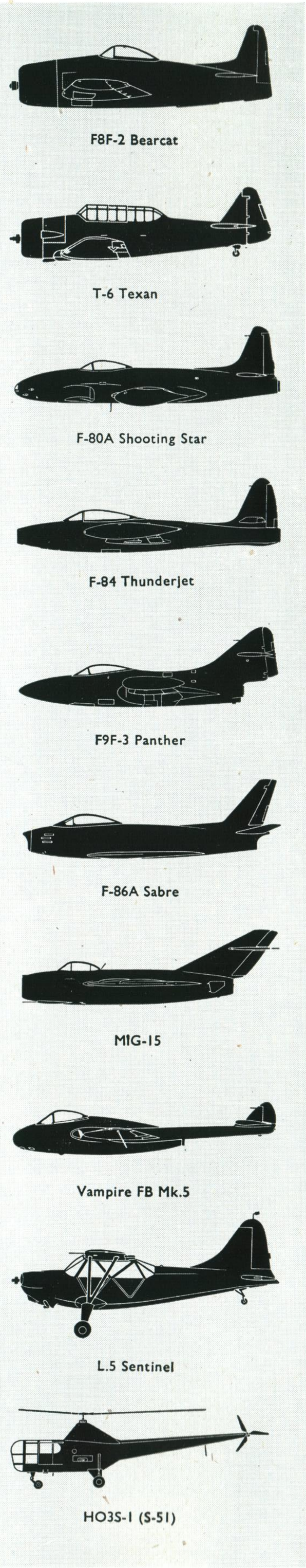
MIG-15

many small groups of MIG-15s were seen, and they always flew back to Manchuria. They are probably not North Korean, and may belong to China or the U.S.S.R. Lt. Russell Brown, U.S.A.F., flying an F-80, shot down a MIG-15 on 8th November. Two days later a MIG-15 shot down a B-29. The United Nations air effort continued, but reports of MIG-15 and other enemy air activity have persisted. On 30th November, North Korean aircraft were reported to have dropped leaflets on the battle zones, calling on U.S. troops to cease fighting.

In December, 1950, the United Nations forces made a retreat towards the 38th parallel of latitude and at the time of writing the situation is fairly quiet. On 13th December F-84s were in action and on the 18th F-86s again shot down an MIG-15.

The main picture of the air war is seen to be the gradual attrition of the North Korean air force, the build-up of the United Nations offensive, and the most recent appearances of the MIG-15. The future of the air war is quite problematical.

Other branches of the services have often been mentioned, but cannot be discussed fully here. Both North and South Korean naval forces were small, but carried out a few operations at the commencement of the war. The AFVs used by North Korea have included many T-34/85, SPGs on modified T-70 chassis (S.U. 76), and at least one type of armoured car the B.A. 64. United Nations forces have used "Chaffee", "Sherman", "Patton", "Pershing" and "Centurion" tanks, and the United States Marines have some amphibious tractors.



F8F-2 Bearcat

T-6 Texan

F-80A Shooting Star

F-84 Thunderjet

F9F-3 Panther

F-86A Sabre

MIG-15

Vampire FB Mk.5

L.5 Sentinel

HO3S-1 (S-51)

CHARACTER STUDY No. 13

The De Havilland Venom FB Mk. 1

THE De Havilland Venom is the most aggressive looking insect yet committed to the air. With its nose down attitude, searching for prey, it gives an impression of swift darting movement and dexterous manœuvrability. It is an aircraft where all the "visual weight" is concentrated about wings and nacelle, with its twin booms and tail inviting the sense of having sprouted out rearwards. The Venom (like its predecessor) is not only manœuvrable in fact, but is visually more manœuvrable than any other aircraft. This is caused by the twin booms, which convey the slightest lateral movement by their relative positions, and by the tail-plane. The latter, delicately supported by the booms, is in a similar relation to the main planes, and their relative movement gives instant evidence of fore and aft movement.

The wings, unlike the Vampire species, are strongly tapered on the leading edge and straight on the trailing edge—and the dihedral is moderate but very noticeable. This, incidentally, combines to suggest overall sweep-back from some views. The deep roots covering the engine intakes produce a marked crank-wing appearance from above and below, and the light reflection can make this effect very marked. Tips are straight cut with unusually slender tip-tanks. Also very evident are the prominent fillets making a web-footed look between nacelle and booms at the trailing edge.

The fuselage is a rounded pod-like nacelle, longer and a little more cumbersome than that of its parents, and with a distinctive plan-view thickening aft, due to the fillets. A peculiar feature of the nacelle is its nose, which is more slender than the rest of the structure especially from side and three-quarter views.

The booms are thin poles sprouting boldly out of the wings more than half way towards the leading edges. They stand out across the wings, both top and underside, and make very distinct shadow patterns.

The booms end in thickened structures which are bridged by the tailplane with its rounded projections thrust out beyond the fins and rudders. The latter are small triangular " round pointed " affairs ending flush with the tailplane trailing edge.

The Venom is the second basic variation of distinguished forebears and first flew in 1949. It is to go into service with the Royal Air Force and its basic dimensions are as follows :—

Span: 41 ft. 9 ins.

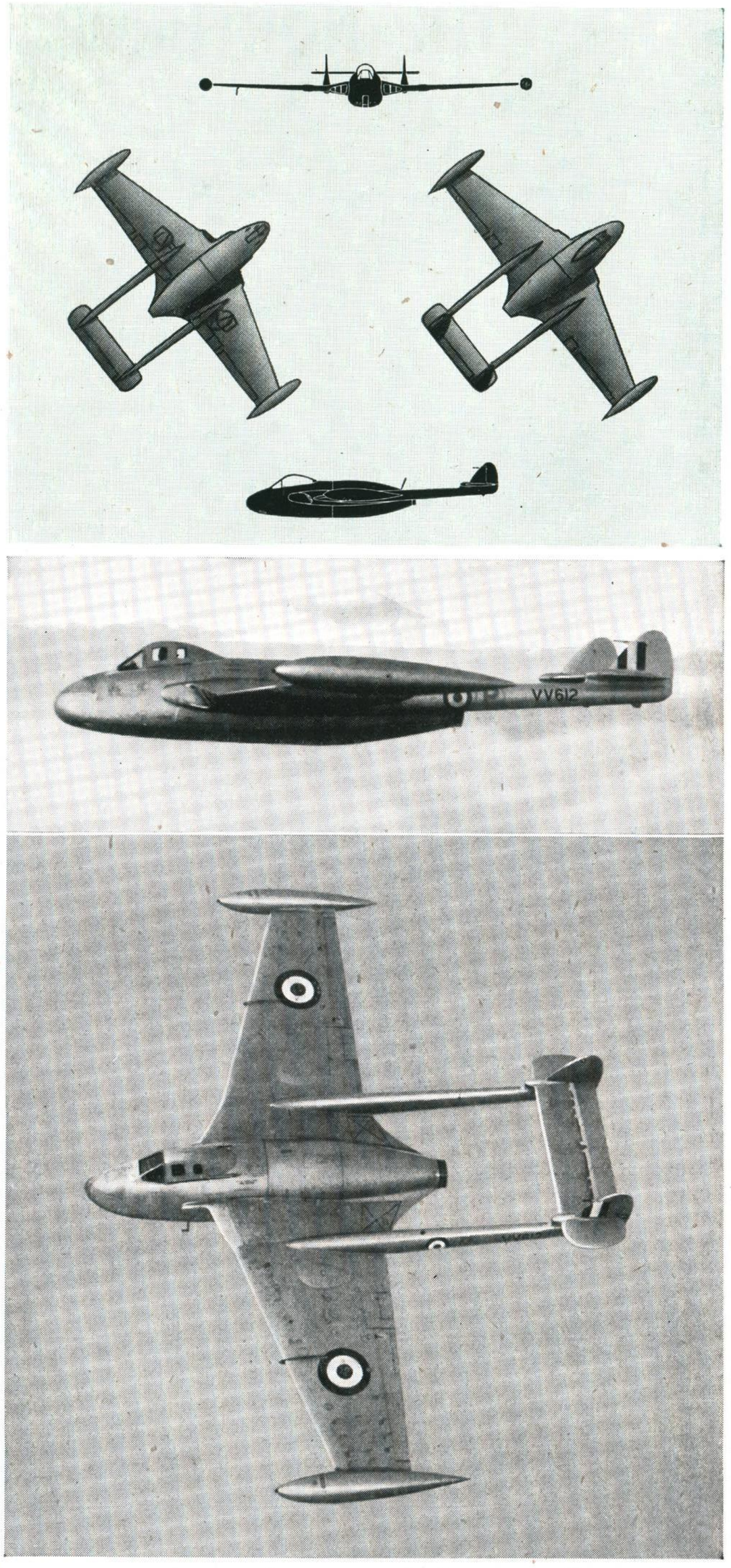
Length: 31 ft. 5 ins.

Engine: One Ghost 2 turbojet.

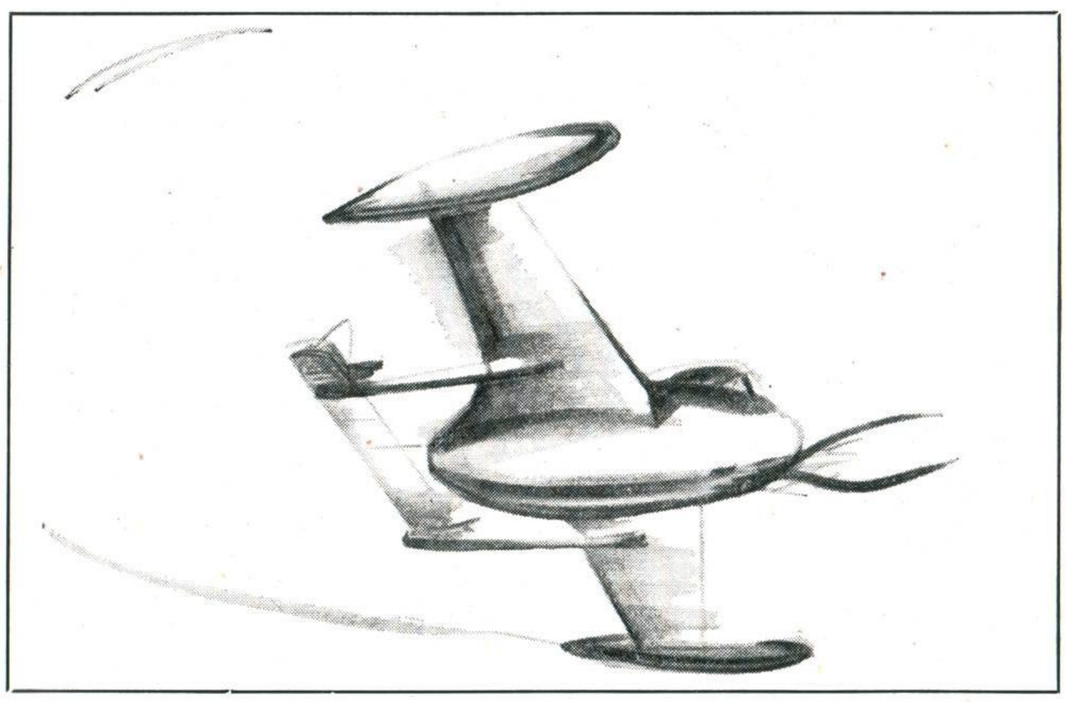
Function: Fighter-bomber.

Maker: De Havilland.

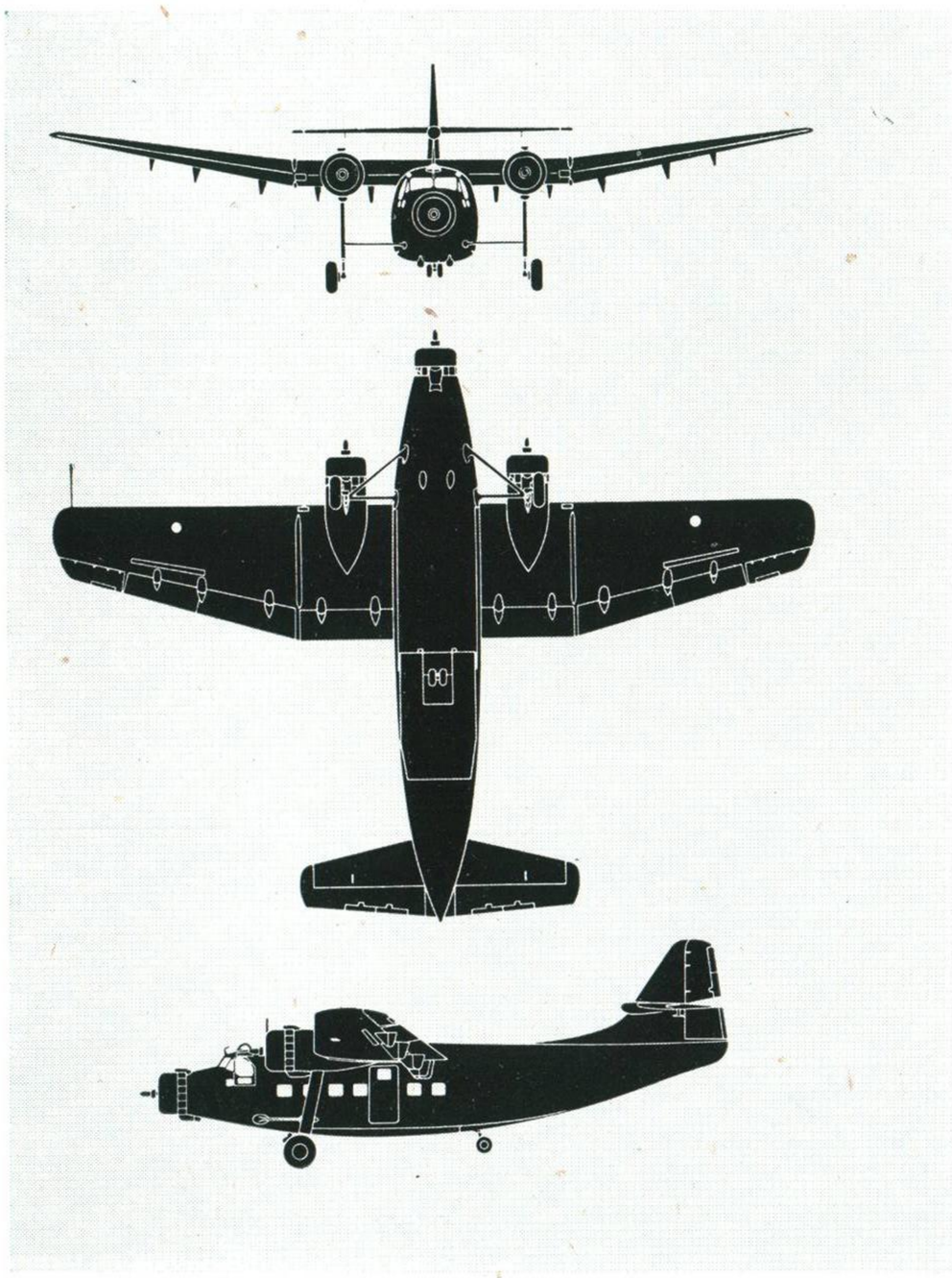
C. H. GIBBS-SMITH



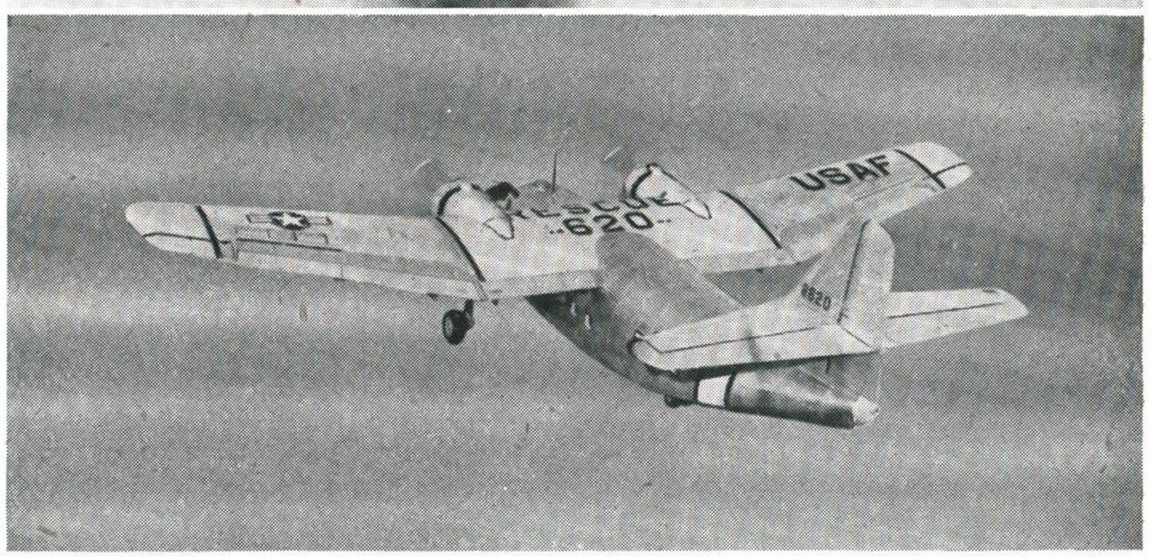
". . . most aggressive looking insect "



THE NORTHROP RAIDER IN SERVICE



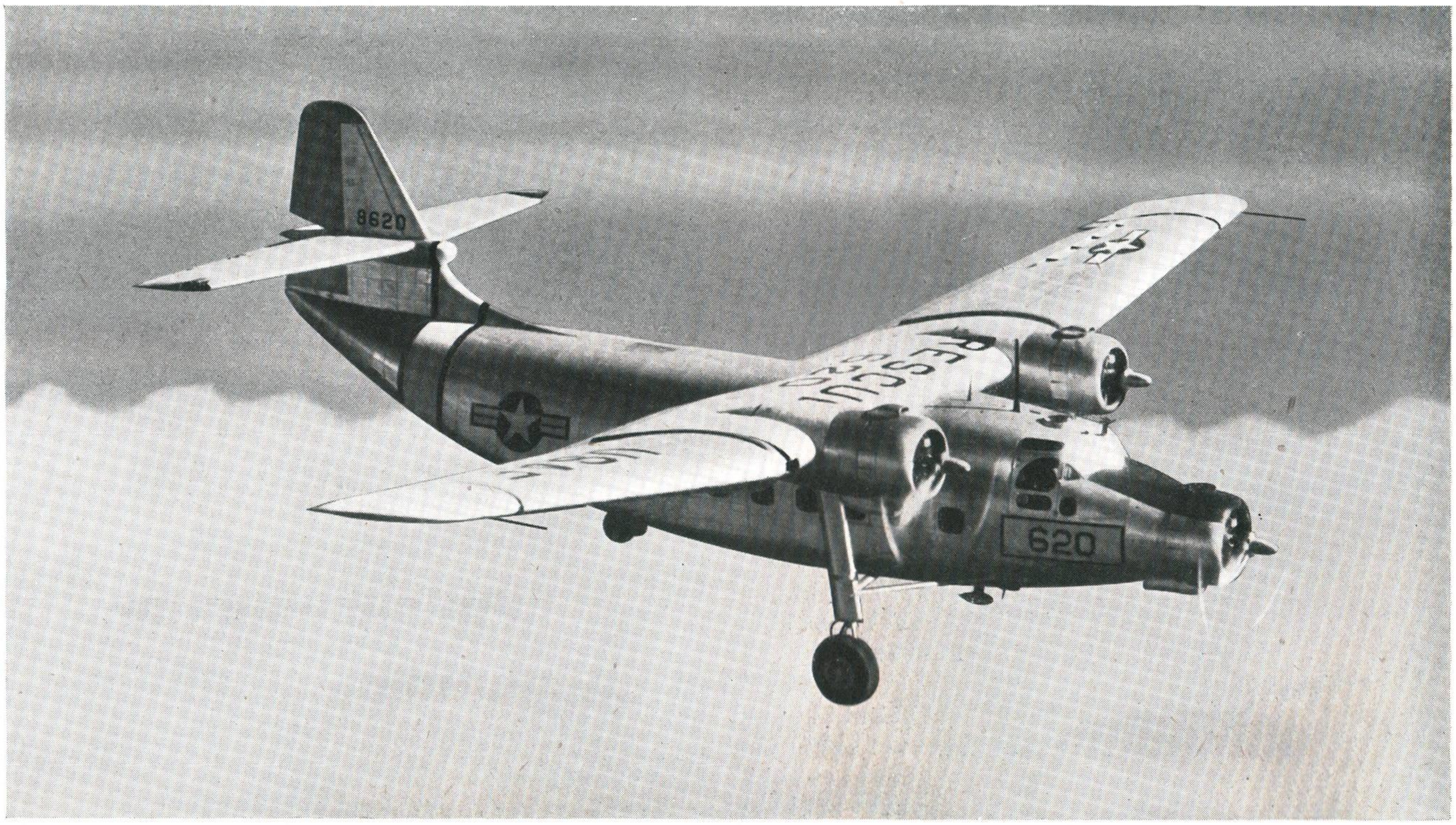




Engines: 3 Wright Cyclone radials

This version (C-125B) of the Northrop Raider is intended for Arctic rescue, and can be fitted with wheel skis to permit landings on runways or on snow. The C-125A Raider transport model of the same aircraft is designed for carrying heavy loads in and out of small improvised clearances, and, assisted by six external JATO rockets in the sides of the fuselage, has a short-field take-off of 500ft. Numbers of both models are on order for U.S.A.F.

Span : 87ft. Length : 67ft. 1in.



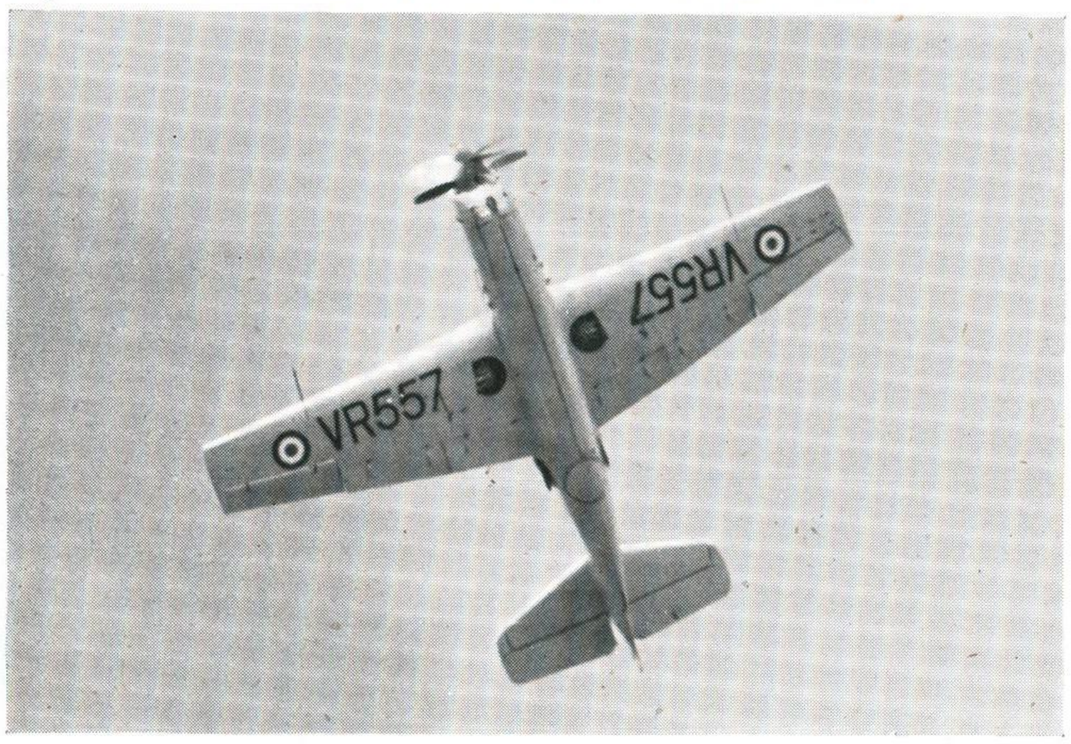
NEWS AND VIEWS

Without Comment

Black and white identification stripes are being used on Hawker Seafuries operating in the Korean areas.

Fairey 17

It is now confirmed that an order has been placed for the production of the Fairey 17 anti-submarine aircraft. We expect to feature this aircraft in the *Journal* soon.



Douglas XF-4D

The new Douglas XF-4D high-altitude fighter designed for emergency interception from aircraft carriers has made its first flight. The aircraft, which is powered by a Westinghouse turbo-jet is said to have an exceptional rate of climb, although duration is said to be somewhat restricted. The XF-4D is a delta-wing type with root intakes, and an unusual " dog-tail " fin.

Tornados

A small number of North American RB-45C Tornados have recently visited this country. The RB-45C carries " finned " wing-tip tanks and differs from the B-45A and C in that it has a " solid " banana-shaped nose to house its special reconnaissance equipment. A photograph of the B-45C version appears on the centre-spread of this edition.

Stratotanker

The Boeing KC-97A Stratofreighter has now been fitted with modified flying-boom type of refuelling equipment similar to that already mentioned in the July, 1950, *Journal* for the Boeing KB-29P. The Stratofreighter is shown here refuelling a B-50D. With tanks removed Stratofreighters can carry 135 fully-equipped troops, 68,000 lb. of freight or various trucks, jeeps or artillery weapons.

Canberra in U.S.

The advent of the Canberra in the United States has been electric. A standard Canberra B.2 was flown to America via Aldergrove, non-stop to Gander, thence to Wright Patterson a.f.b. for evaluation by U.S.A.F.

Turbo Globemaster

It is reported that a turbo-prop version of the Douglas C-124A Globemaster 2 is under development. The prototype is designated the YC-124B. Three Globemaster 2s were recently seen in this country when they formed an advance party bringing spares for the maintenance of a visiting force of six Convair B-36Ds.

Automatic Pilot

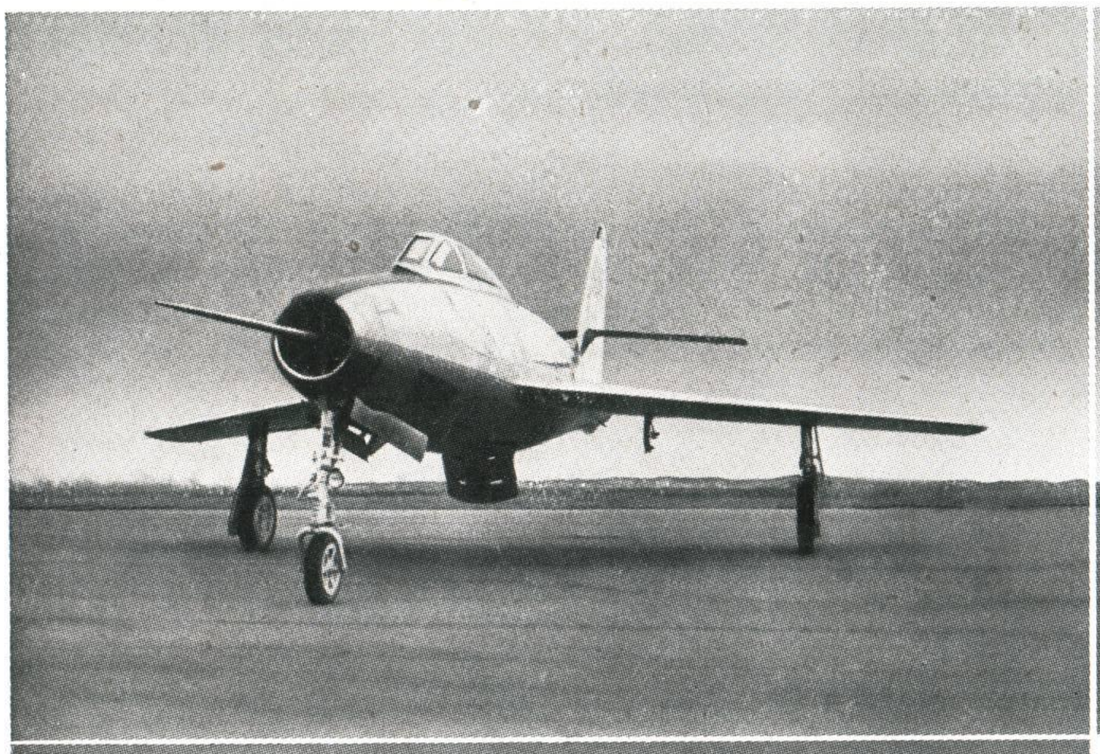
Two pairs of hands form visual proof that this Piasecki XHJP-1 helicopter is hovering under the control of an automatic gyro-pilot. Such feats should prove most valuable in rescue operations and in many other manœuvres for which helicopters are expected to be used.

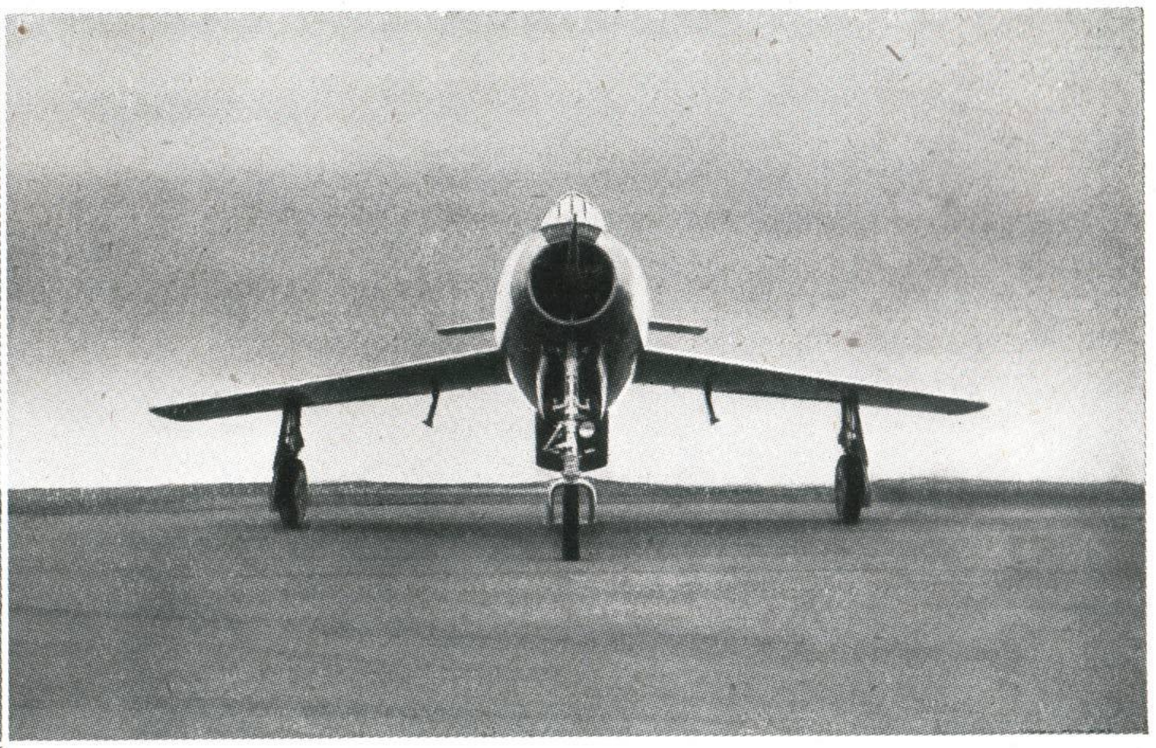


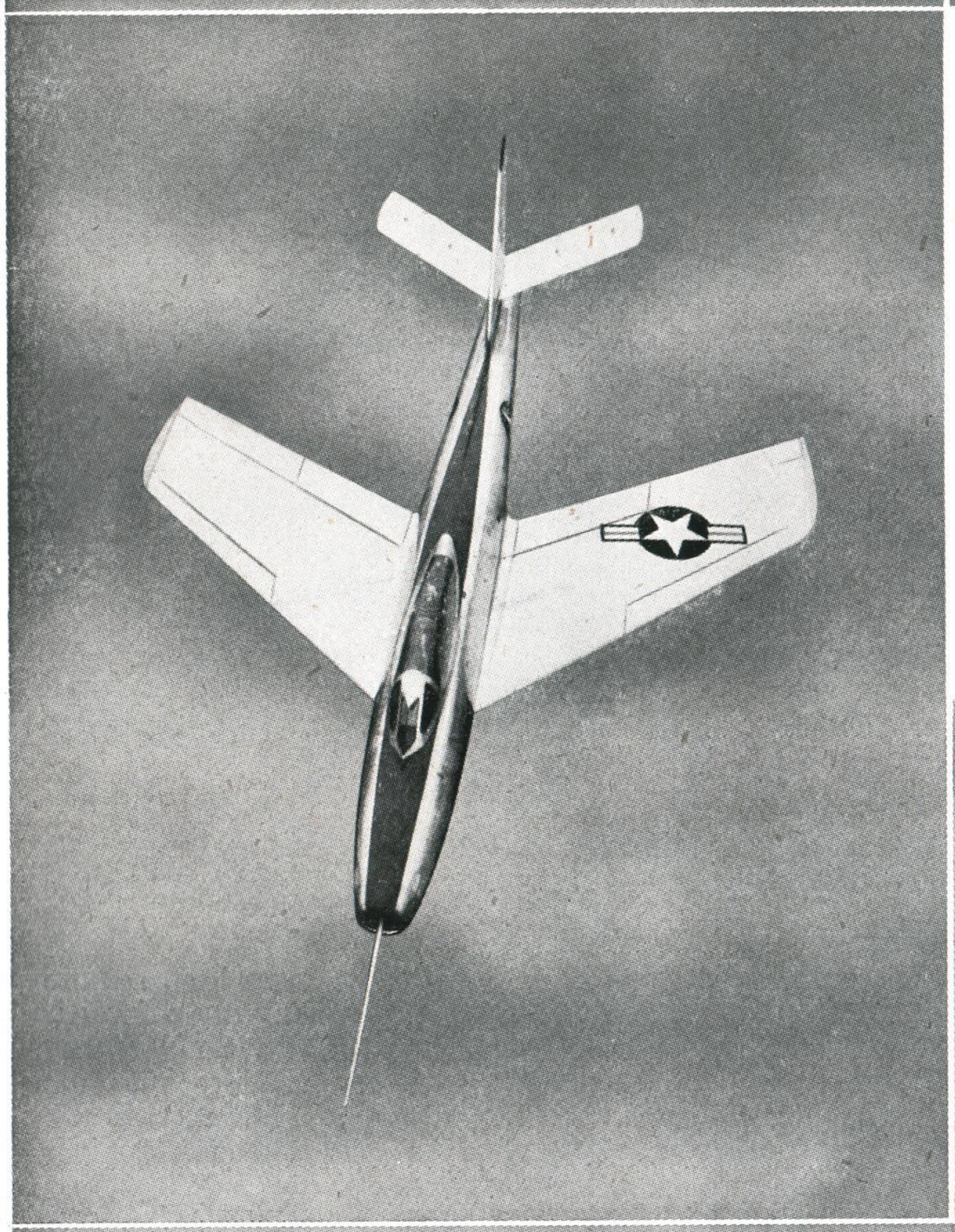
Armagnac

Fifteen SE.2010 Armagnac 4-engined transport aircraft are on order. It is reported that some of these will be for Air France. The Armagnac is powered by four Pratt and Whitney piston engines and might be compared visually with the Handley Page Hermes IV. The Armagnac, however, is one of the few four-engined types of its class with a mid-wing, which should facilitate head-on identification.

THE REPUBLIC F-84F ON TEST





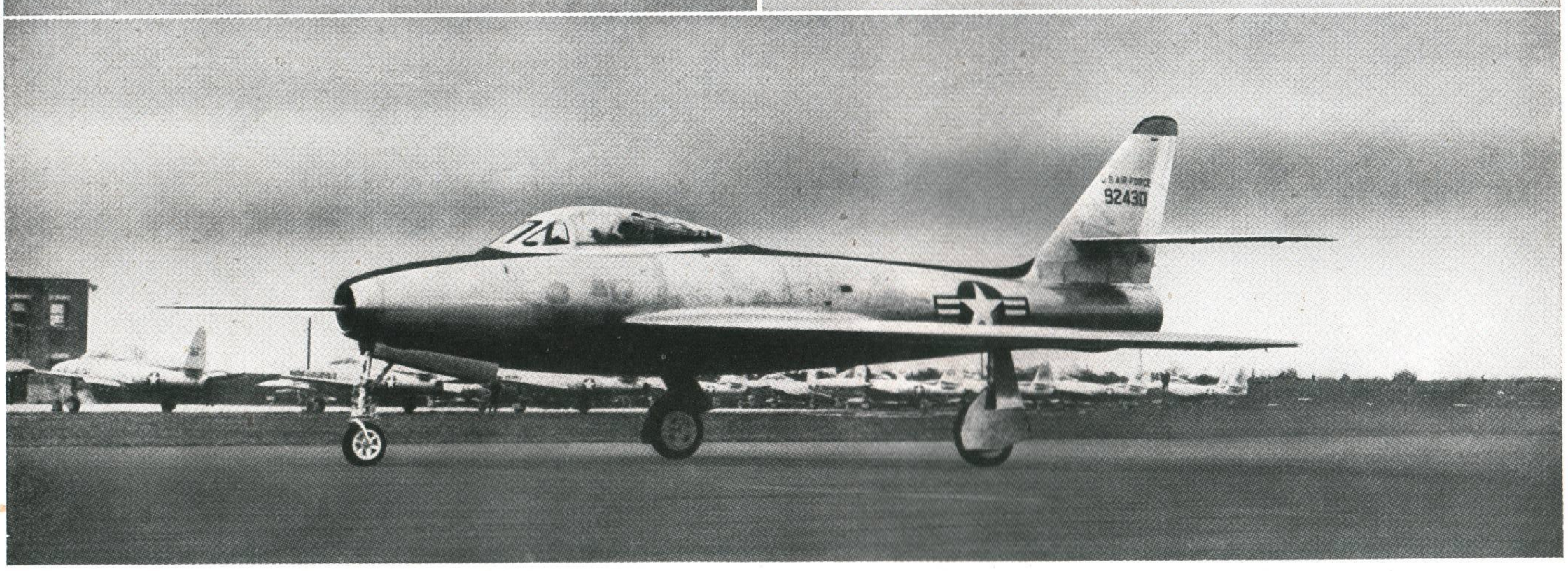


Engine: 1 Allison turbojet

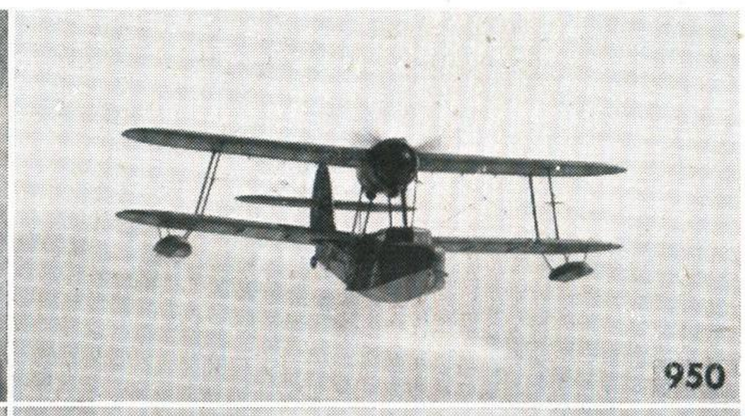
Swept wings of the Republic F-84F (ex. YF-96A) replace the straight wing configuration of the Thunderjet, from which this new variant is derived. Only the fuselage retains its familiar "thunderbottle" shape. No details of armament are available, but the F-84 Thunderjet predecessor to the new fighter carries six ·5 machine guns and can fire formidable combinations of rockets.

Span : 34ft. approx. Length : 38ft. approx.






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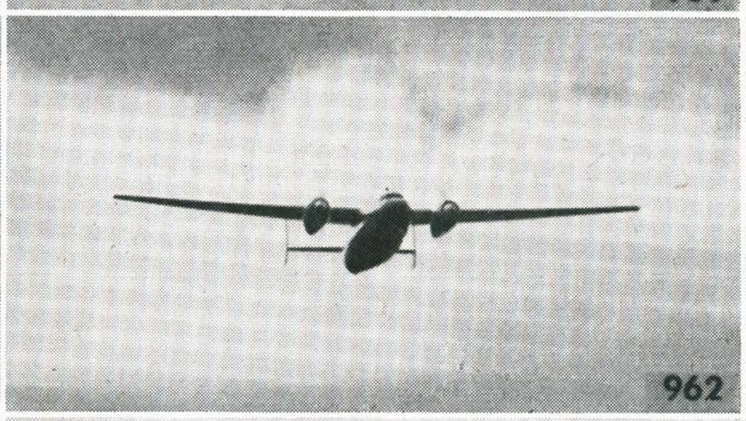

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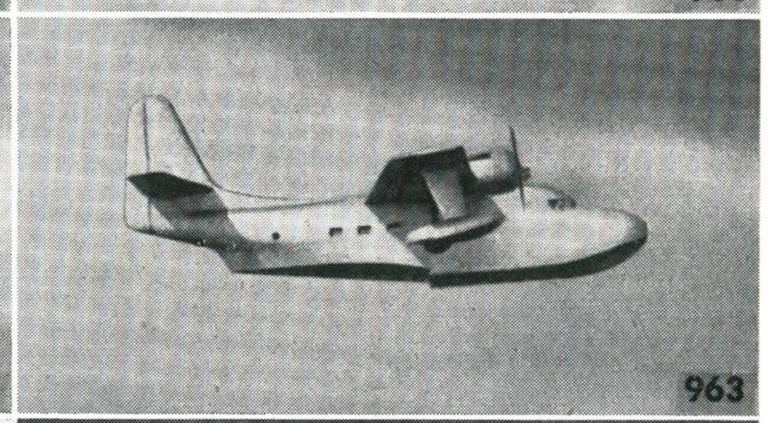

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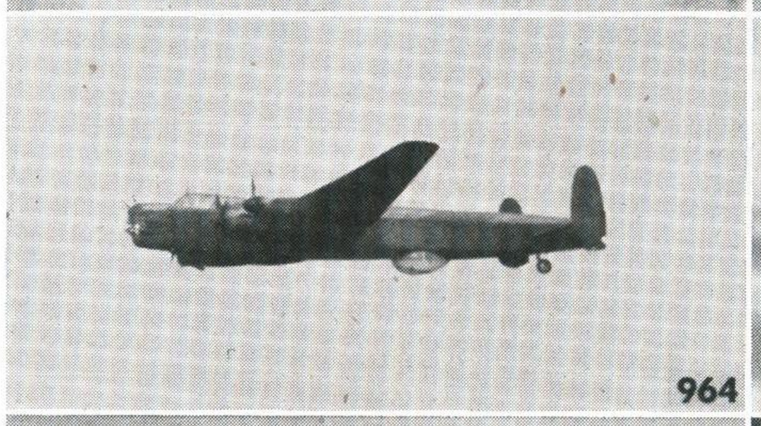

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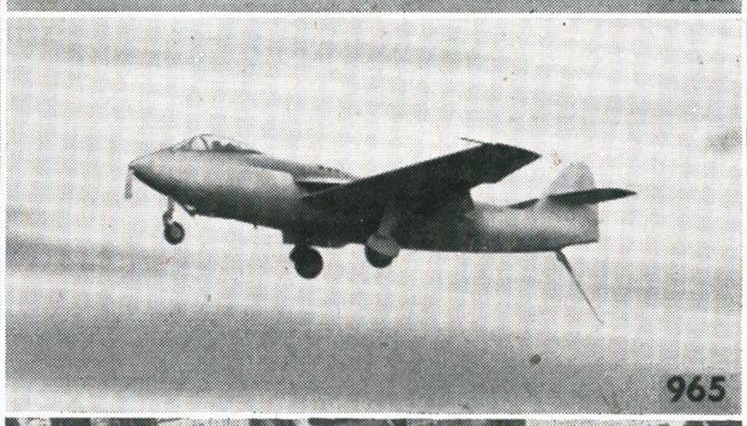

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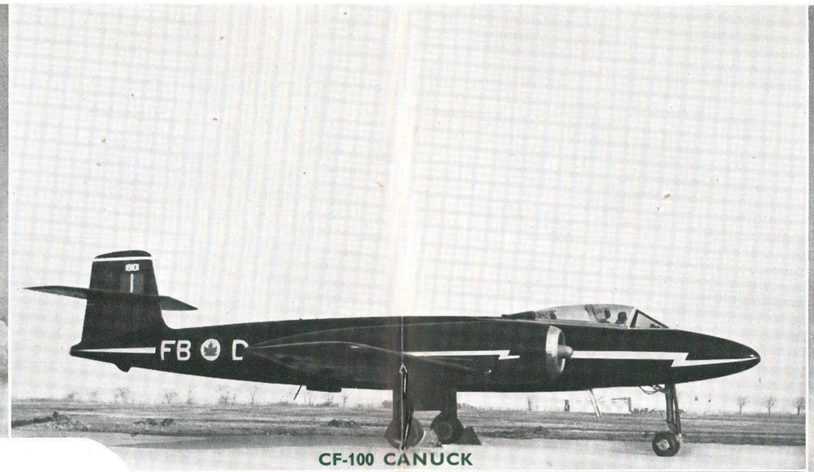

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ELEMENTARY SPOTTING



STRATOCRUISER

Aircraft



CF-100 CANUCK



C-124 GLOBEMASTER 2



F-51D MUSTANG



B-45C TORNADO



B-26B INVADER

in the News



F8F BEARCAT



B-50D SUPERFORTRESS



CONVAIR L-13



American Aircraft Designations

The list of designations published in the September/October *Journal* is superseded by the following :—

Designation	*Name*	*Type*
AD-1	Skyraider	Single-engine attack-bomber
AF-1	Guardian	Single-engine attack
AJ-1		Twin-engine (plus one turbojet) attack-bomber
AM-1	Mauler	Single-engine attack-bomber
B-17	Fortress	Four-engine bomber
B-25	Mitchell	Twin-engine bomber and trainer
B-26	Invader (Ex-A-26)	Twin-engine attack-bomber
B-29	Superfortress	Four-engine bomber
B-45	Tornado	Four (in pairs) engine jet bomber
B-47	Stratojet	Six (two pairs and two singles) engine jet bomber
B-50	Superfortress	Four-engine bomber
C-45	Expediter	Twin-engine transport
C-46	Commando	Twin-engine transport
C-47	Skytrain (DC-3 Dakota)	Twin-engine transport
C-54	Skymaster (DC-4)	Four-engine transport
C-74	Globemaster	Four-engine transport
C-82	Packet	Twin-engine twin-boom transport
C-97	Stratofreighter	Four-engine transport
C-118	DC-6	Four-engine transport
C-119	Packet	Twin-engine twin-boom transport
C-121	Constellation	Four-engine transport
C-124	Globemaster2	Four-engine transport
C-125	Raider	Three-engine transport
F-47	Thunderbolt	Single-engine fighter
F-51	Mustang	Single-engine fighter and fighter-bomber
F-80	Shooting Star	Single-engine jet fighter
F-82	Twin Mustang	Twin-engine twin-fuselage fighter
F-84	Thunderjet	Single-engine jet fighter
F-86	Sabre	Single-engine jet fighter
F-89	Scorpion	Twin-engine (under fuselage) jet fighter
F3D-	Skyknight	Twin-engine (under fuselage) jet fighter
F6F-	Hellcat	Single-engine fighter
F7F-	Tigercat	Twin-engine fighter
F8F-	Bearcat	Single-engine fighter
F9F-	Panther	Single-engine jet fighter
FH-	Phantom	Twin-engine (wing roots) jet fighter
F2H-	Banshee	Twin-engine (wing roots) jet fighter
FJ-	Fury	Single-engine jet fighter
F4U-	Corsair	Single-engine fighter
F6U-	Pirate	Single-engine jet fighter
F7U-	Cutlass	Twin-engine tailless jet fighter
HRP-	Rescuer	Tandem rotor helicopter
HUP-	Retriever	Tandem rotor helicopter
JRM-	Mars	Four-engine transport flying-boat
PBM-	Mariner	Twin-engine patrol-bomber flying-boat
P4M-	Mercator	Twin-engine (plus two turbojets) patrol
P2V-	Neptune	Twin-engine patrol-bomber
PBY-	Catalina	Twin-engine reconnaissance flying-boat
PB4Y-	Privateer	Four-engine patrol-bomber
RB-26	Invader	Twin-engine reconnaissance
RB-29	Superfortress	Four-engine reconnaissance
RB-50	Superfortress	Four-engine reconnaissance
RF-51	Mustang	Single-engine reconnaissance
RF-61	Reporter	Twin-engine reconnaissance
RF-80	Shooting Star	Single-engine (jet) reconnaissance
R60-	Constitution	Four-engine transport
T-6	Texan (Harvard 2)	Single-engine trainer
T-7	Navigator	Twin-engine trainer
T-11	Kansas	Twin-engine trainer
T-13A	Valiant	Single-engine trainer
T-13B	Kaydet	Single-engine biplane trainer
T-17	Kaydet	Single-engine biplane trainer
T-29	Convair-Liner	Twin-engine transport and trainer
T-33	Shooting Star	Single-engine jet trainer
TBM	Avenger	Single-engine torpedo-bomber

Erratum

It is regretted that the load of the Gloster Meteor F Mk. 8 illustrated on page 24 of the January, 1951 *Journal* was wrongly quoted. The Meteor shown is carrying sixteen 95lb. rocket projectiles not eight as stated.

Misquote

One of the key recognition features of the Meteor NF Mk. 11 is its long tin fuselage.

New Aircraft Recognition Material

LARGE SILHOUETTES

A.D. 4665 Viking 1 B
4743 C-119B Packet.

PICTORIAL CHARTS

A.D. 4653 Vampire FB Mk.5.
4658 F-80 Shooting Star and F-86 Sabre.
4659 F-84 Thunderjet and F9F-2 Panther.
4668 Meteor F Mk.8
4673 B-29 and B-50 Superfortress.
4674 C-69 Constellation and C-54 Skymaster.
4660 F-47D and N Thunderjet.

WORKING DIAGRAMS

A.D. 4654 B-36A.
4655 B-45 Tornado.
4656 B-47 Stratojet.
4695 Canberra B Mk.2.

Navygram



Detail in mob (answer on rear cover).


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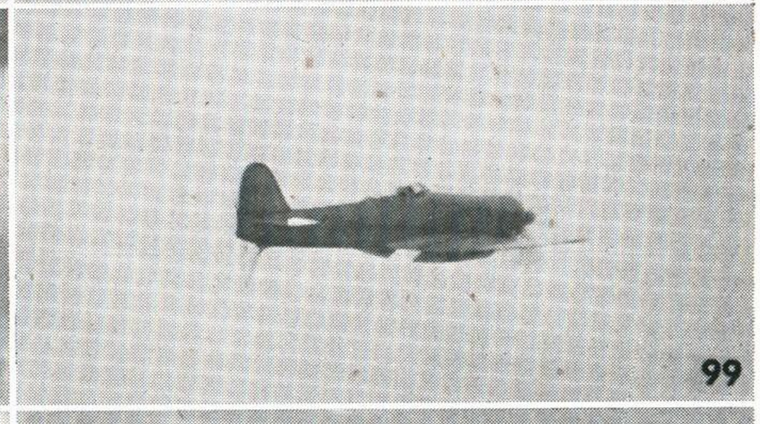

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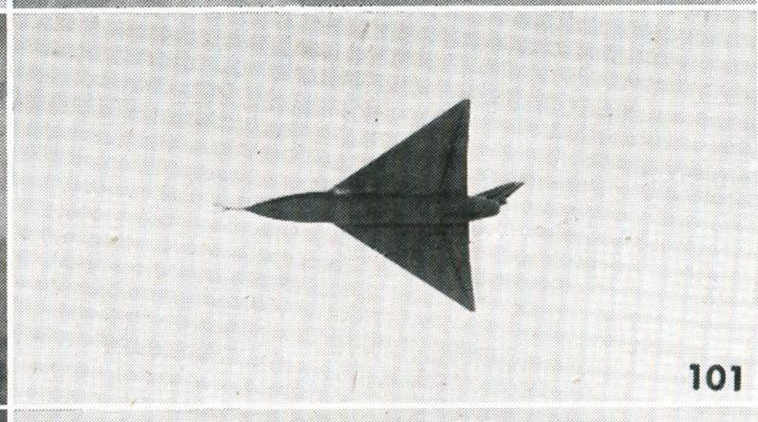

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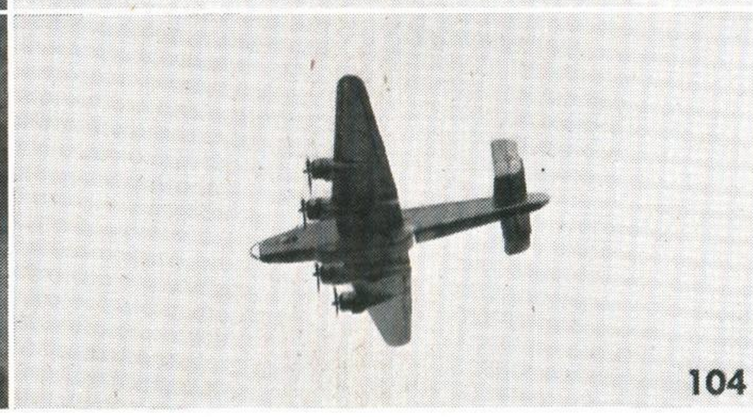

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RUSSIAN BATTLE FORMATIONS

Escort for Ground Attack or Bomber Aircraft

The tactics illustrated below were in force at the end of the War. There is no reason to suppose they have changed since then so far as propeller-driven aircraft are concerned.

ESCORT cover for ground attack aircraft is an important task of Russian fighters and was provided for nearly all ground attack operations. The strength of the escort varied considerably, and depended on such factors as size of ground attack formation, distance to target, expected enemy fighter opposition, weather, etc., but the usual ratio of ground attack aircraft to fighter escort was 1:1. The escorting fighters were usually split into two parts, the immediate escort and the assault group.

Immediate Escort

The immediate escort remained constantly near the ground attack aircraft and flew 300-1,000 feet higher. These fighters entered the battle only when enemy fighters had broken through the forward assault group and were directly menacing the ground attack formation. Over the target they stood by out of Ack-Ack range, ready to resume their original position for the withdrawal flight. Sometimes, however, the immediate escort, in the absence of enemy fighters, would attack ground targets themselves with their own armament.

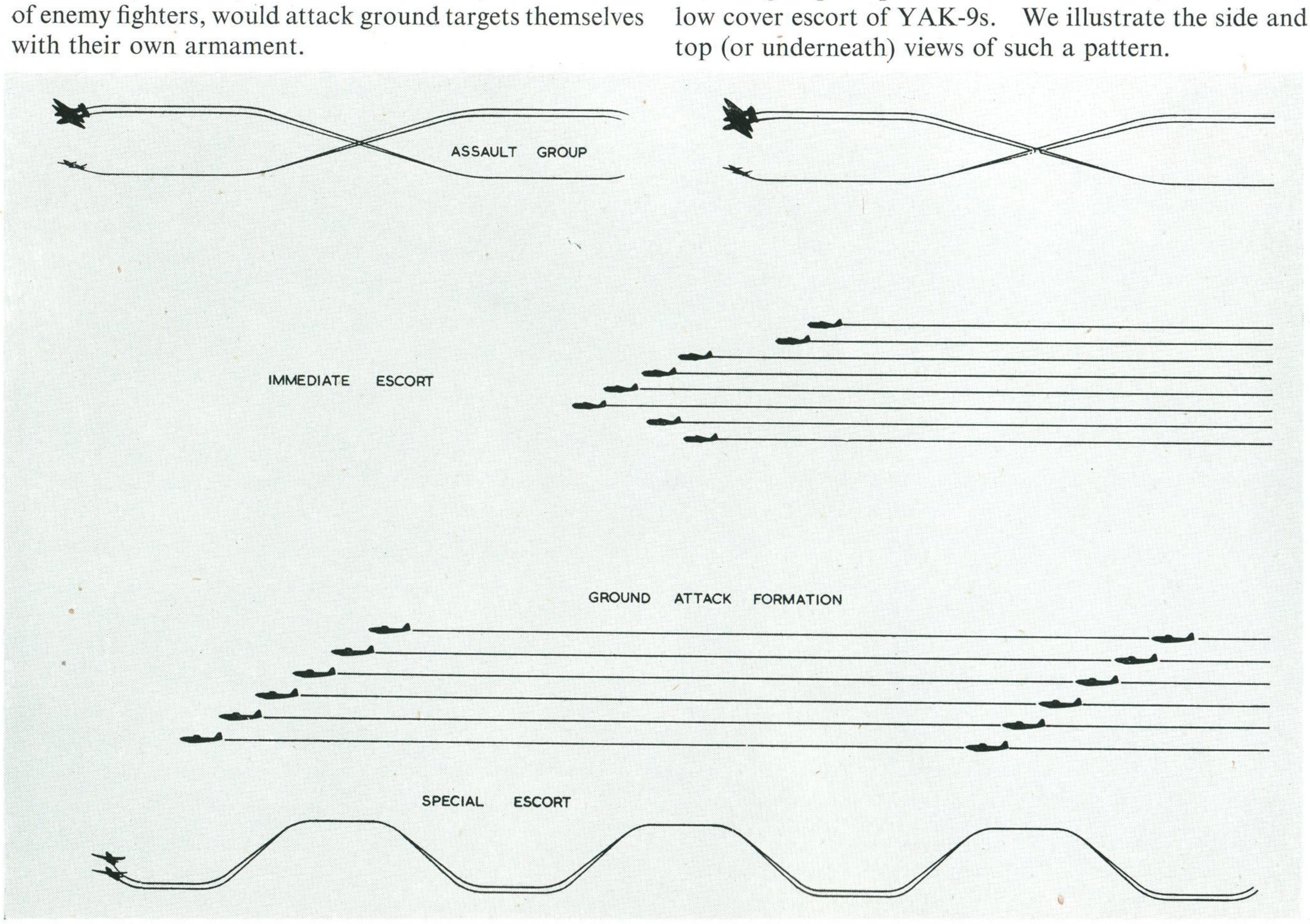
Assault Group

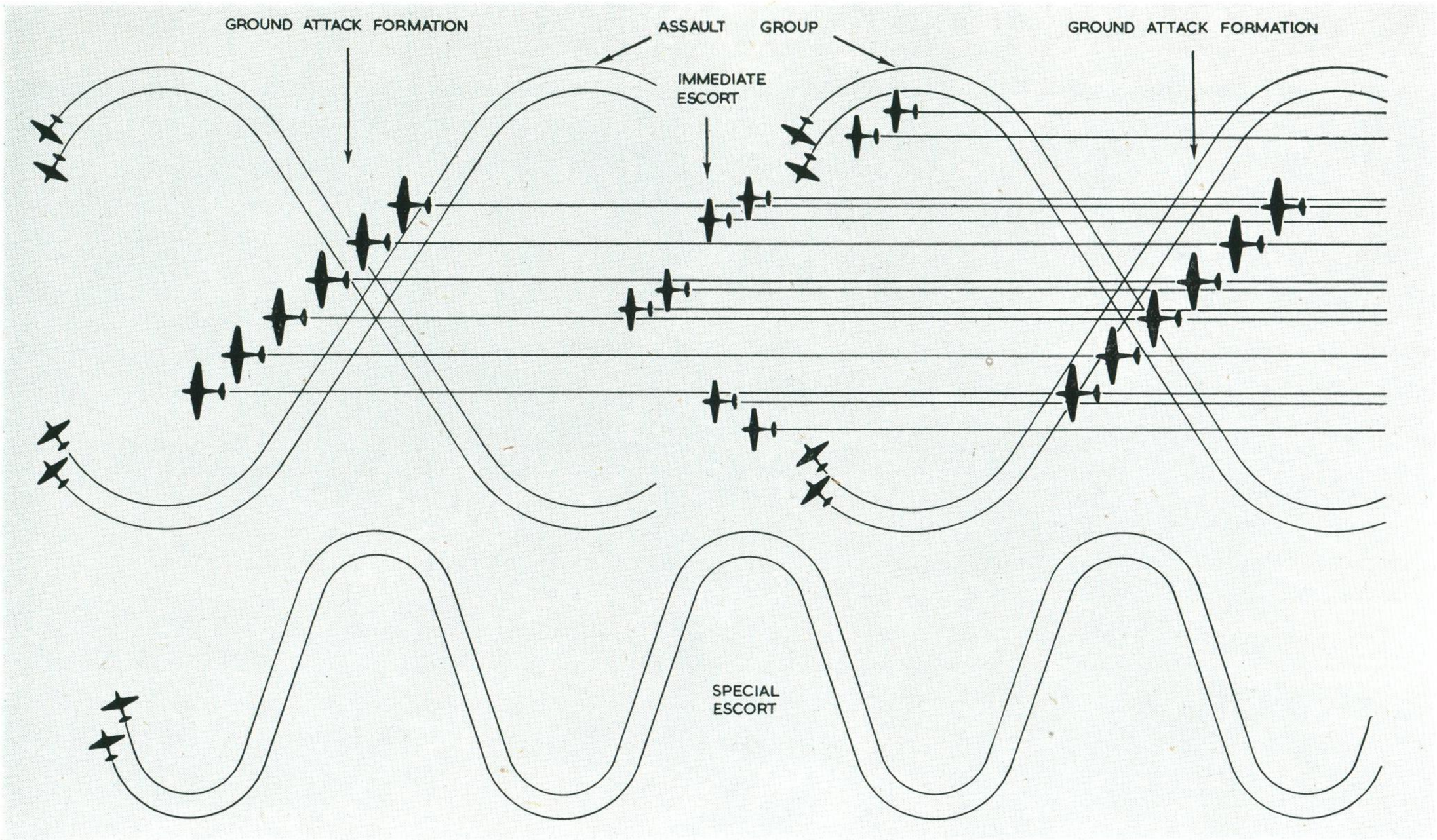
The assault group flew 1,500-3,000 feet higher than the immediate escort. They flew either directly above or a half to three-quarters of a mile ahead of the ground attack formation. One *para* was often sent out well in advance to scout for enemy fighters whilst another para remained in reserve at a higher altitude, taking full advantage of cloud and sun for surprise attacks when the enemy was met.

Over the target the assault group maintained altitude up to 10,000 feet and patrolled the sky over a limited area until the ground attack aircraft withdrew.

Changes in relative strength of escort did not alter the main pattern. Reductions in strength were made by reducing the immediate escort and the assault group by an equal number of fighters. An increase in escort strength was made by putting in additional formations of fighters behind, below or ahead.

Our diagram illustrates a typical ground attack pattern of IL-10s with an immediate escort of LA-9s, an assault group of paras of YAK-9s and an additional low cover escort of YAK-9s. We illustrate the side and top (or underneath) views of such a pattern.





The special escort would be immediately below the other formations, but is here shown separately to avoid confusion of tracks.

BOOK REVIEWS

By JOHN W. R. TAYLOR

When William Cowper (1731-1800) wrote " Variety's the very spice of life, that gives it all its flavour ", it is most unlikely that he was thinking about variety in aircraft recognition material ! Yet it is certainly true that one cannot have too much, or too varied material if one is to maintain interest during a series of recognition lectures. For that reason we have no hesitation in recommending **Flyvemaskiner over Danmark** (Aircraft over Denmark), although its text is written entirely in Danish.

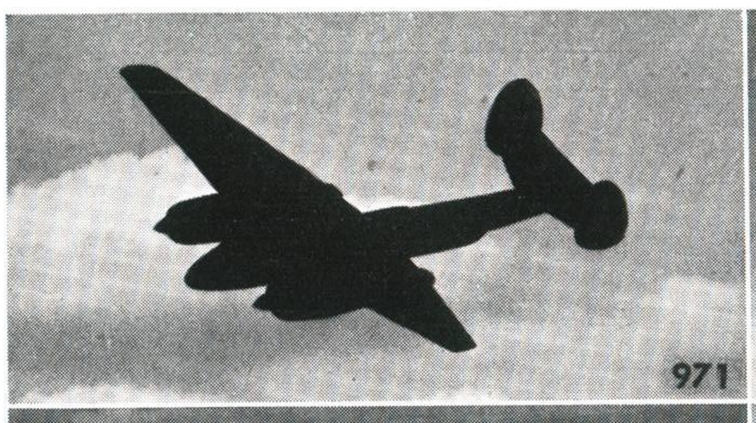
As a handy, pocket-sized recognition handbook of 43 major types of aircraft it ranks high, presenting a first-class three-view silhouette, postcard-sized photograph and main particulars of each. It is particularly useful in that it includes a number of lesser-known types such as the Danish KZ-II, III, IV, VII and VIII series, the Canadian Norseman, Swedish Scandia and the Russian IL-12, together with a lot of old favourites in new markings. Of great value are the notes headed " sammenlign ", which accompany each silhouette and list other types of aircraft that can be confused with the one illustrated—for example, Scandia, IL-12 and Convair-liner. It is, of course, quite easy to convert the metric performance and technical data into " English ", and this little book is, therefore, of interest and use to collectors and " spotters " alike.

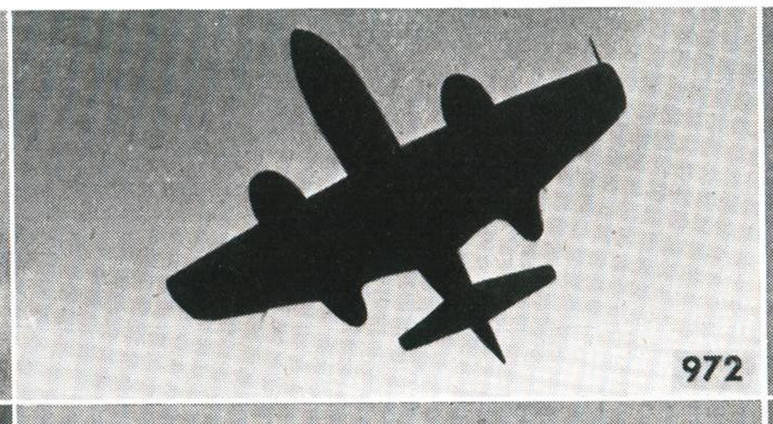
Global Mission is a very different kind of book, but a no less valuable addition to one's aviation bookshelf. It set out to be the autobiography of the late General " Hap " Arnold, Chief of the United States Army Air Forces fom 1938 to 1946. But it is assured of a permanent place in aviation literature not because of this " local boy makes good " theme, but because it gives the background story of the rise of the U.S.A.A.F. itself from the days when Orville and Wilbur Wright sold the Army its first biplane, right through two World Wars and the " private " Army-Navy-Air Force war which filled the intervening 20 years.

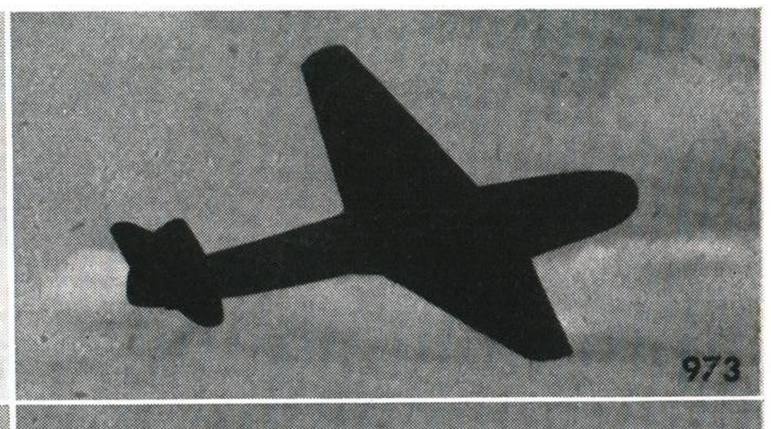
General Arnold gives us fascinating glimpses of Billy Mitchell, Carl Spaatz and other early prophets of U.S. Air Power, and takes us behind the scenes at war-time top-level conferences. The results are sometimes humorous, often disturbing, always interesting, particularly when discussing Chinese and Russian activities. An account of General Spaatz' post-war conversation with Goering is also revealing. The only unsatisfactory feature of **Global Mission** is that, rather surprisingly for an autobiography, it leaves one with the impression that General Arnold was far too petty and " one-track minded " to be remembered as a truly great military leader. Some of his comments on Allied wartime leaders leave one feeling vaguely uncomfortable, and he often shows a surprising lack of knowledge of operations other than those carried out by the U.S.A.A.F. For example one can only feel astounded that a member of the Allied Combined Chiefs of Staff could write in 1949 that " Neither was there sufficient time for the British to get their components out (to the Pacific) to join our Navy before the Japanese surrendered ".

" FLYVEMASKINER OVER DANMARK ", by Lennart, A. T. Ege and Jorgen C. C. Elholm. Published by August Bangs Forlag, Copenhagen, and obtainable from John W. R. Taylor, etc. 96 pp. Fully illustrated. 5s.

" GLOBAL MISSION ", by General H. H. Arnold. Published by Hutchinson & Co. Ltd. 268 pp. and Index. Illustrated. 21s.

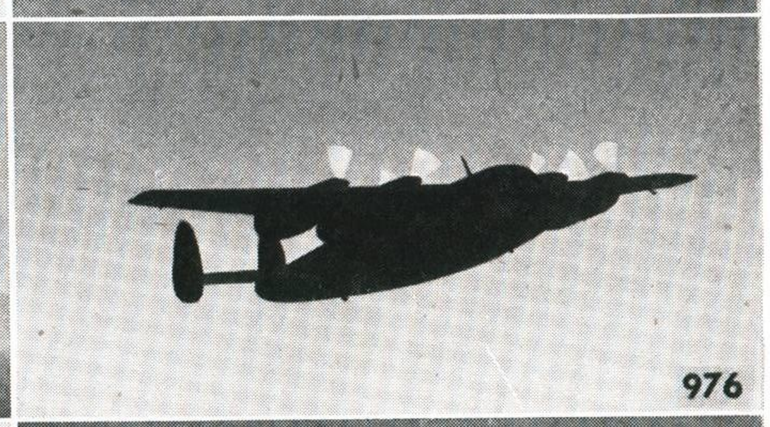

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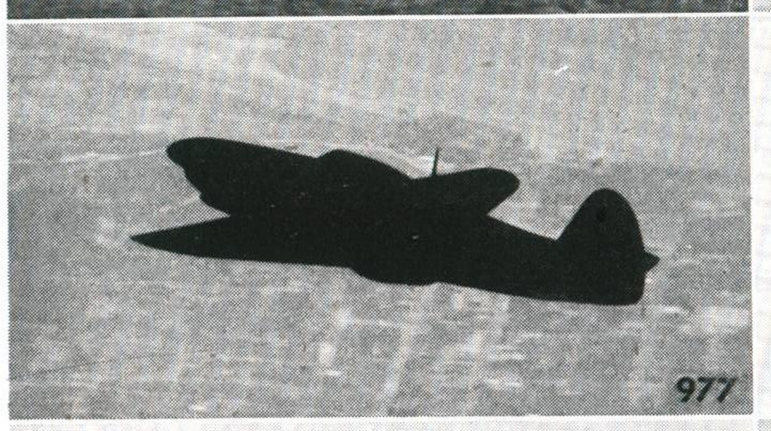

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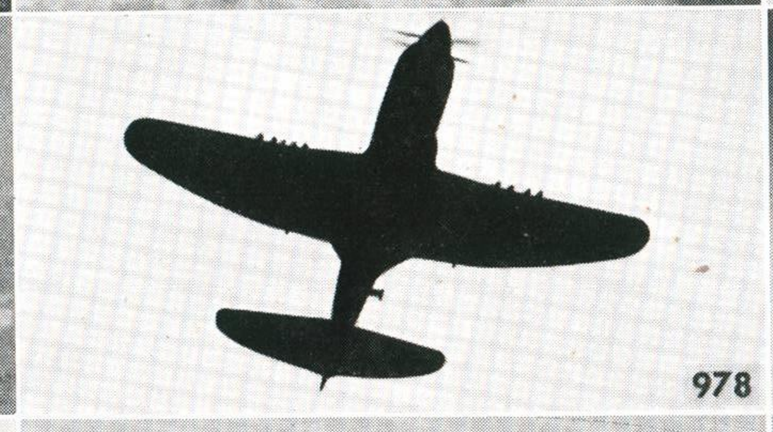

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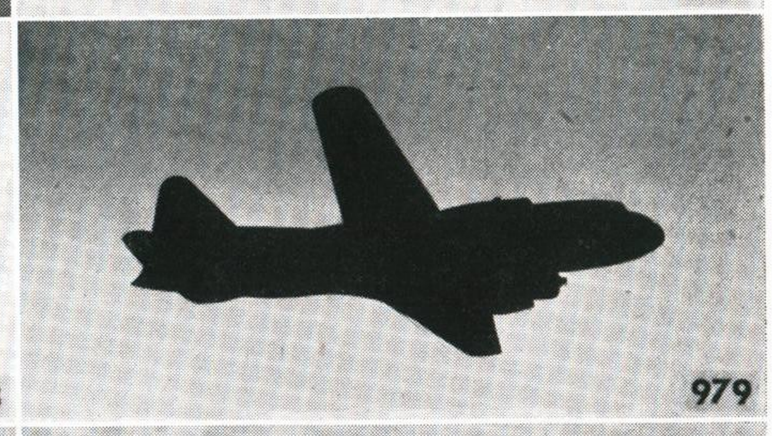

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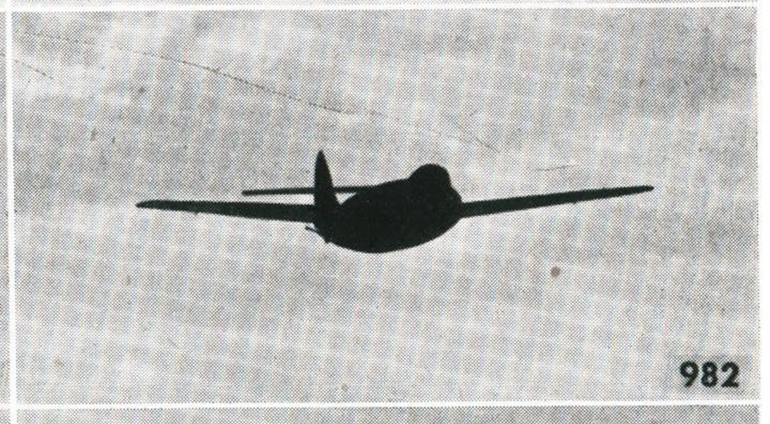

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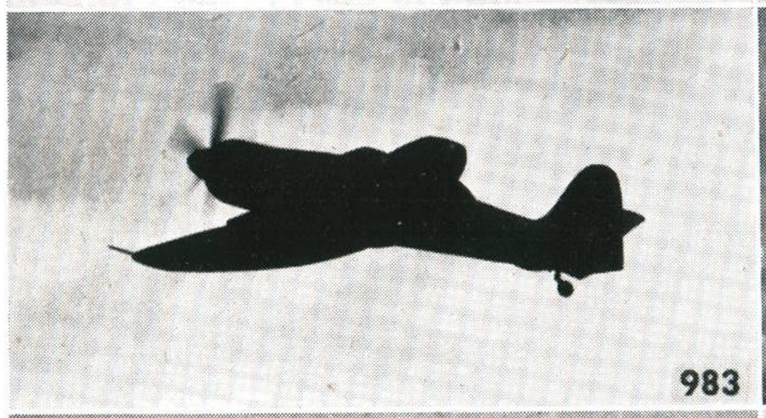

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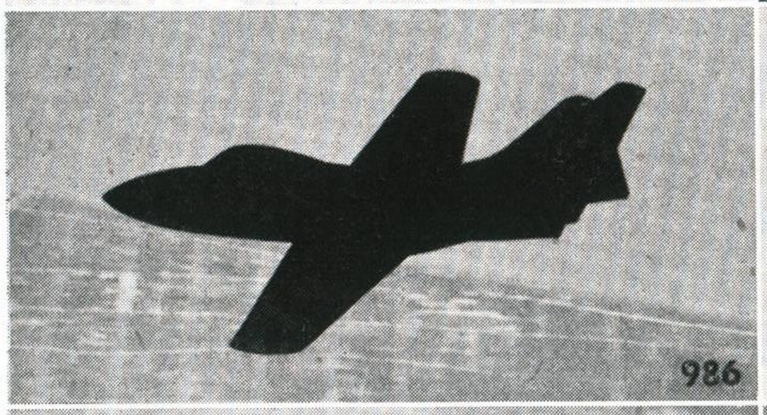

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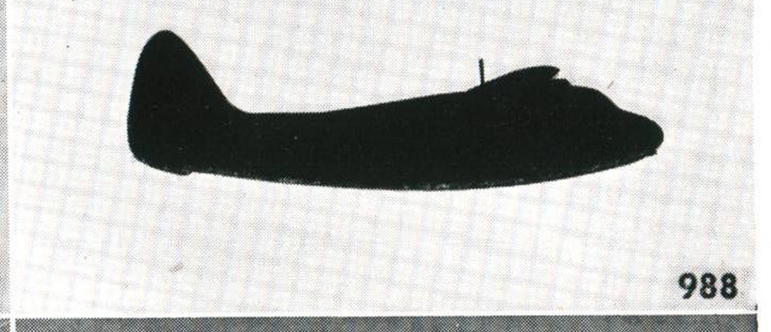

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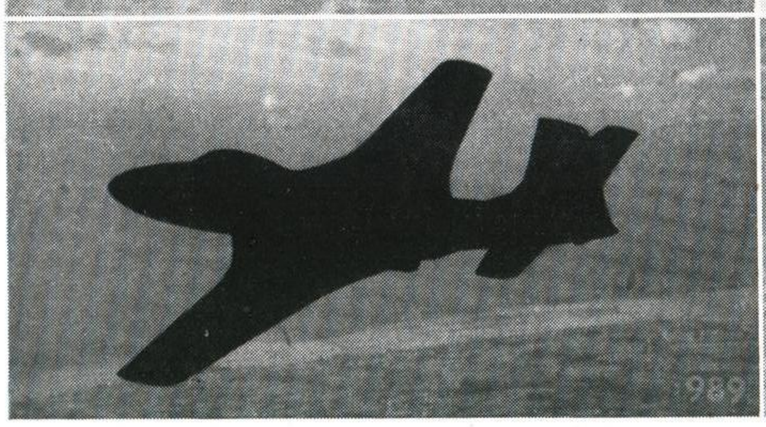

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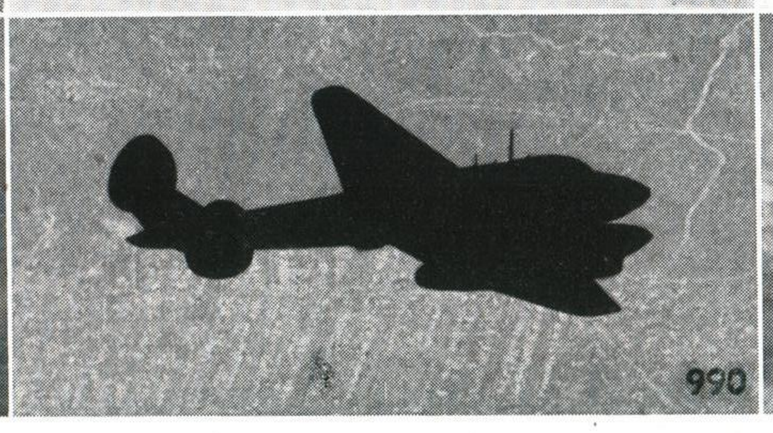

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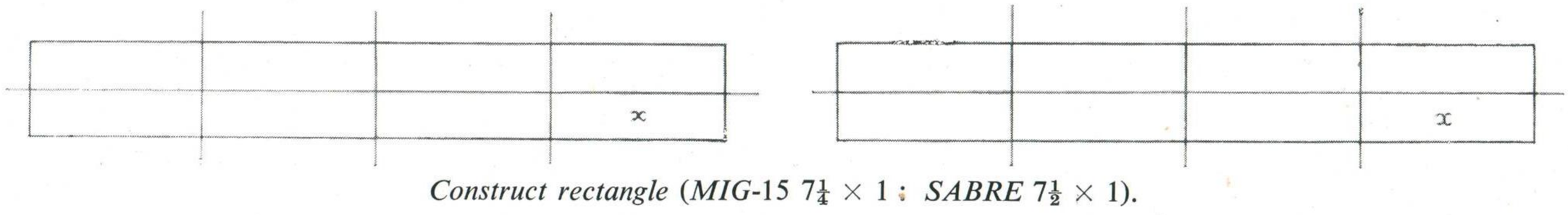

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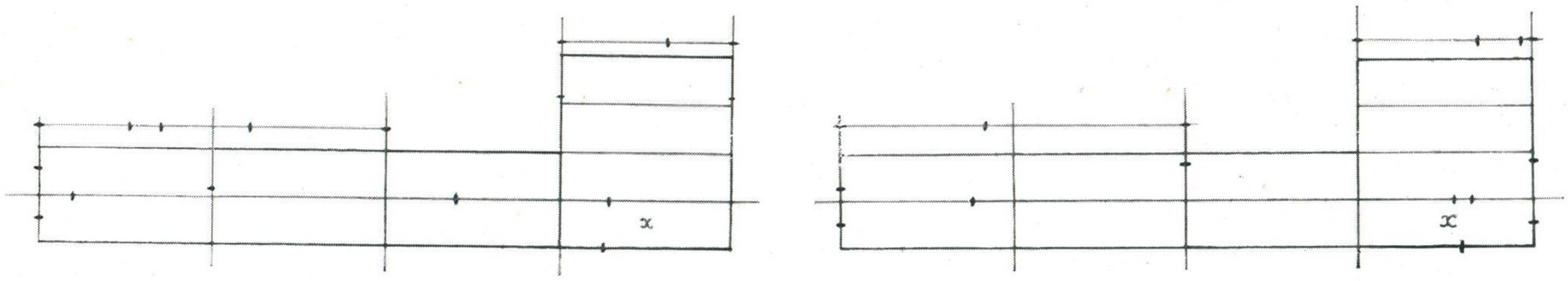
GET INTO LINE!

Drawing compels attention, brings reasoning and imagination into play and is, therefore, an ideal method of learning to recognize anything. This series of sketches aims at making obvious the differences between two of the world's most interesting jet-fighters. Draw lightly and large.

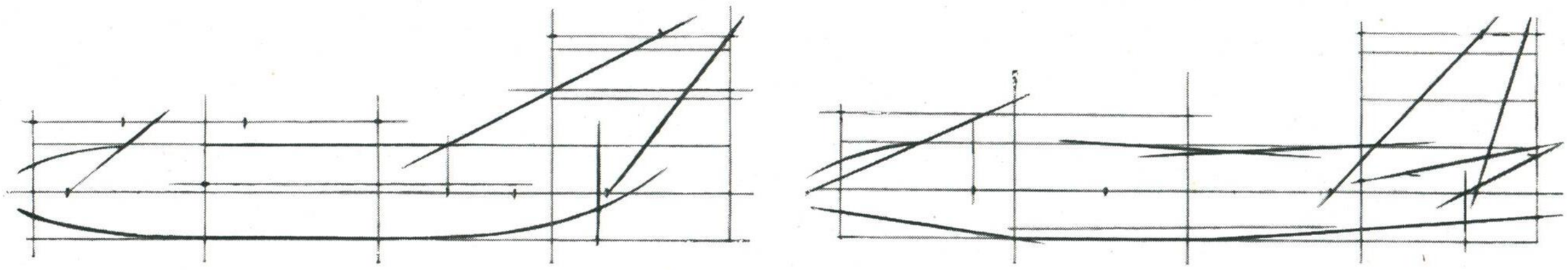
MIG-15 **F-86 SABRE**



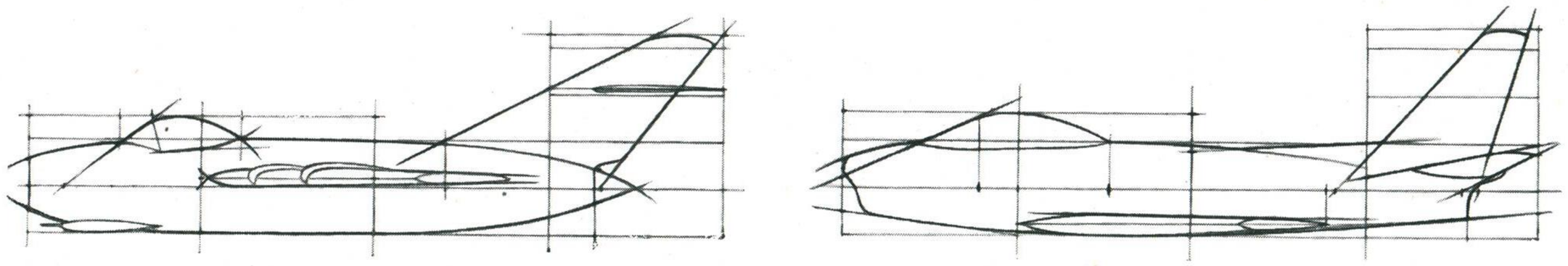
Construct rectangle (*MIG*-15 $7\frac{1}{4} \times 1$; *SABRE* $7\frac{1}{2} \times 1$).



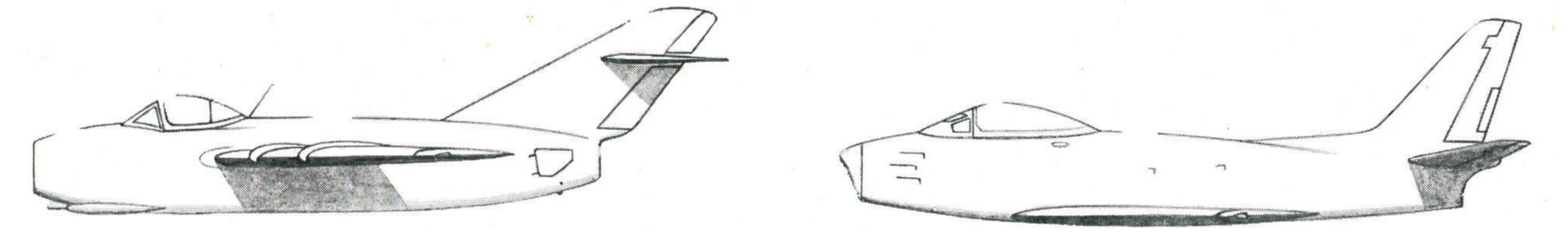
Extend "X" into a square and mark reference points.



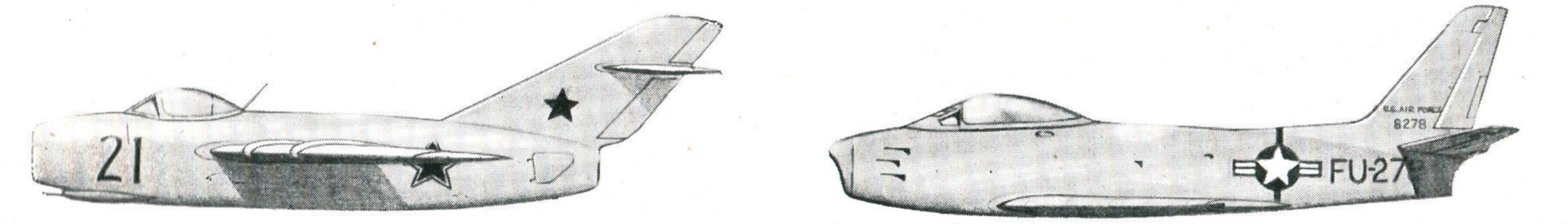
Outline main proportions by light guide lines.



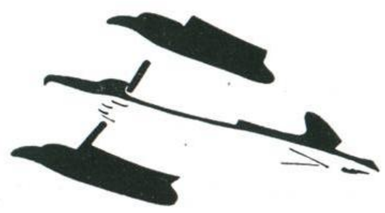
Complete outline.



Remove construction lines and block-in shadows.

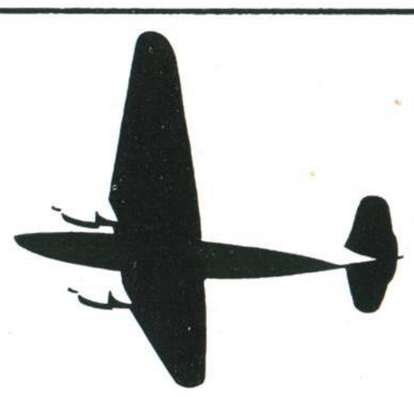


Complete to taste.


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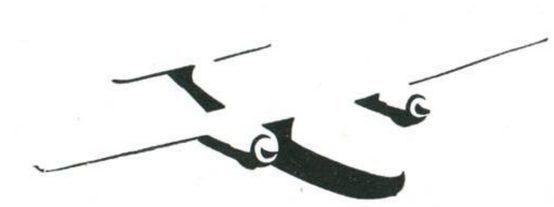

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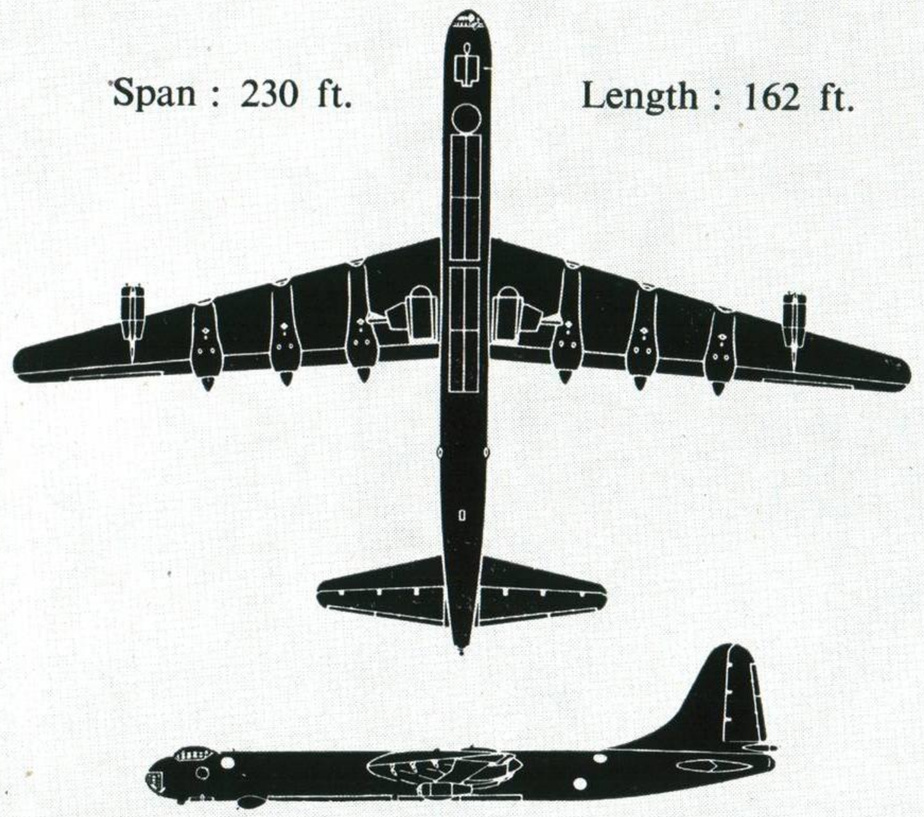
SEMI-SILLOGRAPHS

Convair B-36



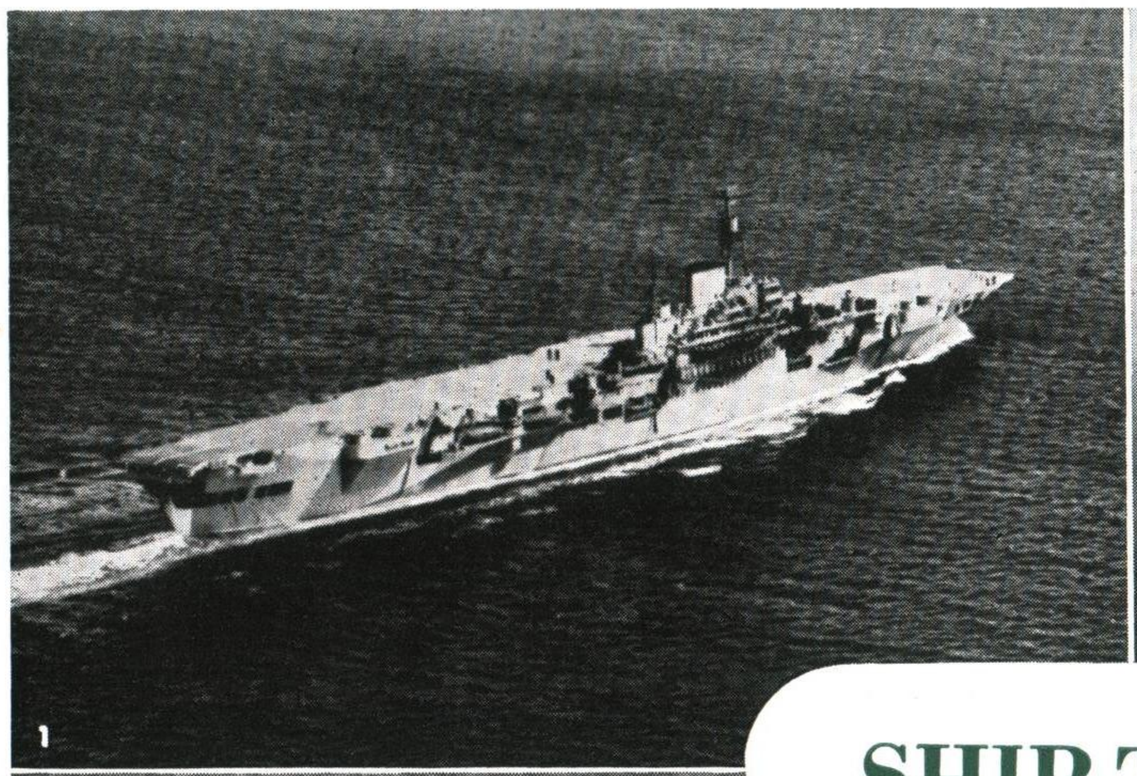
Span : 230 ft.

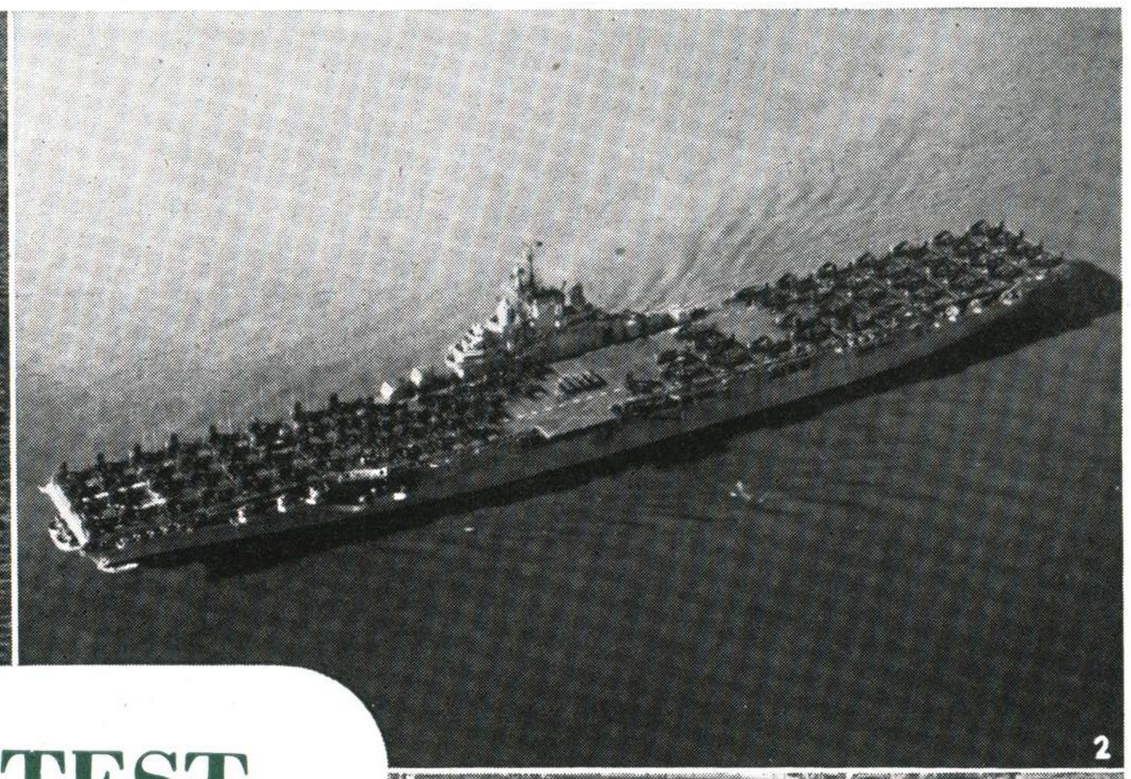
Length : 162 ft.



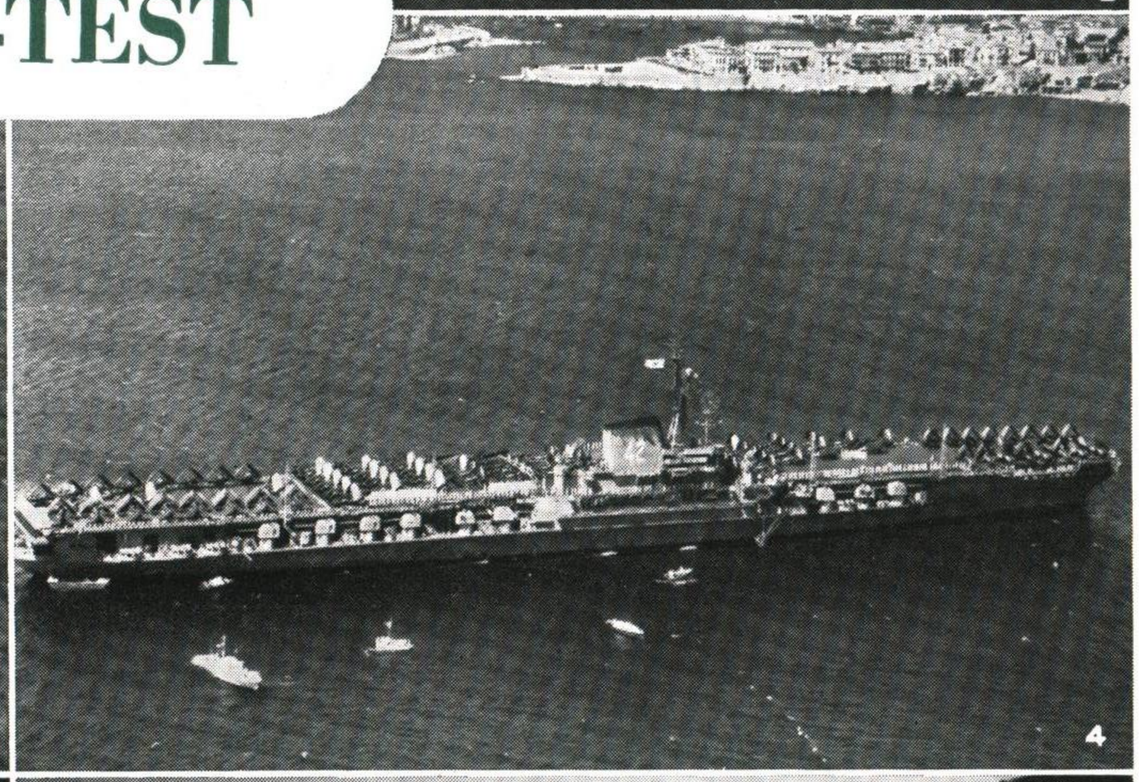
" Podded " turbojets suspended " float fashion " from the outer wing panels of the Convair B-36D distinguish it from the B-36A. The turbojets are intended for speed bursts in emergency and supplement the six Pratt & Whitney " pushers ". The B-36D has a crew of 15.

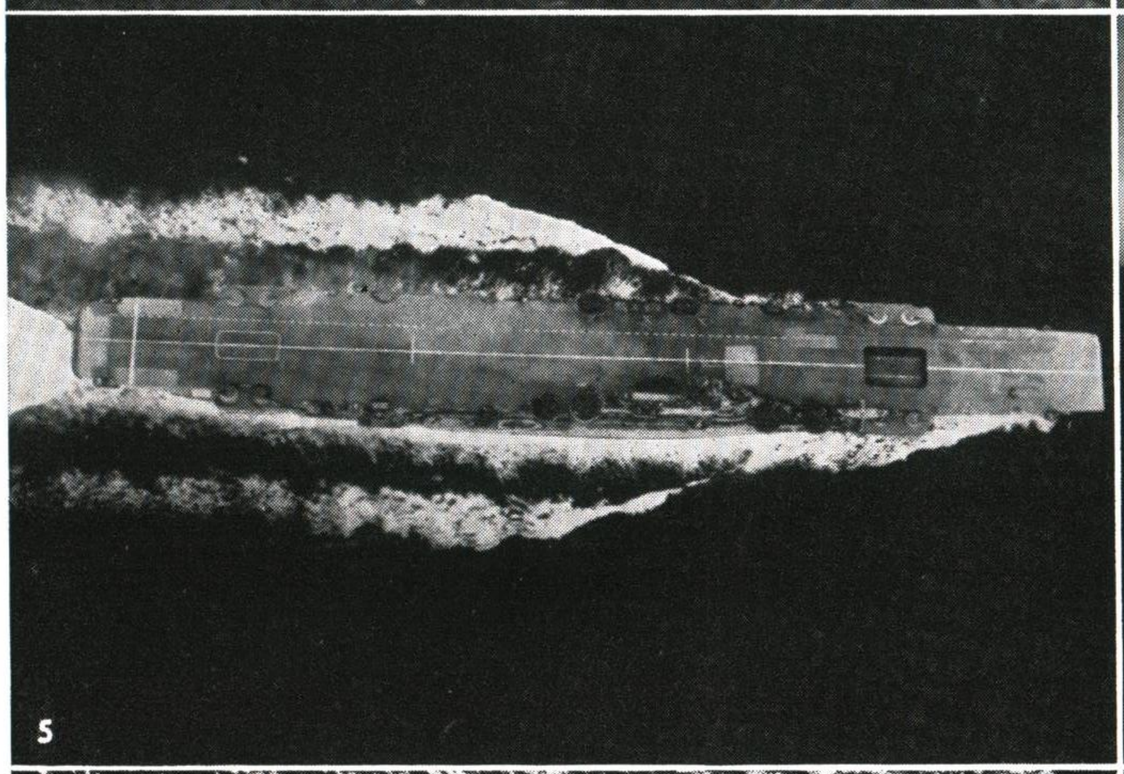
SHIP-TEST

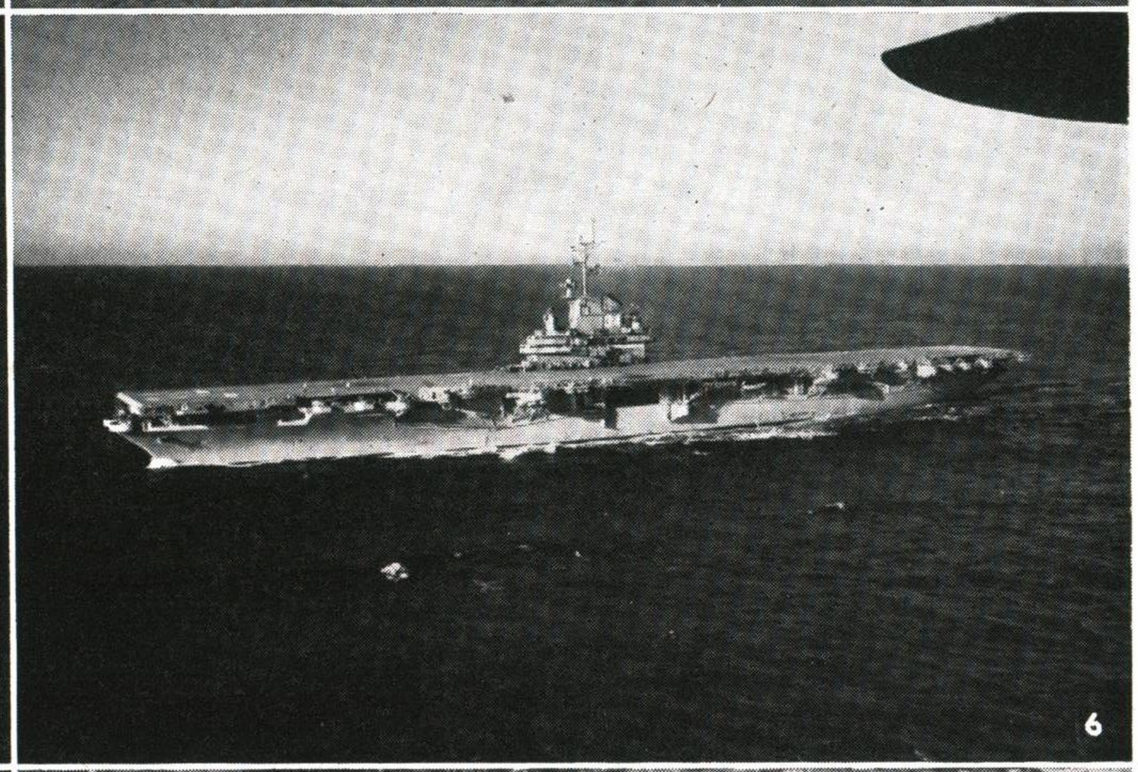

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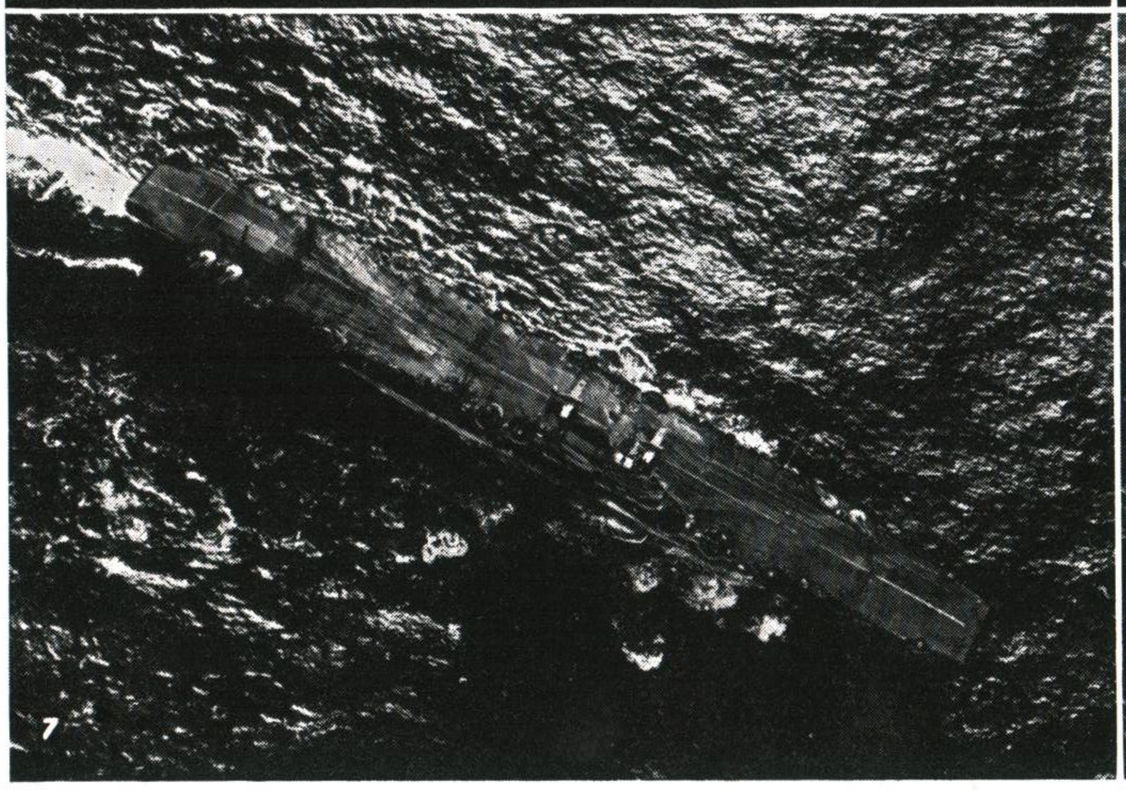

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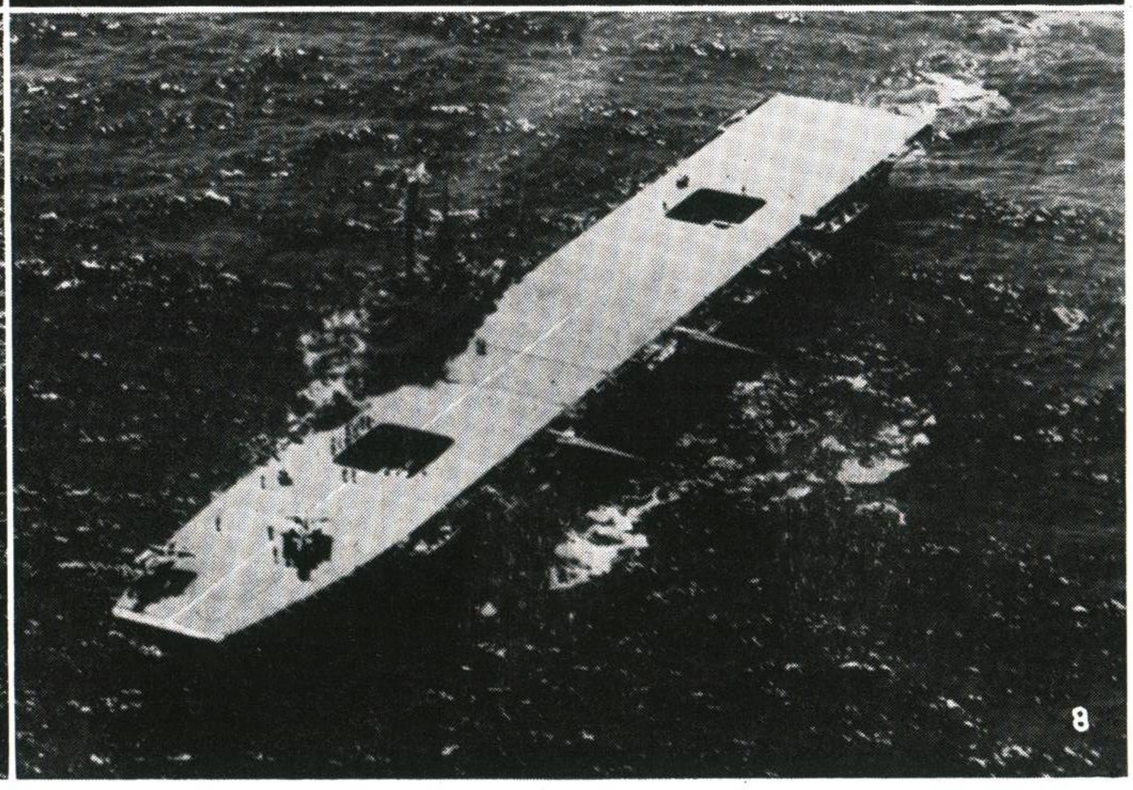

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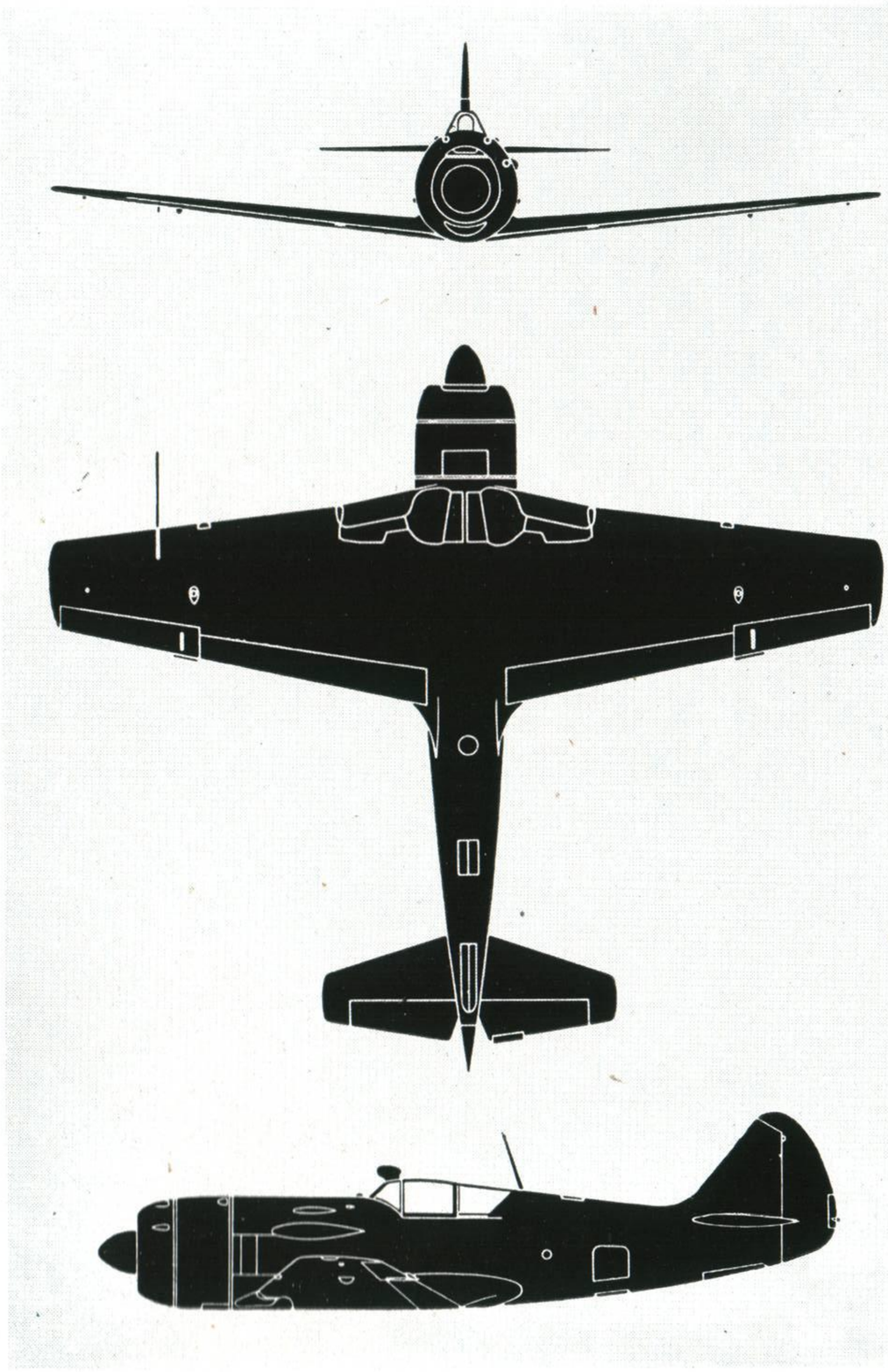

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Answers on rear cover

SILHOUETTES — A PAIR TO COMPARE

LA-11



Russian Fighter

Engine : One Ash 82FNV radial

Span : 32 ft. Length : 28 ft.

Recognition Points:

Wings : low, forward set, thin, dihedral from roots, equi-taper in plan, shallow elbow joint in leading edge, blunt tips.

Engine : streamlined cylindrical cowling, short fat spinner.

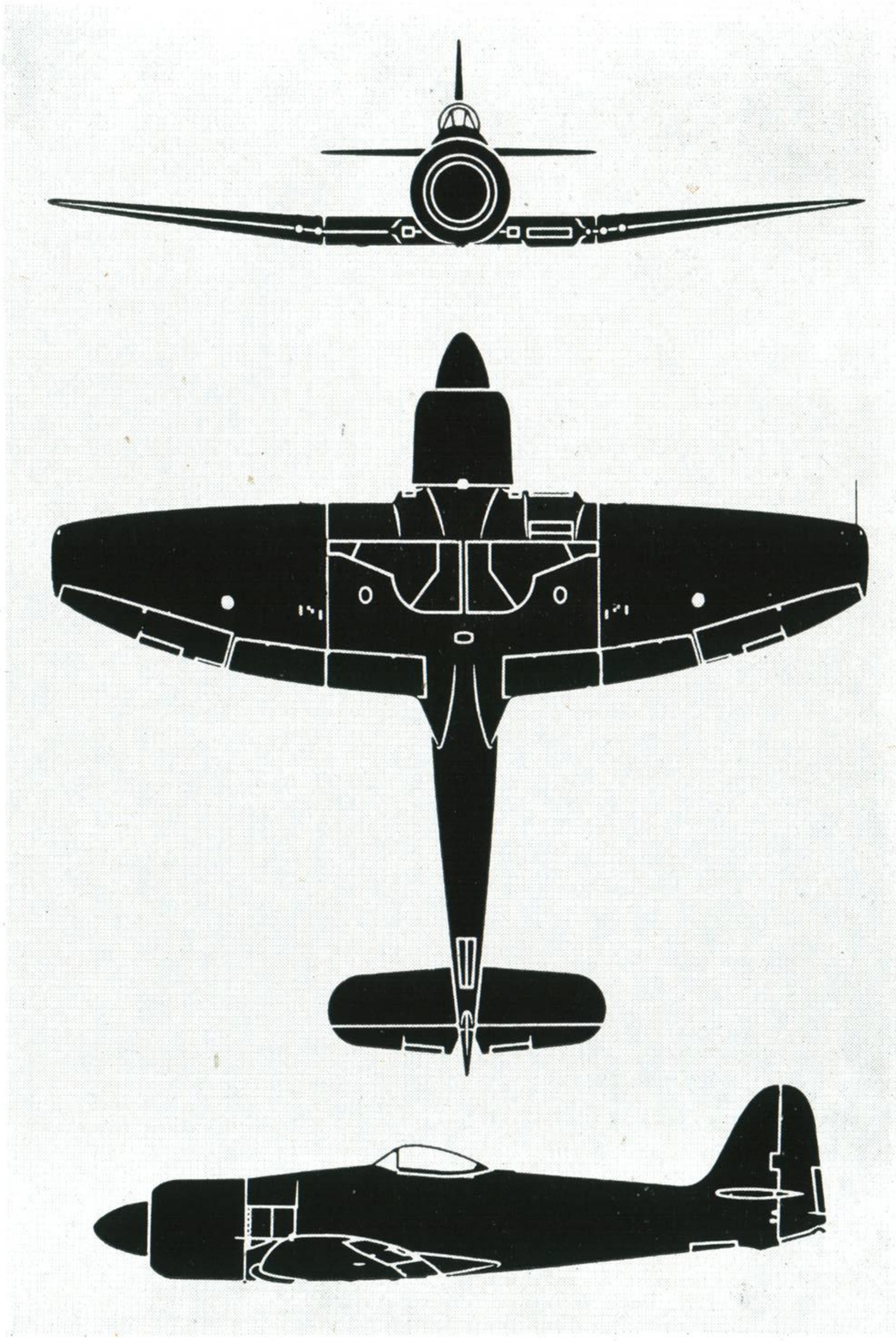
Fuselage : Carrot-shaped.

Tailplane : near diamond shape with squared-off tips and cut-out for rudder movement.

Fin and Rudder : triangular, "cocked up".

Detail : stepped-up cockpit canopy set well back. May be seen with or without projection on top of cockpit canopy.

SEAFURY F Mk.10



British Fighter

Engine : One Centaurus 18 radial

Span : 38 ft. 5 ins. Length : 34 ft. 6 ins.

Recognition Points:

Wings : low, forward set, dihedral on outer panels, elliptical form, clipped tips.

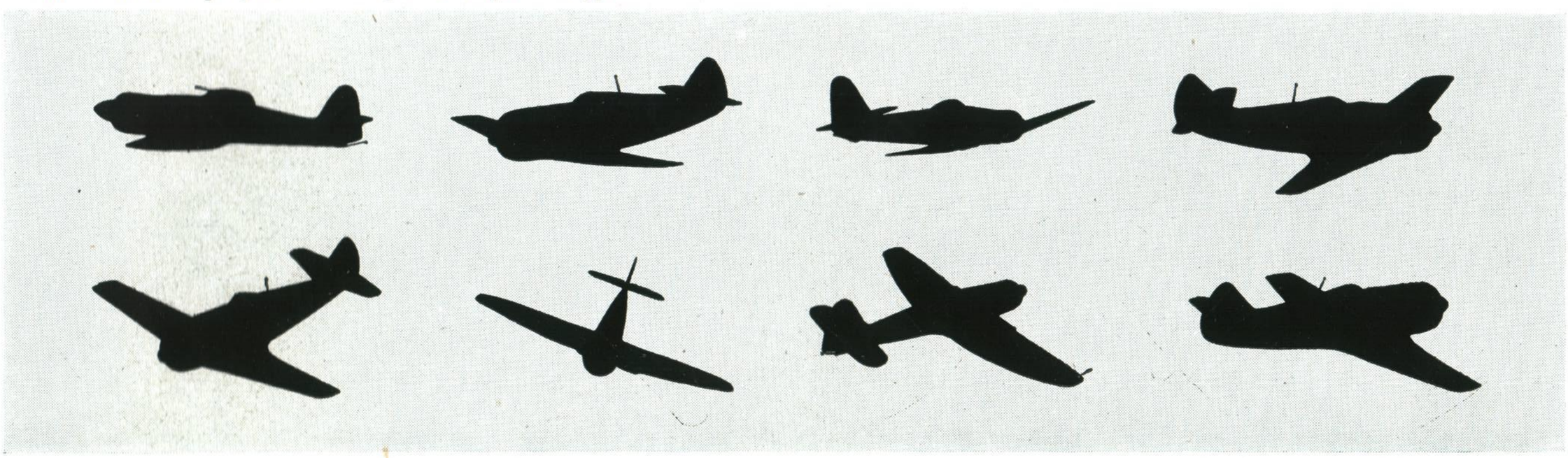
Engine : Large cylindrical cowling, fat "acorn" spinner.

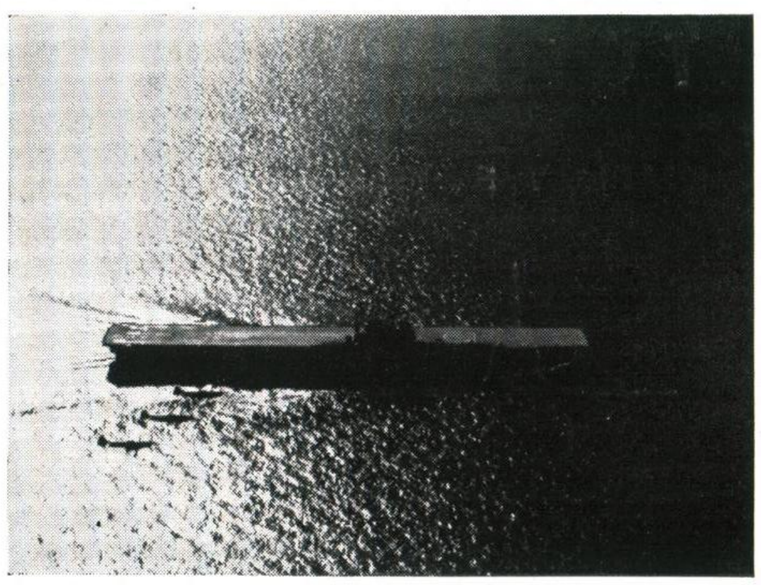
Fuselage : Carrot-shaped, humped in side view.

Tailplane : rectangular with rounded tips and small cut-out for rudder movement.

Fin and Rudder : arched with straight trailing edge forming sharp angle with fuselage baseline.

Detail : small bubble cockpit set well back, intake in leading edge of port wing, arrester hook under tail.





OUR COVER PICTURE shows the aircraft carrier *H.M.S. Theseus*, at present operating in Korean Seas. The aircraft in the picture are Fairey Fireflies Mk. 4. The Admiralty announce that in recent operations as many as 60 sorties a day have been flown by the carrier's Fireflies and Seafuries. H.M.S. *Theseus* has been awarded the Boyd Trophy, an annual award made for the finest feat of aviation by an individual or a unit in the Royal Navy. This Trophy is a silver model of a Swordfish aircraft.

A feature of *Theseus's* operations has been the close co-operation with units of the British and American armies included in the United Nations Forces in Korea.

Flight deck personnel of H.M.S. *Theseus* have had to work in appalling weather conditions to refuel, re-arm and re-spot aircraft for the next flight. During the time that the ship has been operationally engaged in Korean waters, her aircraft expended 150,000 rounds of cannon ammunition, 2,123 rockets, and 304,500 lb. of bombs. In addition, 365 gun changes were made. It is particularly noteworthy that no aircraft remained unserviceable for a period longer than two hours.

TRICKY TRIO

Left to right : F-84 Thunderjet, F9F-3 Panther, F-89 Scorpion.

NAVYGRAM

DETAIL IN MOB=INDOMITABLE

SOLUTIONS TO RECOGNITION TESTS IN THIS EDITION:

If you are unable to recognise any ship, tank or aircraft in the test illustrations, try to identify it with the aid of silhouettes or other illustrations before checking with lists below.

SILLOGRAPHS

971 TU-2
972 Meteor F Mk.8
973 YAK-15
974 F-86 Sabre
975 MIG-15
976 Marathon I
977 YAK-9
978 Wyvern TF Mk.2
979 IL-12
980 Sealand
981 TU-2
982 Seahawk F Mk.I
983 Seafury T Mk.20
984 Varsity T Mk.I
985 MIG-9
986 F9F Panther
987 Comet
988 Sea Prince
989 F2H Banshee
990 PE-2
991 F-84 Thunderjet

SEMI-SILLOGRAPHS

1 Sea Hornet NF Mk. 21
2 Seafury TF Mk.10
3 Firefly FR Mk.5
4 C-46 Commando
5 Venom
6 Auster 6
7 F-51 Mustang
8 Lincoln B Mk.2
9 Harvard 2B
10 Seafire FR Mk.47
11 Prentice T Mk.I
12 Messenger
13 F-82 Mustang
14 Convair B-36B
15 Blackburn YB-I
16 Ambassador
17 F-80A Shooting Star
18 F-89 Scorpion
19 Canberra B Mk.2
20 Hastings C Mk. I
21 Sea Prince C Mk.I

ELEMENTARY

949 Lockheed F-94C
950 Sea Otter ASR Mk.I
951 Languedoc
952 P2V-4S Neptune
953 Blackburn YB-I
954 Convair T-29
955 Shackleton MR Mk.I
956 Canberra B Mk.2
957 Martin 202
958 F3D-1 Skyknight
959 HPR-2 Rescuer
960 Comet
961 P4M Mercator
962 Ambassador
963 UF-1 Albatross
964 Lincoln B Mk.2
965 Seahawk F Mk.I
966 Meteor NF Mk.II
967 F2H-2 Banshee
968 F-84 Thunderjet
969 Viscount 700

SHIP-TEST (CARRIERS)

1 H.M.S. *Implacable*

2 U.S.S. *Boxer CV* 21 (*Essex* Class)

3 H.M.S. *Implacable*

4 U.S.S. *Franklin D. Roosevelt CVB* 42 (*Midway* Class)

5 H.M.S. *Indomitable*

6 U.S.S. *Oriskany* CV 34 (*Essex* Class)

7 H.M.S. *Formidable* (*Illustrious* Class)

8 H.M.S. *Glory*

ADVANCED

85 Meteor NF Mk.II
86 F9F-3 Panther
87 Fairey 17
88 AD-3W Skyraider
89 F2H-2 Banshee
90 CF-100 Canuck
91 Convair-Liner
92 F-84 Thunderjet
93 Convair B-36B
94 Stratocruiser
95 F-80 Shooting Star
96 Wyvern TF Mk.2
97 Venom FB Mk.I
98 Sikorsky S-51
99 Seafury FB Mk.II
100 Tempest F Mk.6
101 Avro 707B
102 Comet
103 F-86 Sabre
104 Halifax A Mk.9
105 Firefly FR Mk.5

ACKNOWLEDGEMENT

We are indebted to Mr. Harold G. Martin of New York for the use of his excellent photographs of the Bearcat and the Stratocruiser on the centre spread.

SEAFURY AND LA-11 SILLOGRAPHS

Top Line left to right : Seafury, LA-11, Seafury, LA-11.

Bottom line left to right : LA-11, Seafury, Seafury, LA-11.

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TRICKY TRIO



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