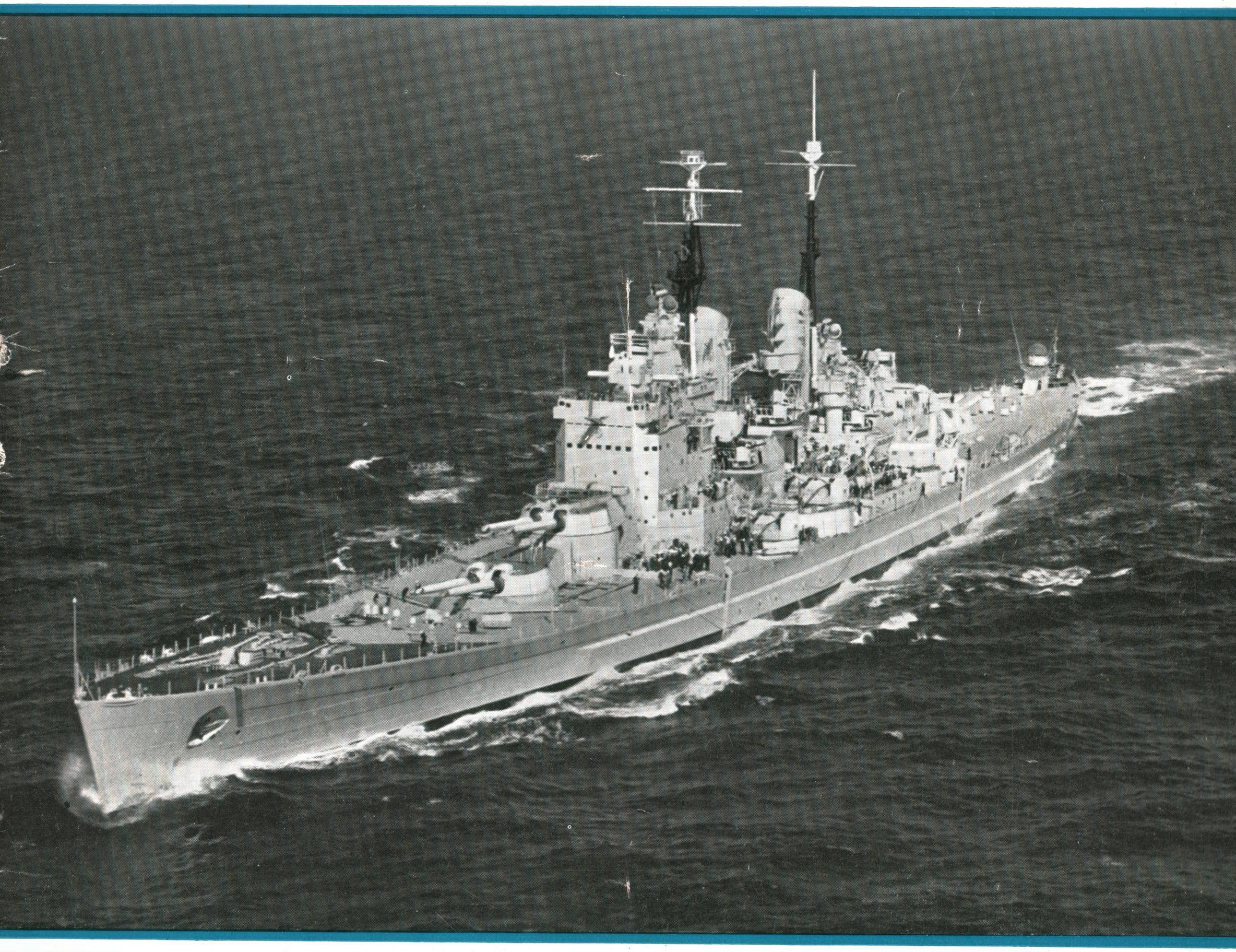
JOINT SERVICES

RECOGNITION

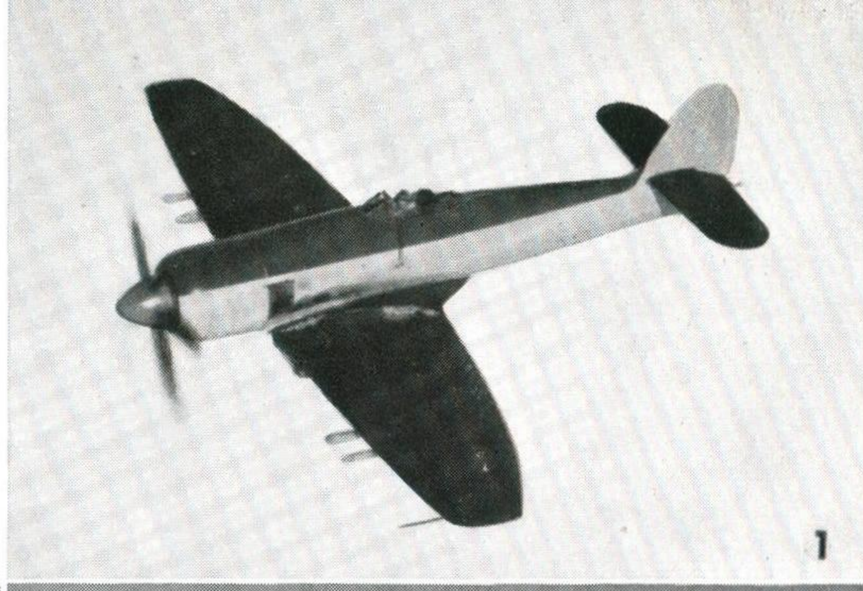
Journal



Vol. 8 FEBRUARY 1953 No. 2

SPOT THE SEA FURY!

Picture No. 1 is of the Sea Fury. With its aid, carefully identify which of the other views are of the same aircraft. Procedure : (1) Write a list of numbers ; (2) Identify the easiest views ; (3) With your accumulating experience identify the more difficult ones ; (4) Cross-check your Sea Fury's by as many points as possible before consulting the solutions on the rear cover.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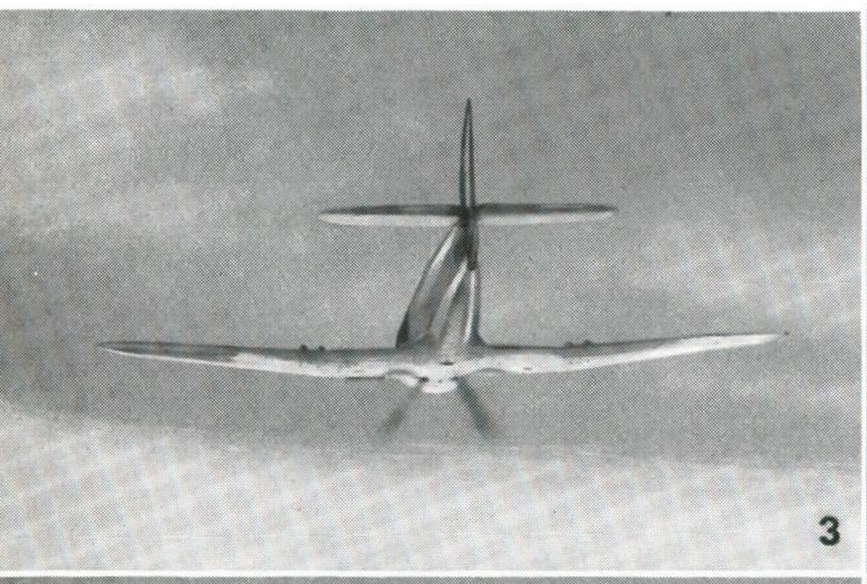
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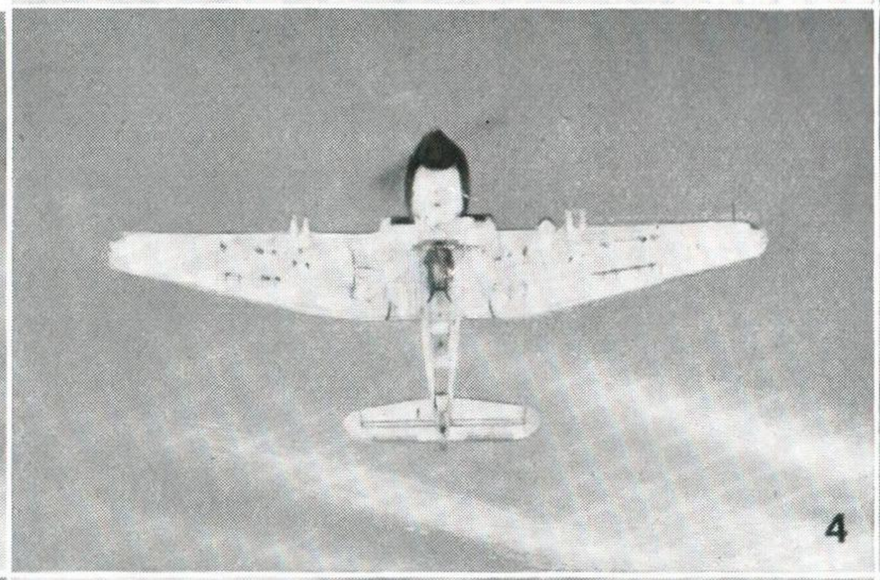
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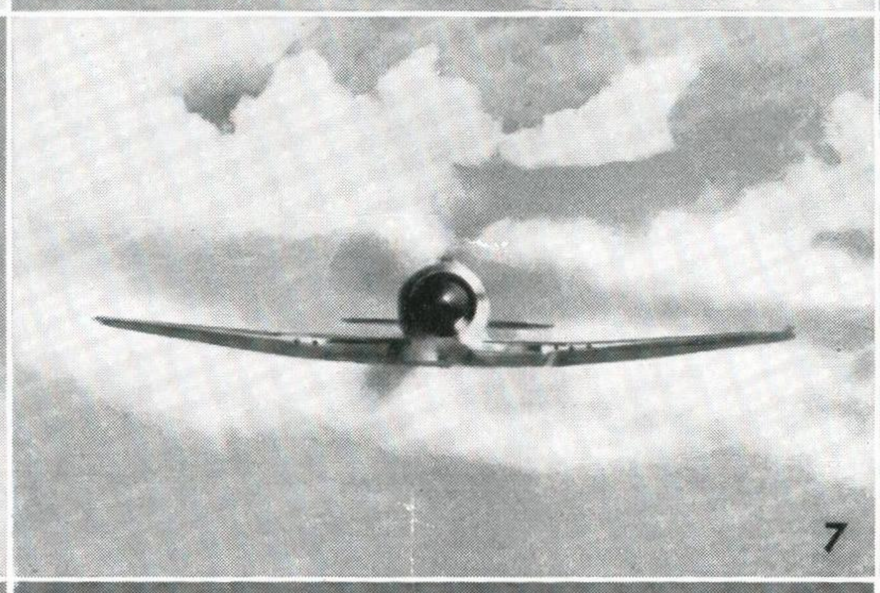
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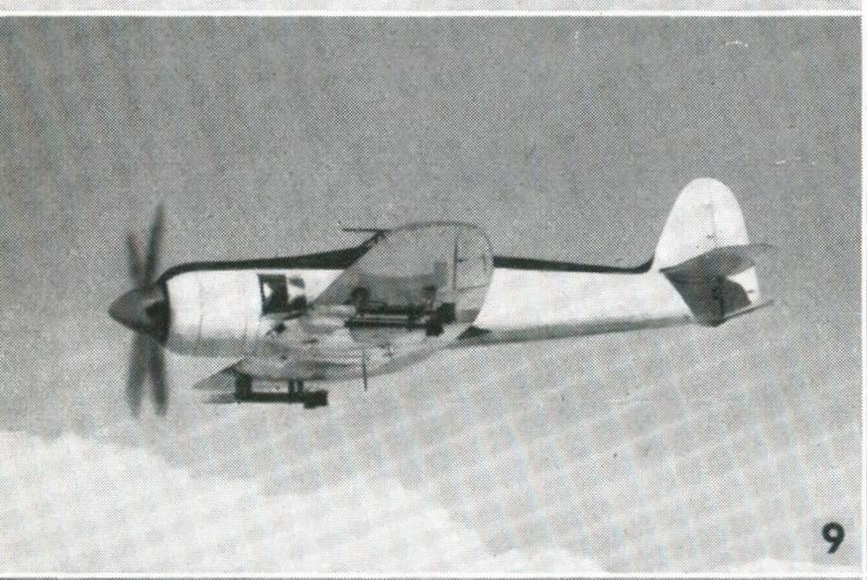
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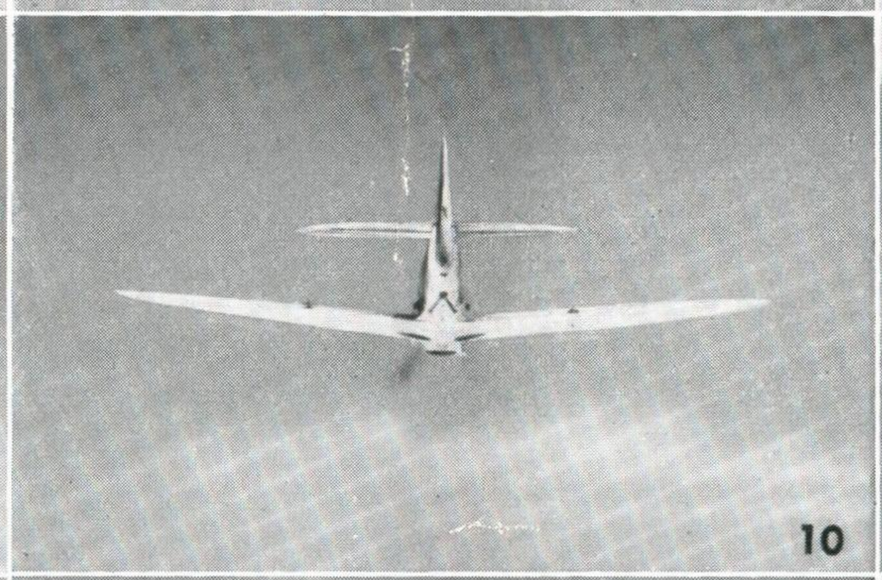
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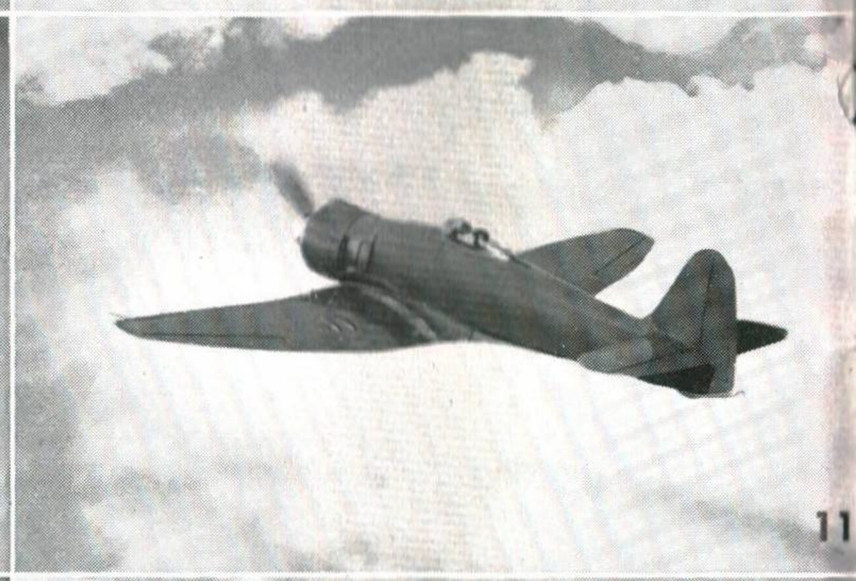
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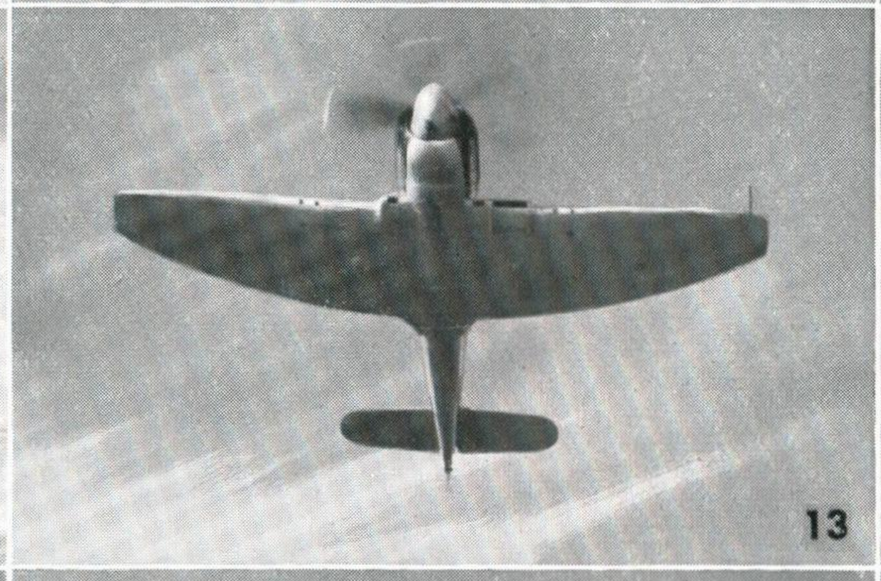
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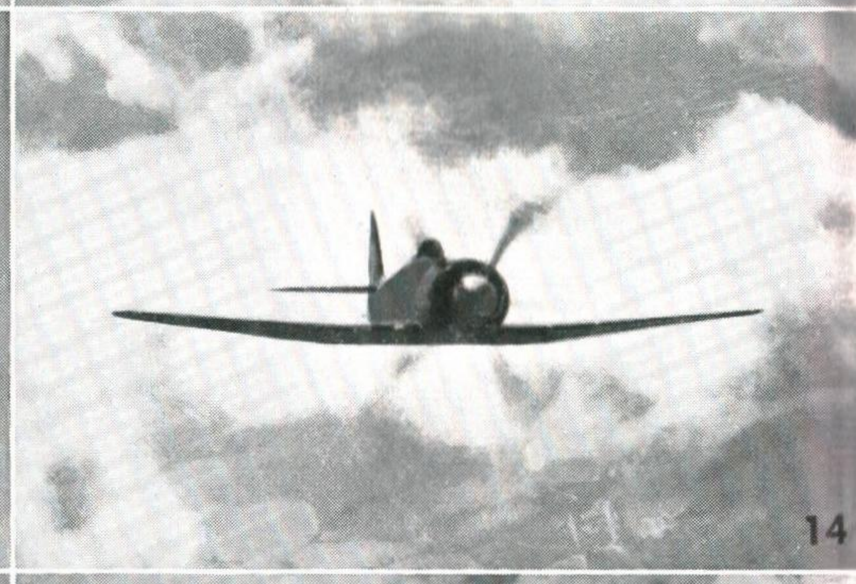
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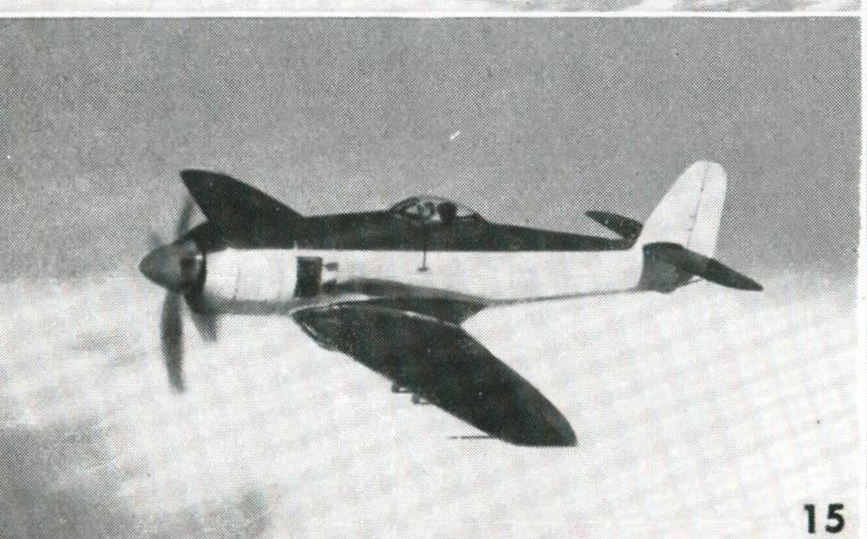
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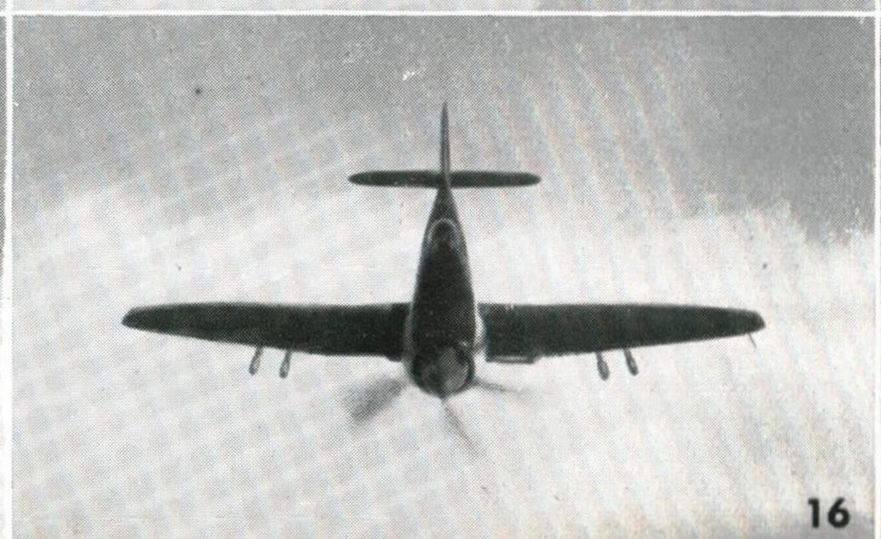
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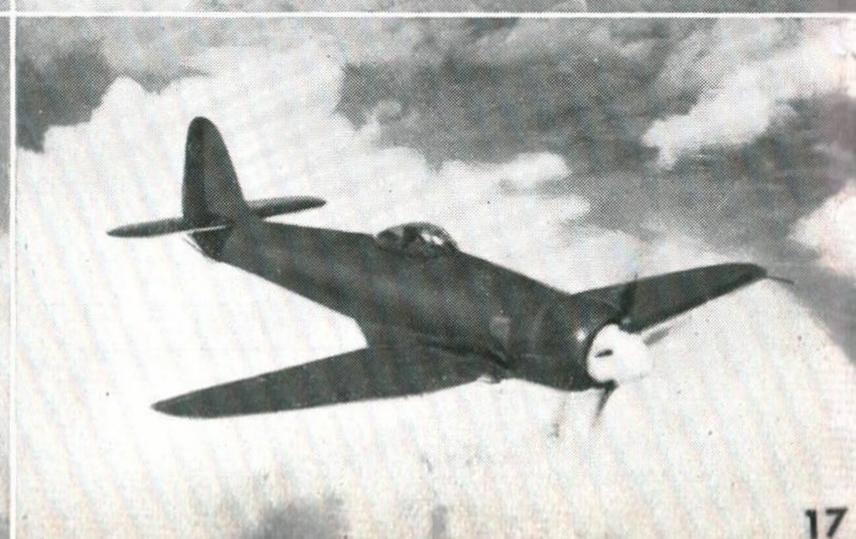
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JOINT SERVICES

RECOGNITION JOURNAL

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A NEW ANGLE

WE PAY TRIBUTE this month to an idea which is officially described as providing " something for nothing ". The idea is that by re-arranging the aircraft carrier's flight deck the fighting efficiency of the ship can be considerably increased.

The idea is known as the " angled-deck ". As the name implies, the flight deck is modified so that aircraft fly-on at an angle about eight degrees from the fore and aft line of the ship.

For those who are not familiar with carrier operations, the following may help in understanding the significance of the new arrangement. Flight decks of conventional carriers are divided into three parts. The first is the landing area, aft, where arrester wires engage the landing hooks of aircraft to bring them to a standstill. The second area, amidships, is the crash-barrier area, the crash-barriers being erected whilst aircraft are alighting so that in the event of a failure of the arresting gear, the aircraft do not overrun into the third area, forward, called the deck-park and launching area—often crowded with aircraft. Incidentally, when aircraft miss the arrester wires and hit the crash-barriers they are sometimes damaged, moreover, there is some hazard to pilots, particularly those of jet-fighters with no " engine mass " in front to protect them.

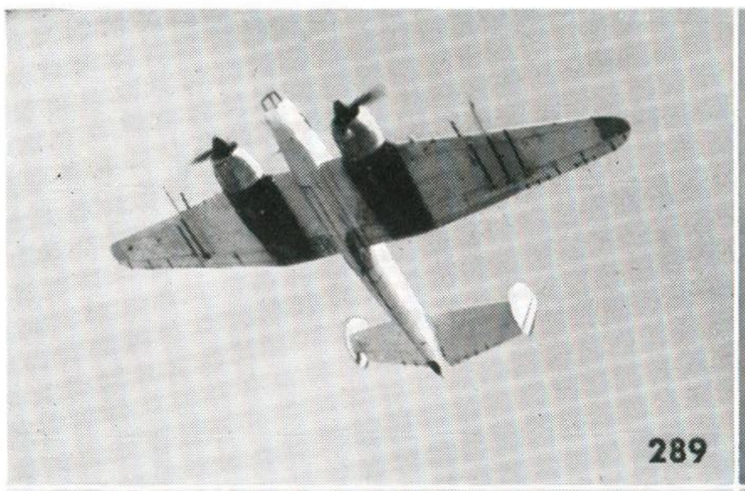
However, the new " angled-deck " eliminates most of these difficulties altogether, because aircraft which miss the arrester wires can " open up " and take-off into a clear area in front of them over the side of the ship. There will, of course, be some kind of barrier for rare cases of failure of the arresting gear, but this will be situated in the landing area and the space previously devoted to crash-barriers will be available for landing heavier and faster aircraft requiring greater " pull-out " space.

Altogether the advantages of the " angled-deck " are said to be equivalent to an increase of forty per cent. in the length of the carrier.

Visual recognition is not greatly concerned in this matter except by way of interest and, as carriers are modified, by changes in flight-deck markings or shape and shadow patterns.

But it provokes thought, and is an excellent example of what can be achieved by a shift in approach ; a simple re-arrangement results in greater efficiency. The first question that comes to mind is " Why didn't someone think of it before ? " We can't answer that one ourselves, but the question prompts another. " Are there not other ways of improving the fighting efficiency of other instruments, organizations and methods ? " And yet another—more to the point: " Could we not, by a re-orientation of method, a shift in outlook, by some clear, careful thinking, adopt a fresh angle and produce an equally striking improvement in the fighting efficiency of our own subject, visual recognition and its training ? ".

The magnificent recognition equipment possessed by every normal human being, functioning faultlessly, as it does, recognizing thousands of different objects in the course of a day—learning many new ones daily—ought to be able to add another couple of hundred to its repertoire without difficulty. Let us put on our thinking caps !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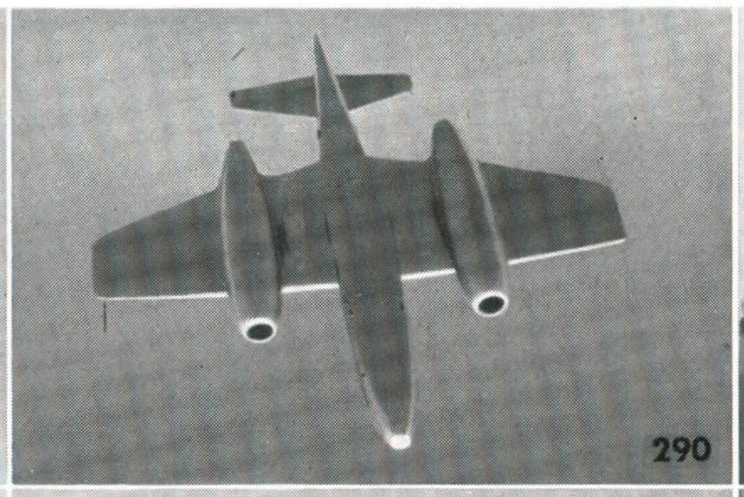
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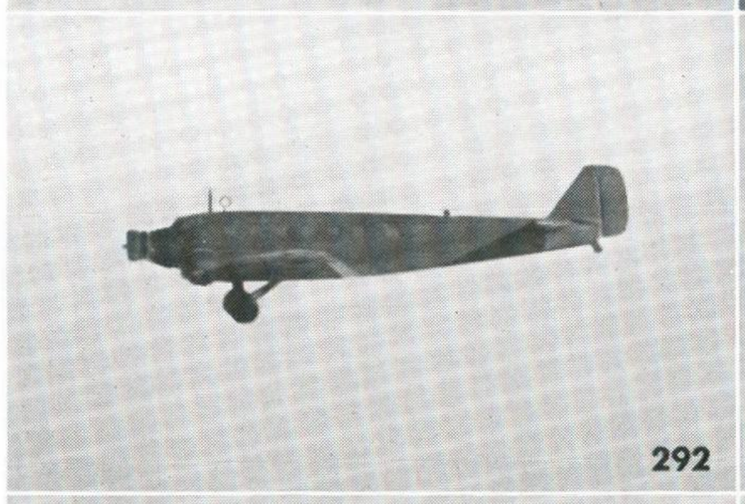
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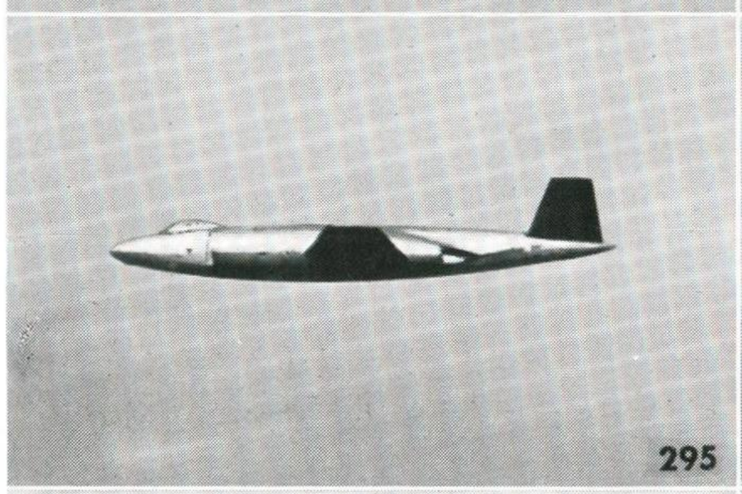
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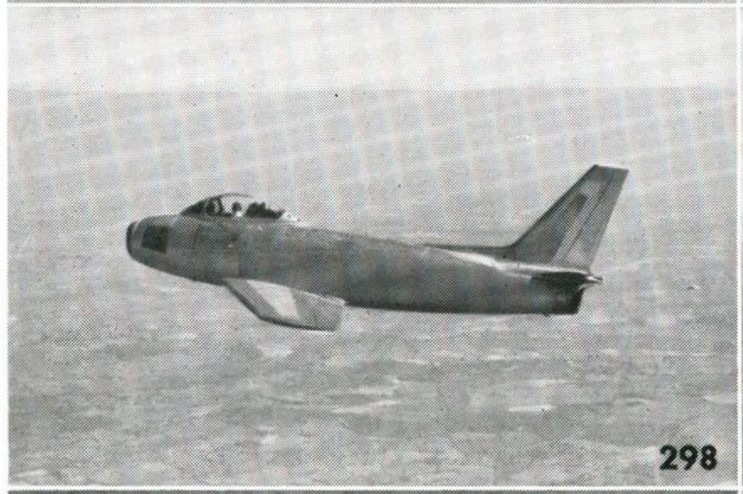
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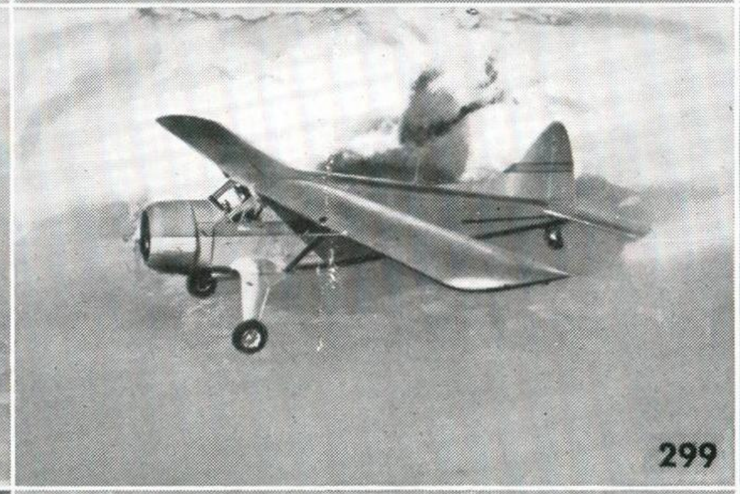
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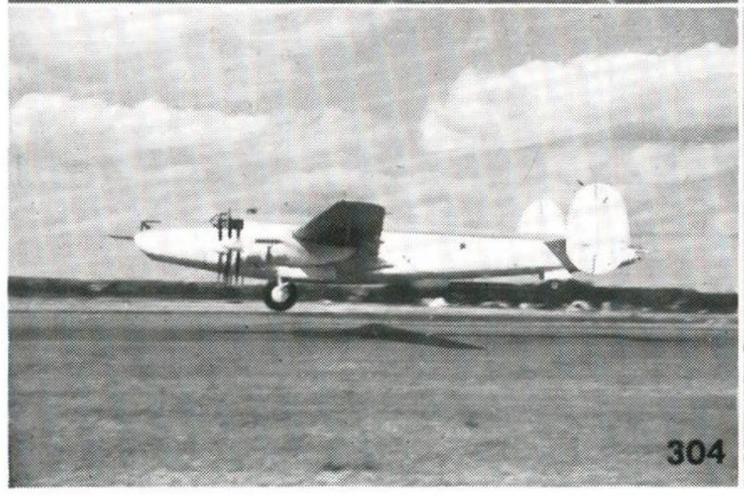
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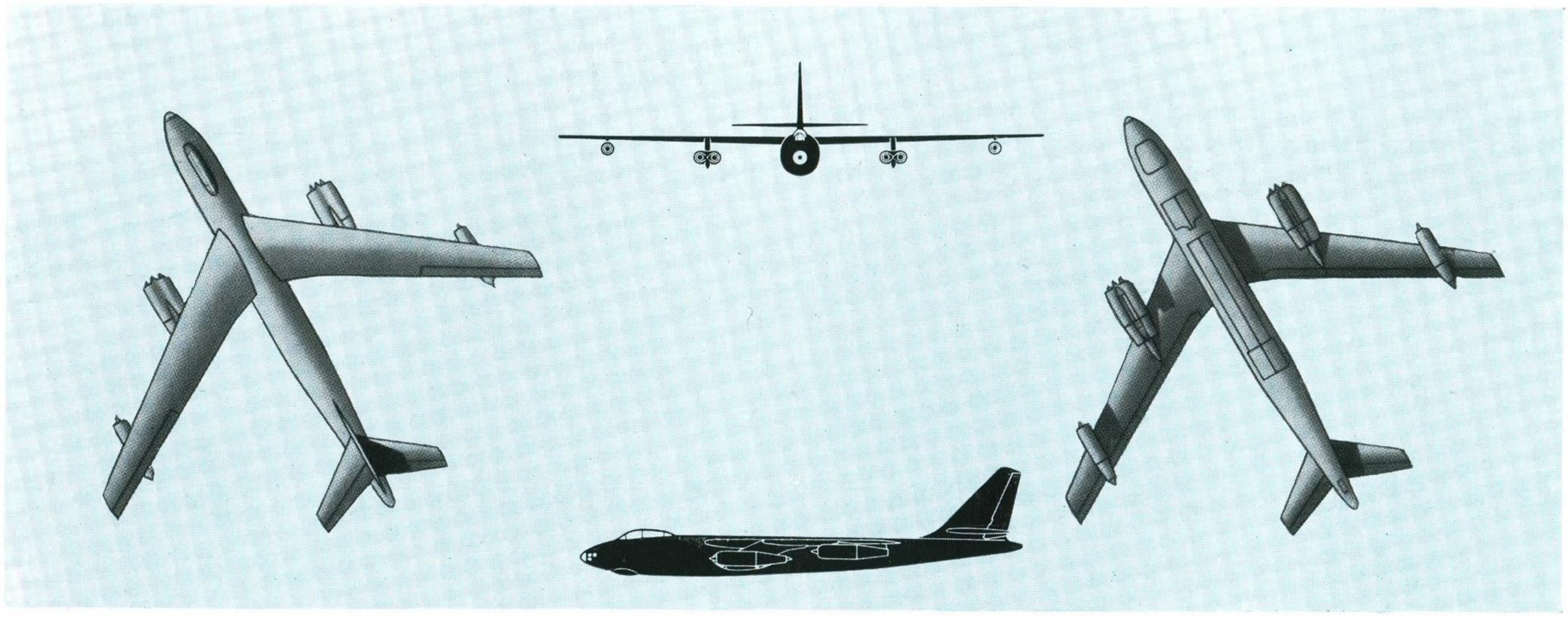


Character Study No. 33—THE BOEING B-47

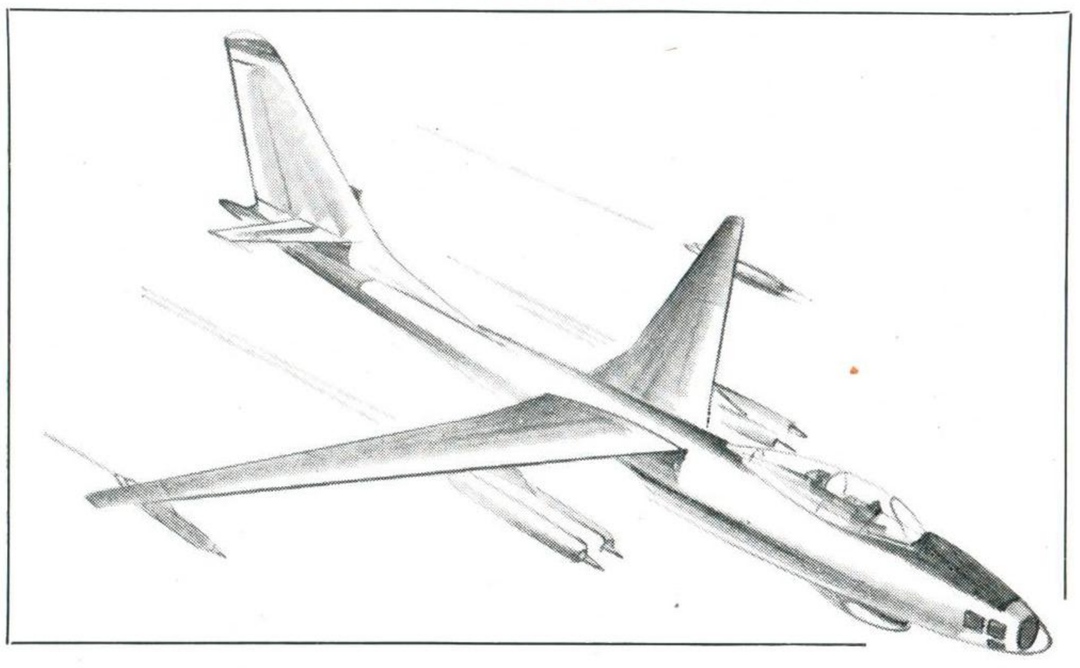
AIRCRAFT today can often be classified—unscientifically no doubt—by whether they are smooth, all-included, machines which look like our romantic conception of the aeroplane ; or flying Christmas trees, reminiscent of pre-war Continental railway locomotives that always seemed somehow to have been turned inside out. The Boeing B-47 is, I fear, a Christmas tree ; but none the less efficient for that. Also she is an easy job for the spotter.

The huge fuselage is a slowly tapering structure, from a blunt-pointed nose and heavy forward and middle sections to a long thin-pointed tail cone. The great angular fin and rudder rise sharply up and lean well over backwards, with an angular sweptback tail-plane placed only a little way up the fin.

The high-set swept-back wings are the dominating feature of the aircraft. Without any noticeable dihedral, they sprout at about a third of the way down the fuselage and are particularly noteworthy for their extreme thinness and high aspect ratio—making them look almost like two giant bread knives. They are not only strongly swept back, but tapered into the bargain, with narrow angular tips.

Then come the very noticeable attachments—four under-slung pods projecting forwards on the ends of fin-like pylons. The two inner pods consist of two jet engines apiece, and hang down to a level of about half the fuselage depth. The two outer pods—one engine apiece—are set well in from the wing tips, and fit more snugly near the under surface. These appendages are striking features, and also light catchers, from almost every angle.

. . . a Christmas tree . . .



The B-47 is of course a bomber and first flew in 1949 ; she is in service with the U.S.A.F. As a tail-piece one might remind enthusiasts that she was the subject of one of the most spectacular air photographs ever taken—when she took off in a steep climb with the aid of a large battery of JATO rockets, which made her look like a space-ship setting off on a journey to the moon.

Principal data are as follows :

Span : 116 ft. *Length :* 108 ft.

Engines : SIX GENERAL ELECTRIC TURBOJETS.

Armament : REMOTE CONTROLLED TAIL ARMAMENT ONLY.

Speed : OVER 600 m.p.h.

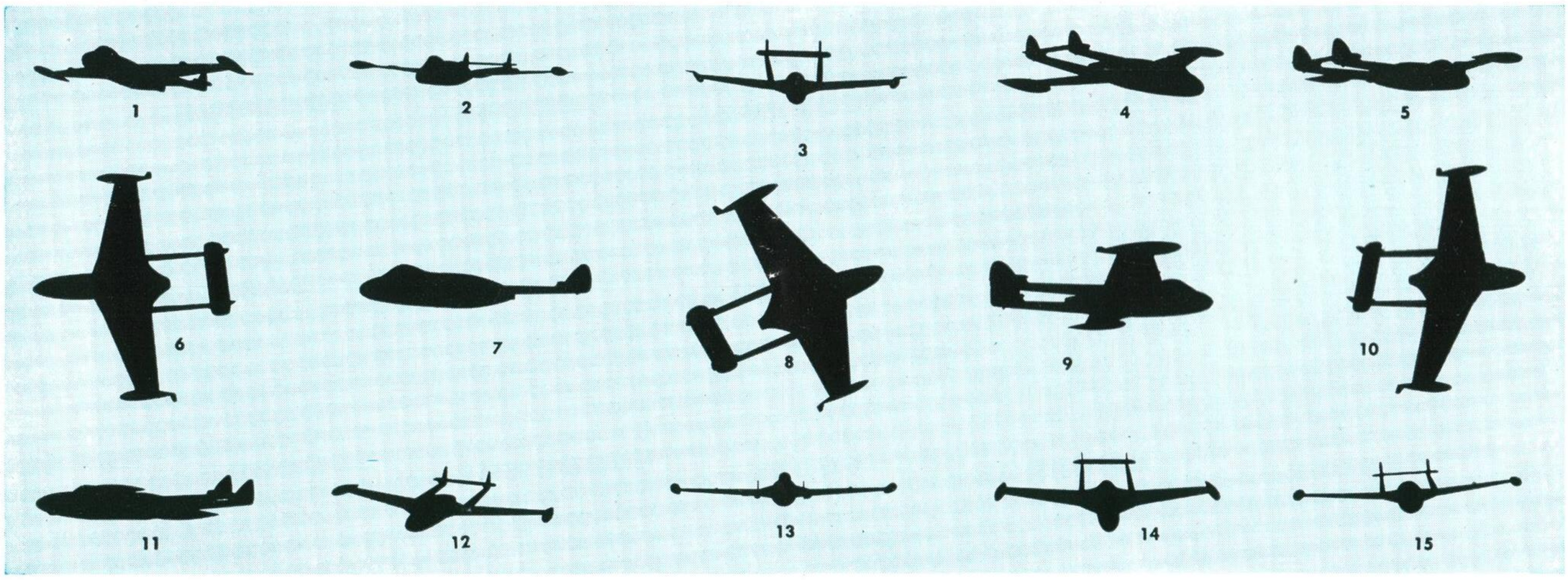
Function : BOMBER.

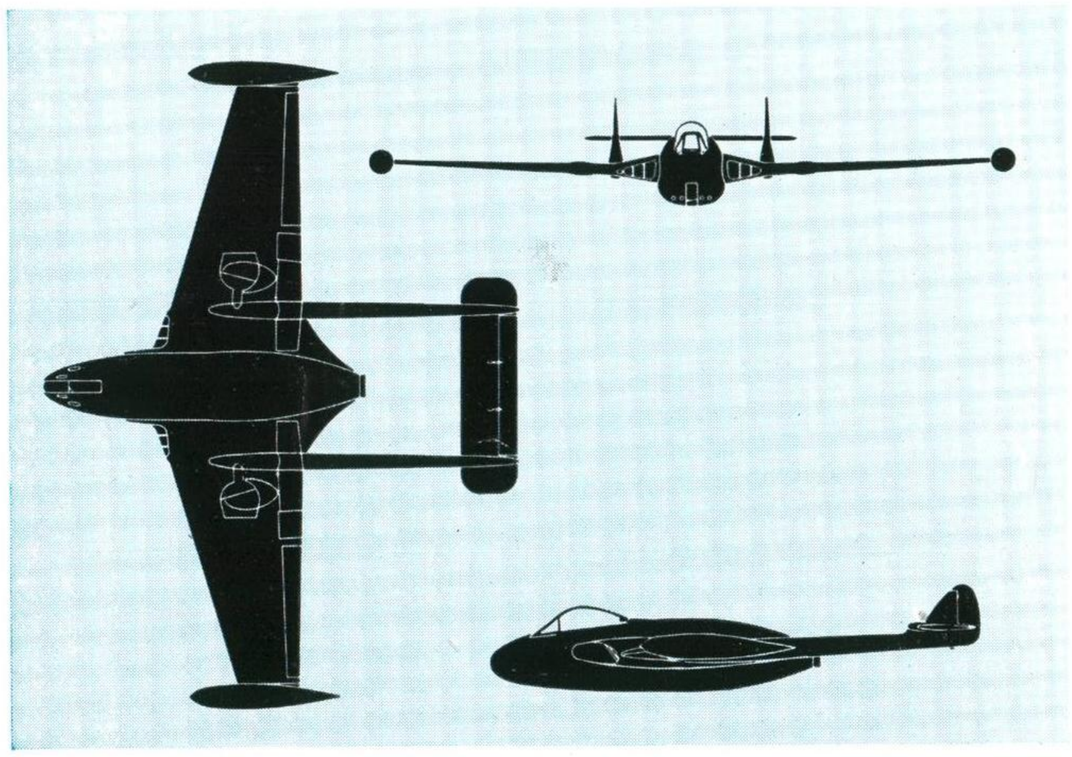
Maker : BOEING.

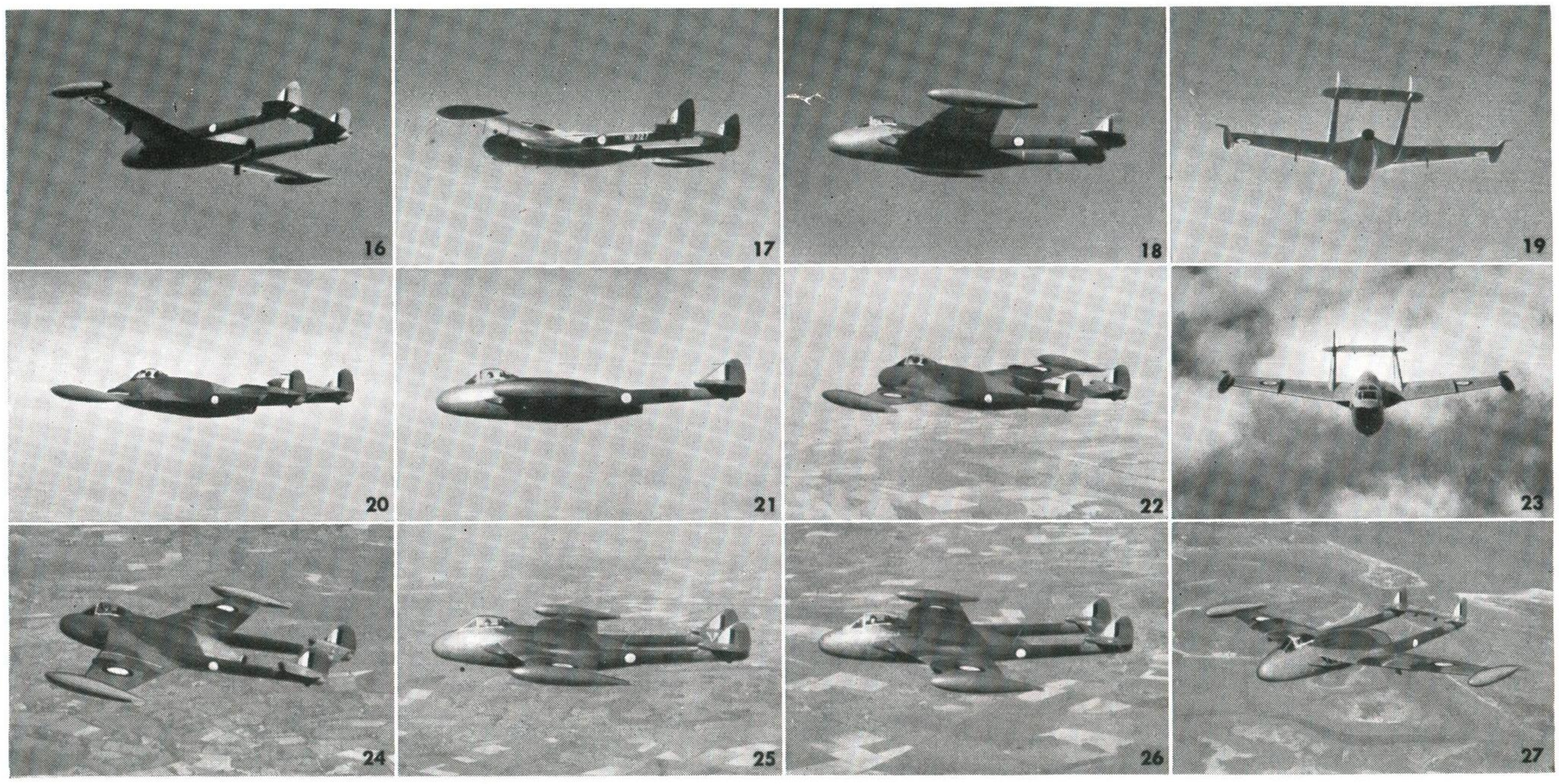
C. H. GIBBS-SMITH

EXERCISE 'VENOM ONE'

The de Havilland Venom F.B.1, development of the famous Vampire jet-fighter, is now in regular Royal Air Force service. Here is a selection of views of the Venom 1 (together with one or two of confusable types) from which to refresh your experiences of the Venom and to exercise your powers of observation and deduction. The procedure is : (1) List the numbers on paper (1 to 27). (2) Identify each image (with care) taking clues from the silhouette and photograph provided. Do the easiest " targets " first, to gain experience. (3) Check over your answers carefully before consulting the solutions on the rear cover.



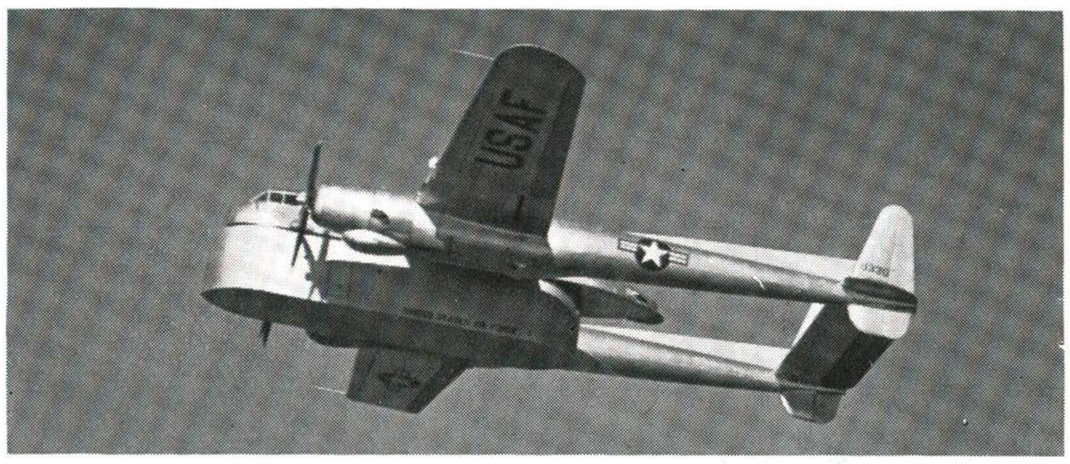




BRIEFS

Getting Things Moving

The Fairchild XC-120 Packplane is shown here making a getaway with its road convertible cargo container. This container can be loaded with as much cargo as a C-119 Packet and attached or detached at either end of flight as



required. On the ground the pack sprouts wheels, has its streamlined ends removed and can be hauled away by almost any convenient vehicle. The new U.S.A.F. C-119H Packet with modified wings and tail unit, is featured in " Early Warning " on page 41.

* * *

New Weapon

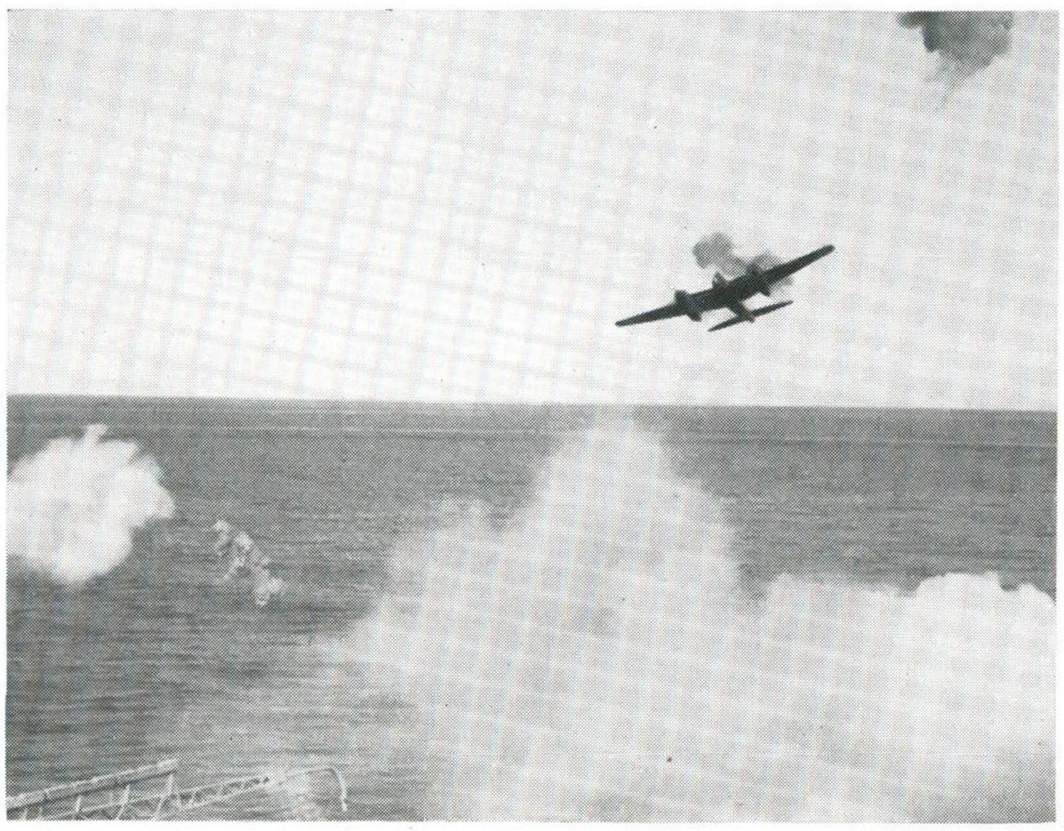
New three-barrelled anti-submarine mortars installed in H.M.S. *Rocket*, one of the Royal Navy's fast anti-submarine frigates, have been the subject of much interest in the United States and Canada during the recent visit of H.M.S. *Rocket* to these countries. The mortars can fire a pattern of large projectiles to explode with great accuracy at the depth indicated by an Asdic set, to which the mortars are linked by an improved electronic system. Asdic itself is a device emitting supersonic waves which scan the ocean depths and " bounce back " from objects such as submarines. Asdic measures time taken by these waves to travel out and back, and indicates the actual distance and direction of the target. This information is passed to the electronic fire control system which automatically fires the mortar. H.M.S. *Rocket* carries two of these mortars.

Two types of conversion from destroyer to fast anti-submarine frigates are now being made. H.M.S. *Rocket*, *Relentless*, *Venus*, *Verulam* and *Virago* have been the subject of extensive conversion, and H.M.S. *Tenacious* (August, 1952, Briefs) is the first of four destroyers to undergo a more limited conversion.

* * *

Mock Attack

Taken during a demonstration to His Royal Highness The Duke of Edinburgh on his visit to Malta last year, this picture shows H.M.S. *Theseus* being " attacked " by an " enemy " Sea Hornet.



Meteor 11s for Denmark

An undisclosed number of Meteor 11 night-fighters are on order for the Danish Air Force.

* * *

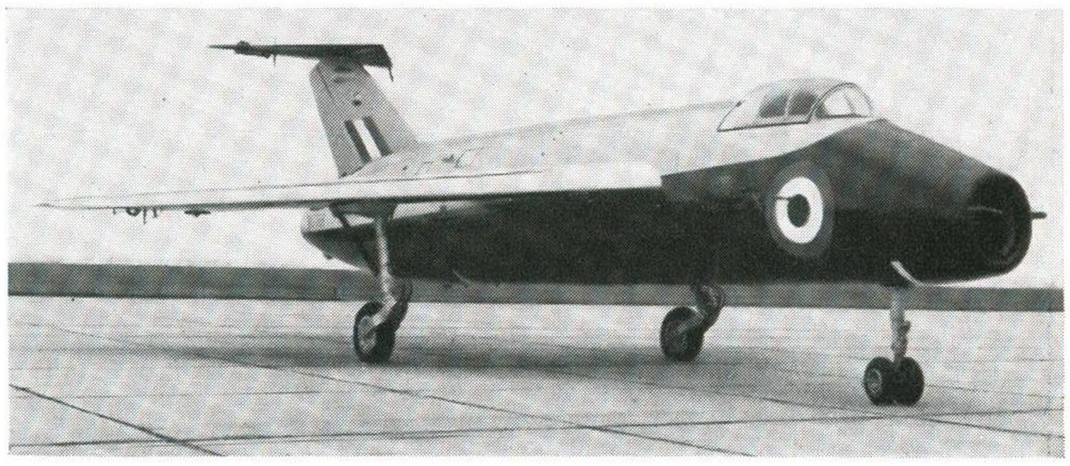
Utility Fighter

The money which would buy over 1,000 aircraft in 1930 will now buy less than 100, say the Society of British Aircraft Constructors, and the man-hours needed to build a Hunter are over three times those put into a last-war Hurricane. It is with this in mind, the Society indicates, that Folland Aircraft are embarking on two prototypes of a very light " utility " supersonic fighter. No details are yet available.

* * *

Short SB-5

New swept-wing research aircraft Short SB-5 is now flying. This aircraft has very thin variable sweep-back wings for experimental high and low speed flying. For slow flying and landing this device enables the wing area to be increased, and for high speeds the wing may be given more sweep-back. Engine is a Rolls-Royce Derwent.



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S.B.A.C. 1953

Readers are recommended to make an early note of the S.B.A.C. Coronation Year Flying Display and Exhibition to be held at Farnborough, Hampshire, from 7th to 13th September inclusive. As for last year, members of the public will be admitted on the last three days.

* * *

Turboprop Bird Dog

Almost complete absence of vibration due to its new Boeing 502-8 gas turbine should make the Cessna XL-19B one of the quietest light types ever. Other advantages of the turbine include simplified power-plant installation, elimination of cooling problems and ability to operate on anything from Army truck fuel to that used by jets. The Cessna L-19 has been used in Korea for observation and liaison duties, and in September, 1951, was officially nicknamed " Bird Dog " by General Mark Clark, then Chief of U.S. Army Field Forces.

* * *

Helicopter Squadron

The first Royal Navy helicopter squadron has now been formed and is to operate its ten-passenger Sikorsky S-55's against Communist terrorists in Malaya.

* * *

All-Swept Saab

Powered by a Rolls-Royce Avon turbojet, prototype Saab A-32 Lansen two-seat all-weather fighter for the Swedish Air Force is now flying. The Lansen is of conventional all-swept general form with flush " cheek " intakes and " bullet " body. Interesting new feature is the moveable tailplane, each root of which is conspicuously faired to the fuselage.

SEMI-SILLOGRAPHS

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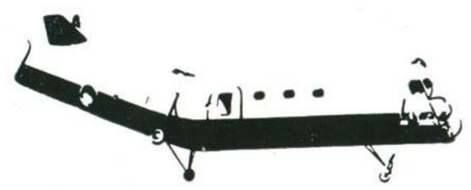

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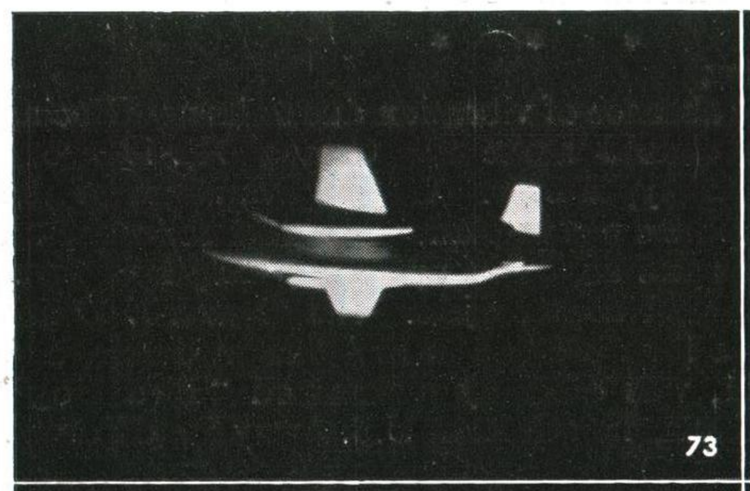

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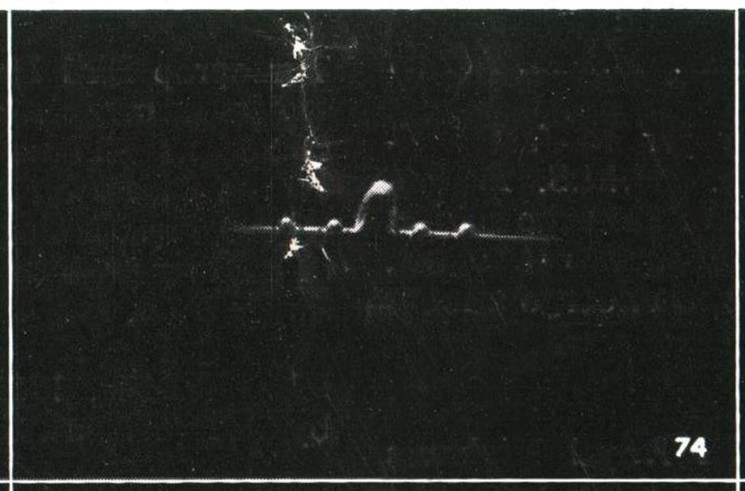

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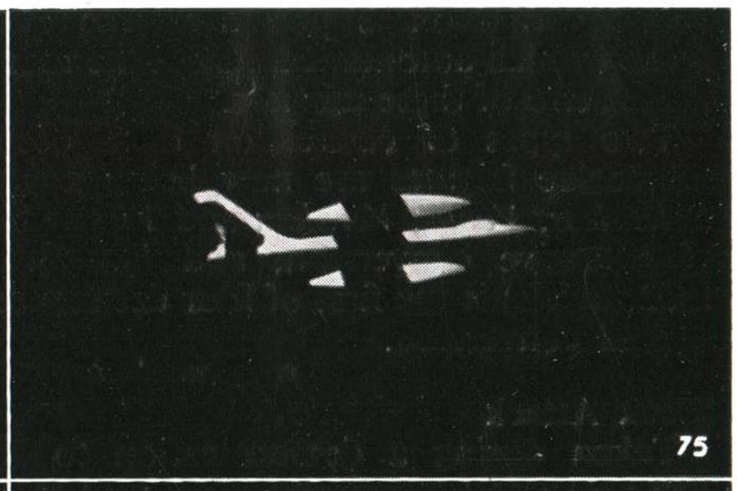

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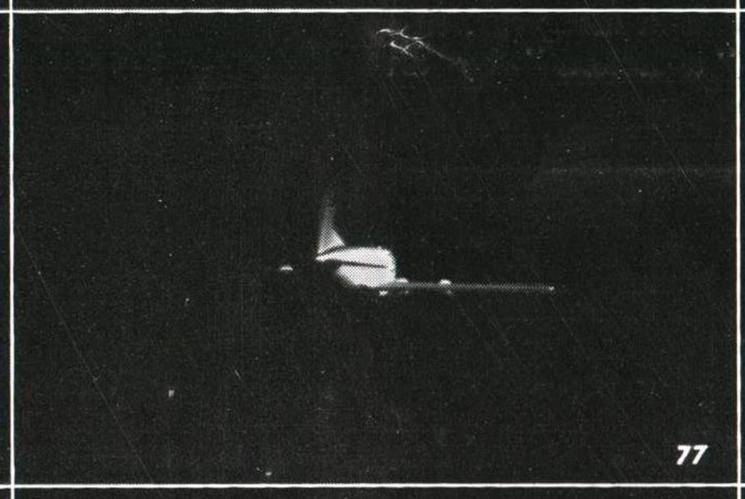

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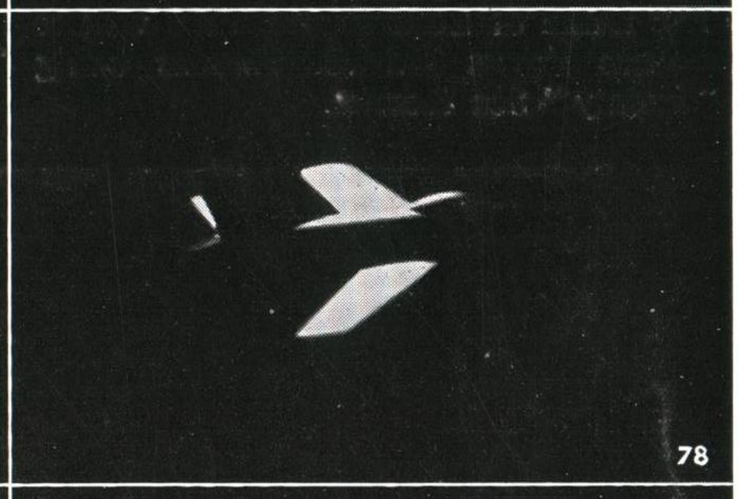

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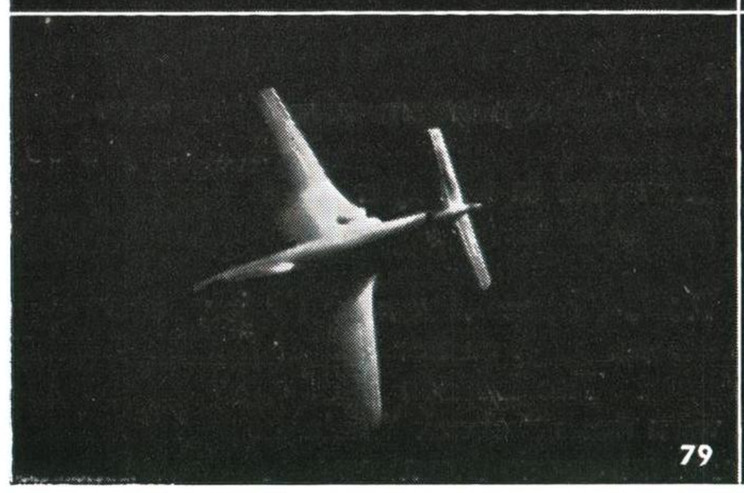

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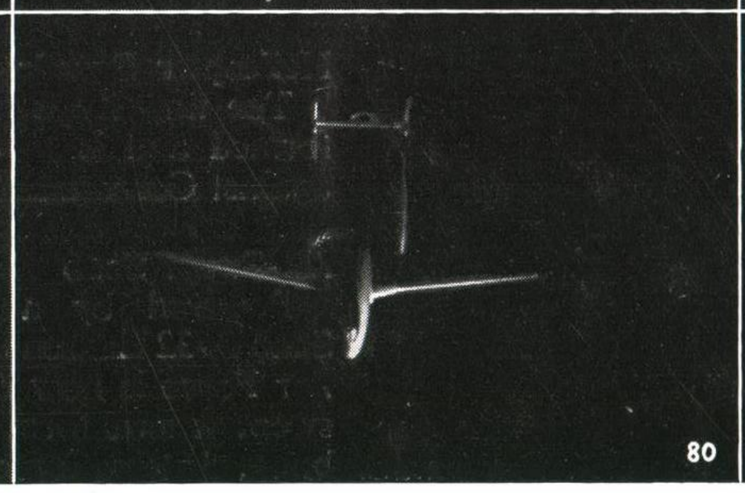

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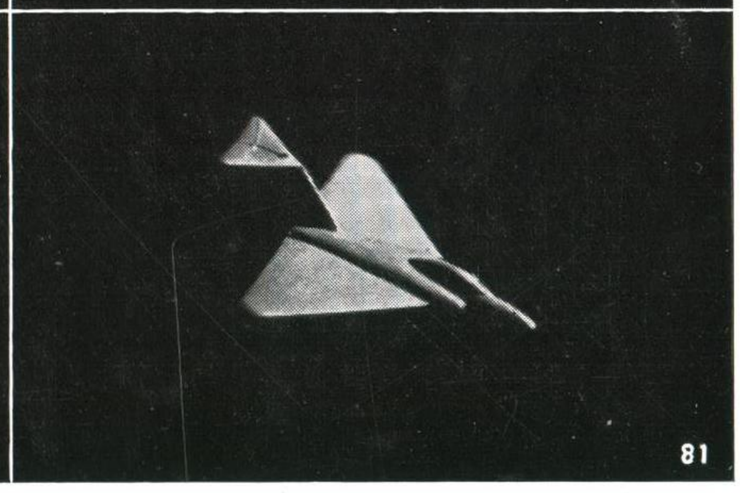

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HIGHLIGHTS

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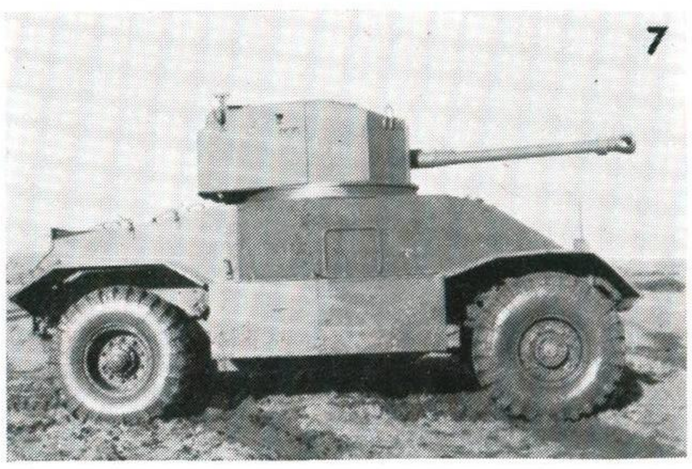
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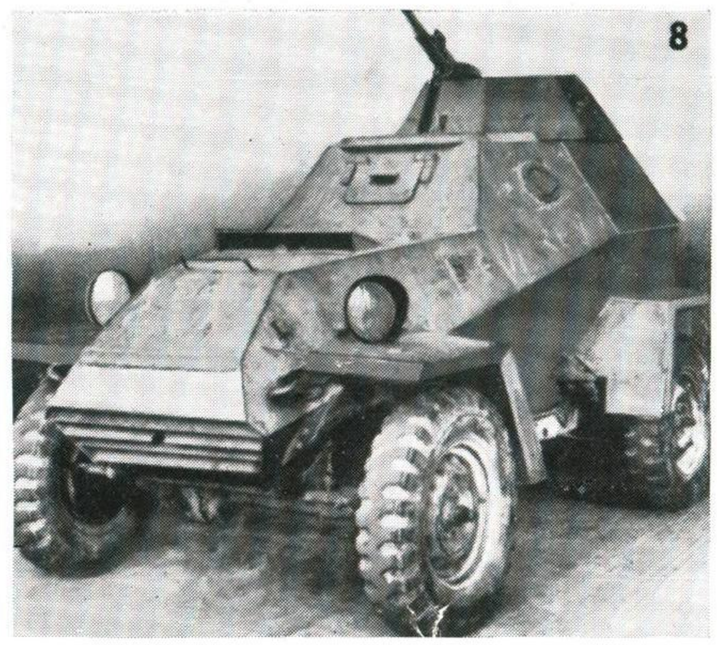
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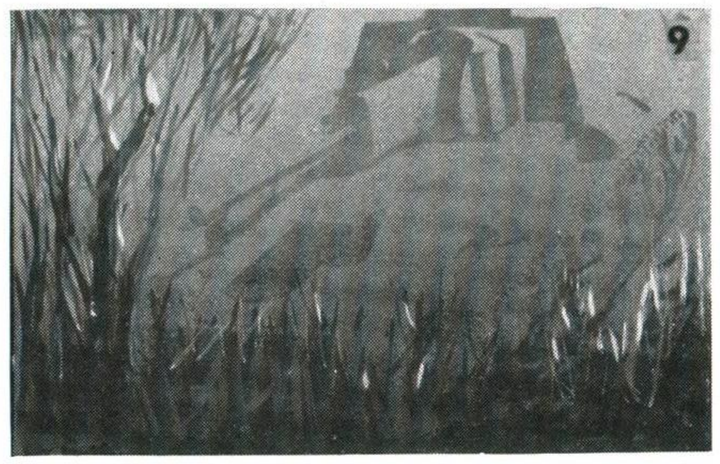
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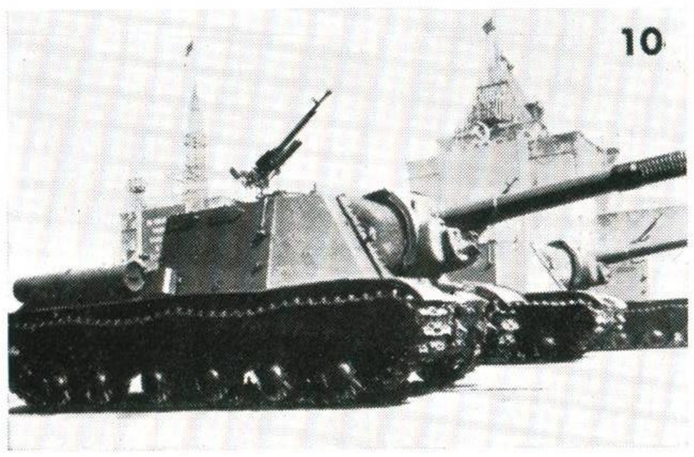
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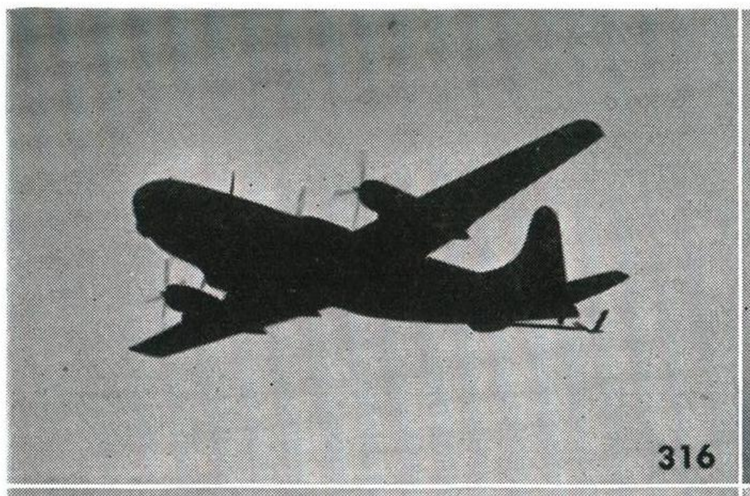
A.F.V. TEST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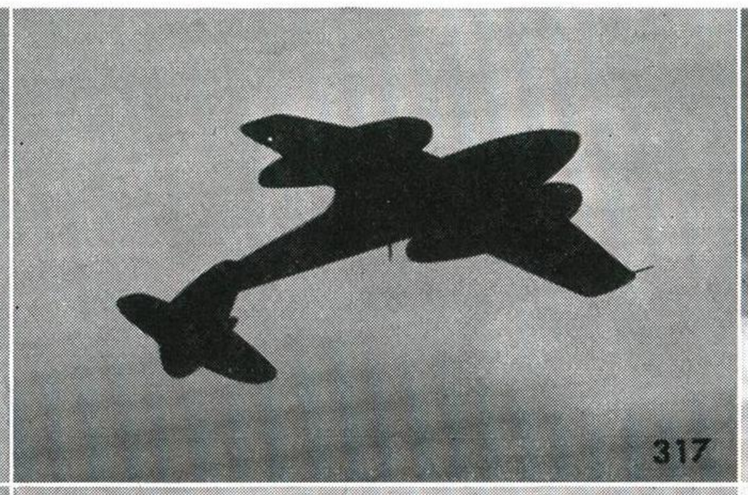
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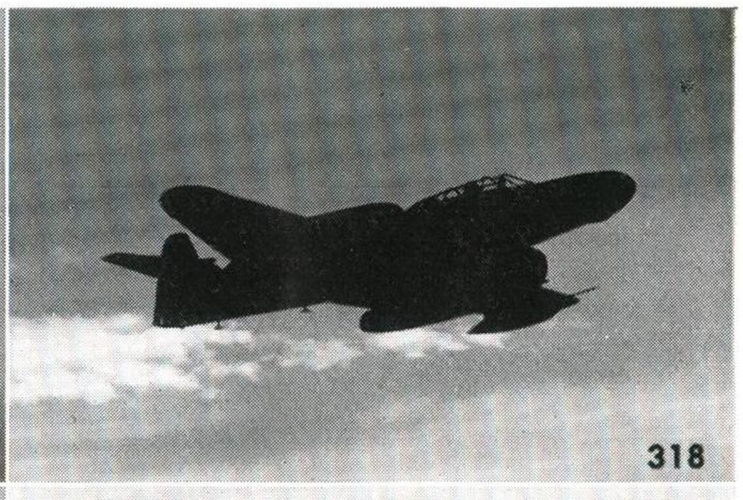
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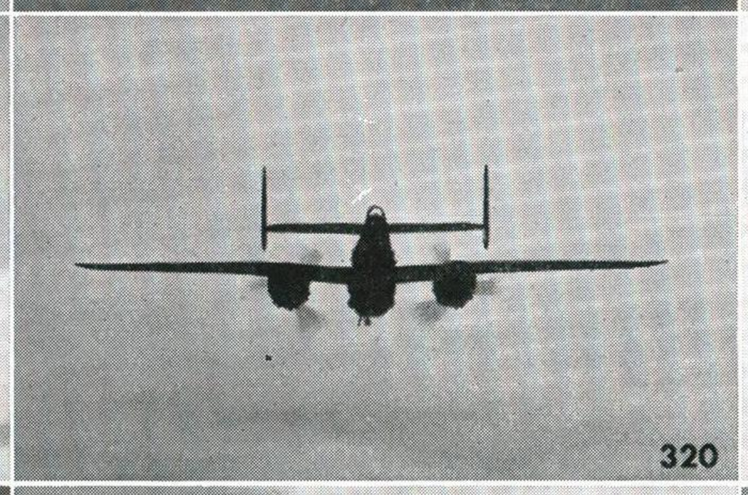
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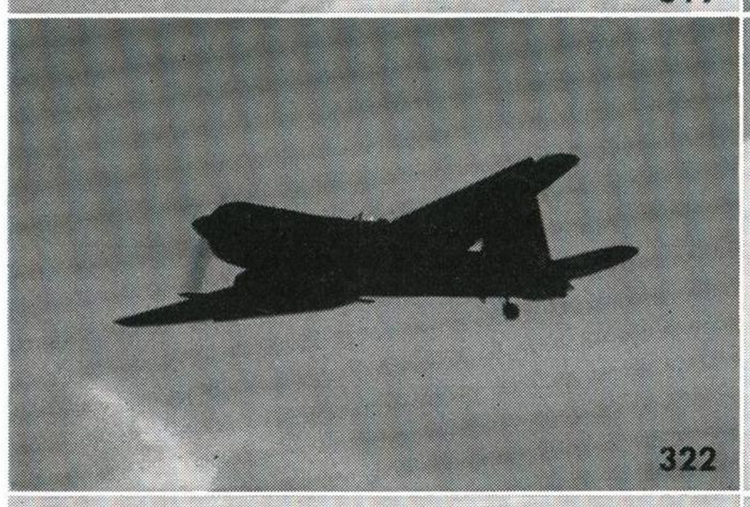
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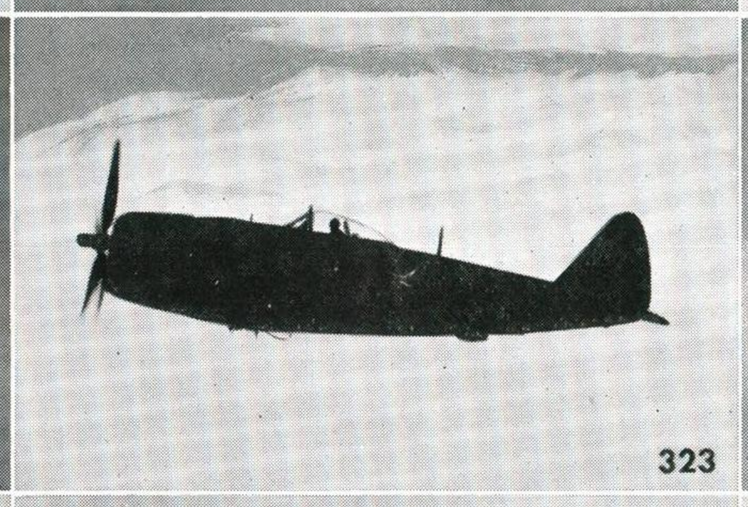
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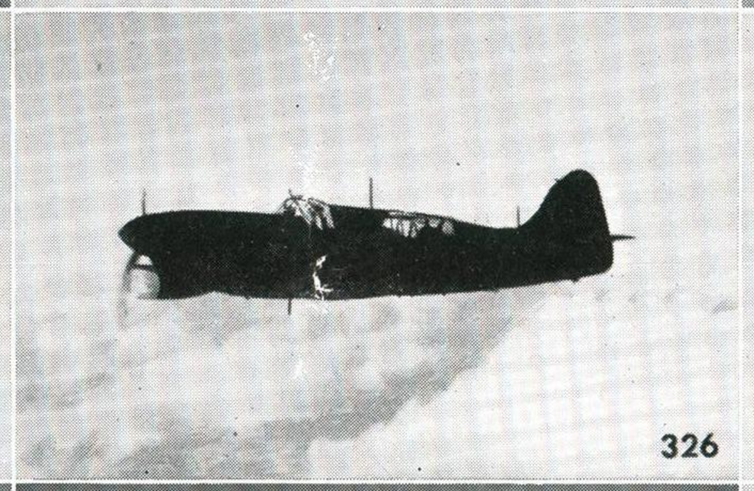
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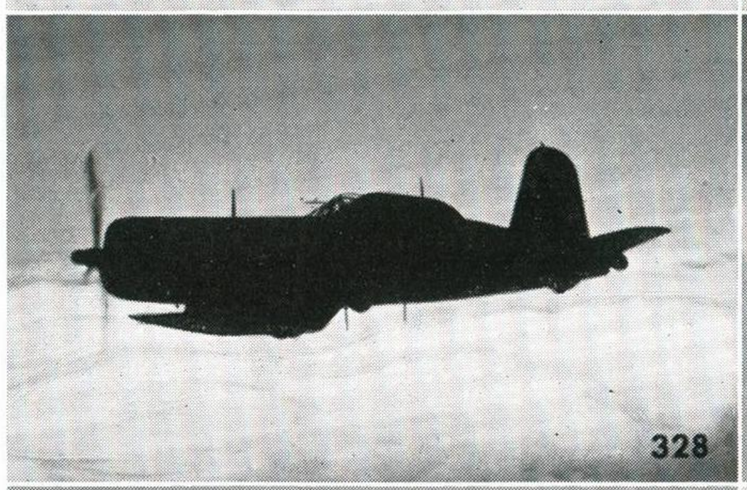
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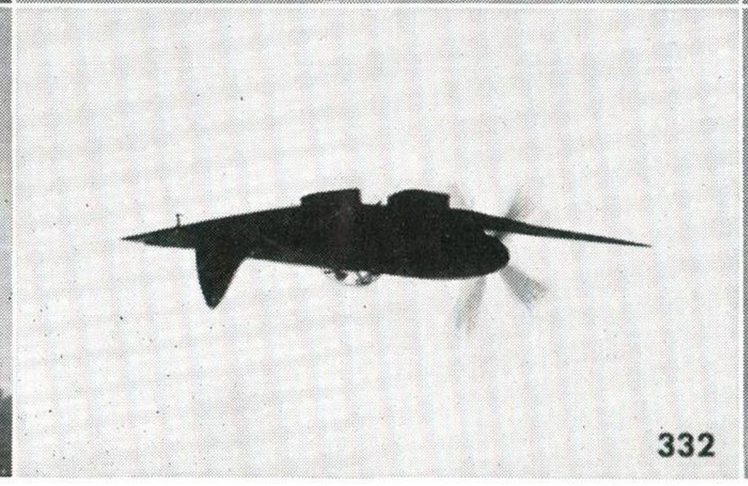
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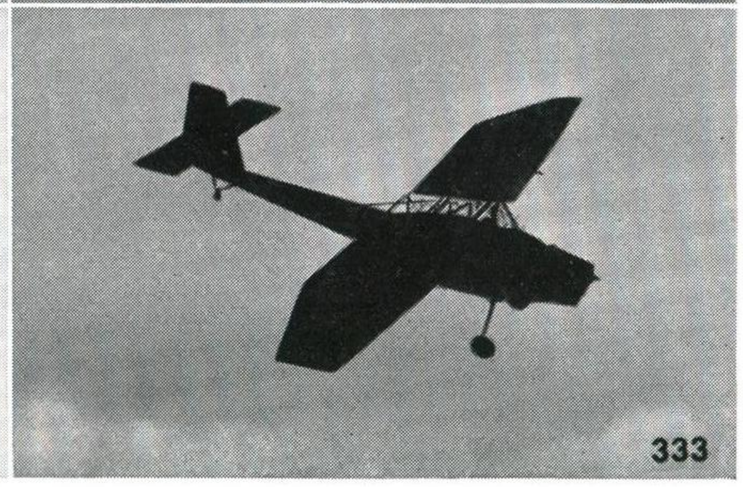
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SILLOGRAPHS

REHEAT

OR

More power to their elbows

THE latest Royal Air Force jet-fighters are having a reheat device fitted to the engine which injects neat fuel into the tailpipe gases and is ignited to give an instantaneous surge of extra power—30 per cent. or more, higher than the normal thrust figure.

Crude forms of reheat have been used at various times since 1944, when this British invention was first tested. But the equipment now developed and going into operational use is the result of considerable ingenuity on the part of British designers who have worked to squeeze the last ounce of efficiency from the system. This development is two-position reheat.

So far as is known, the first operational fighters to have two-position reheat are the Ghost-engine Venoms. It will also be used in the Swift and Hunter swept-wing fighters, which will be in squadron service this year.

There are two main advantages to be gained from the reheat device. The extra power generated can be used primarily for very quick get-away and climb. Reheat may also be switched on in combat, when its extra power can make all the difference between shooting down the enemy or being shot down. Today's combat takes place at 40 or 50,000 feet where the thrust of a jet engine may fall off from 10,000 at sea level to some 1,650 lb. ; reheat gives the necessary extra boost for stratospheric manœuvring.

The principle of reheat follows from the fact that the ordinary jet engine burns only about 30 per cent. of the air going through it ; some of the rest is used for cooling, but once past the turbine, any spare air can be burnt to speed up the jet flow again and thus give more thrust.

This is done by injecting neat fuel through a series of nozzles which are fitted in the tailpipe.

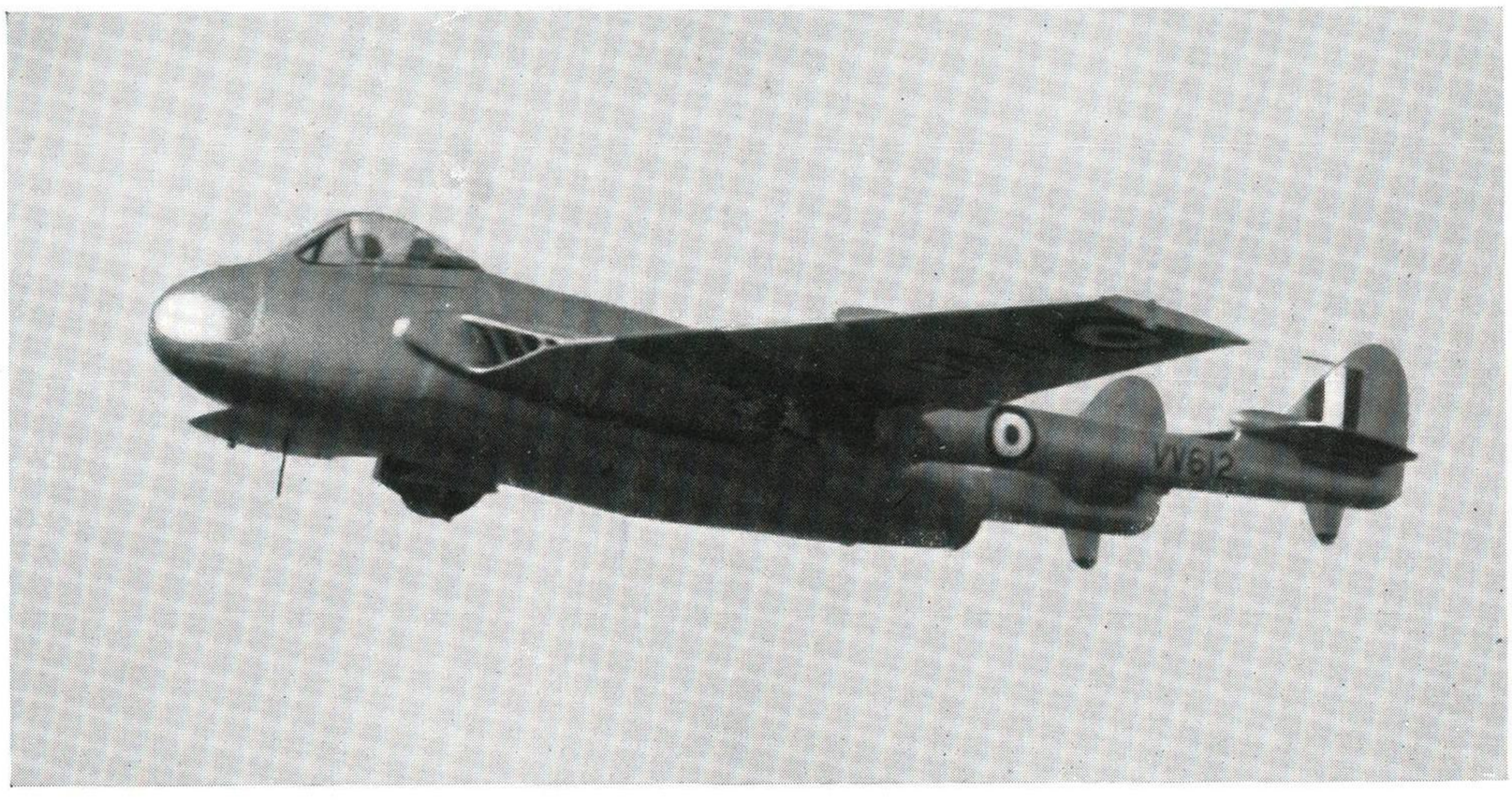
Since the velocity of the jet thrust when re-heated is much greater than normal, the diameter of the tailpipe has to be automatically adjustable to two positions —small for normal jet thrust, and wider for fully boosted power with reheat on—to give maximum effectiveness.

Varying the size of the jet pipe is not the only complication necessary in what appears in principle to be a simple device. Fuel nozzles have to be designed which spray liquid so that it ignites in the fast-moving jet of air and is not blown out to burn uselessly behind the aircraft. The fuel also has to be very finely atomized, because if ignited too suddenly, it might cause an explosion.

Moving parts have had to be designed to operate in the jet orifice at very high temperatures, and the whole system linked up to a simple control which is combined with the pilot's throttle. The added weight and complication of all this mechanism must naturally be kept to a minimum.

The main and most obvious disadvantage of the reheat device is the tremendous quantity of fuel required. To get 30 per cent. more thrust, fuel consumption may be doubled. This penalty, which experts at one time thought critical, is now offset by the demand for more and more thrust for combat ; jet fighters must get as high as possible as quickly as possible, because that is where the enemy will be ; time is the critical factor.

Reheat is, in fact, one more device introduced to knock vital seconds off the elapsed time between a squadron scramble and their interception of the enemy aircraft.



This is the prototype Venom, as seen at Farnborough last year, fitted experimentally with a reheat device. The bumpers (non-standard) on the booms, guard the low-set jet-pipe from accidental contact with the ground if, for example, the aircraft touched down in an exaggerated tail-down attitude.

IL-28

Some characteristic impressions of Ilyushin IL-28 twin-jet bombers and Mig-15 swept-wing jet-fighters of the Soviet Air Forces, seen together in this rare view of both types in formation.

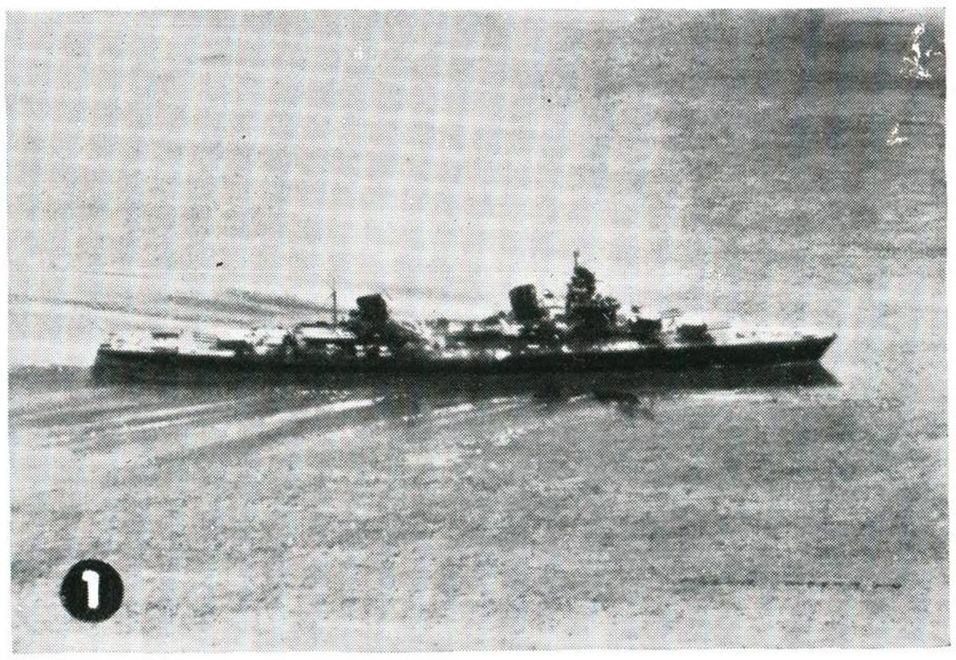
Use this presentation as self-contained "refresher course" on both types.

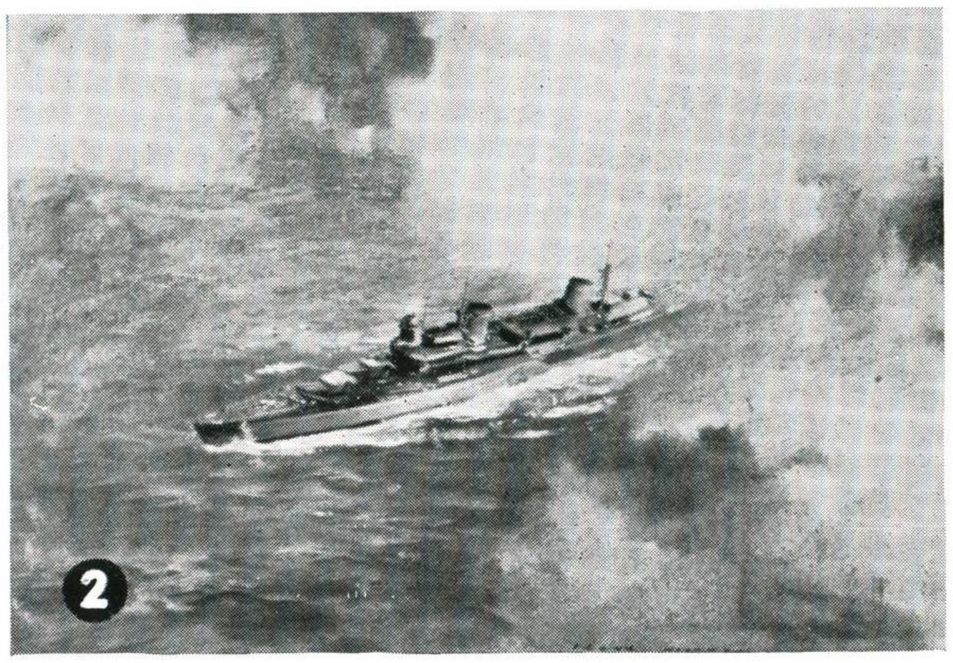
Exercise Kirov

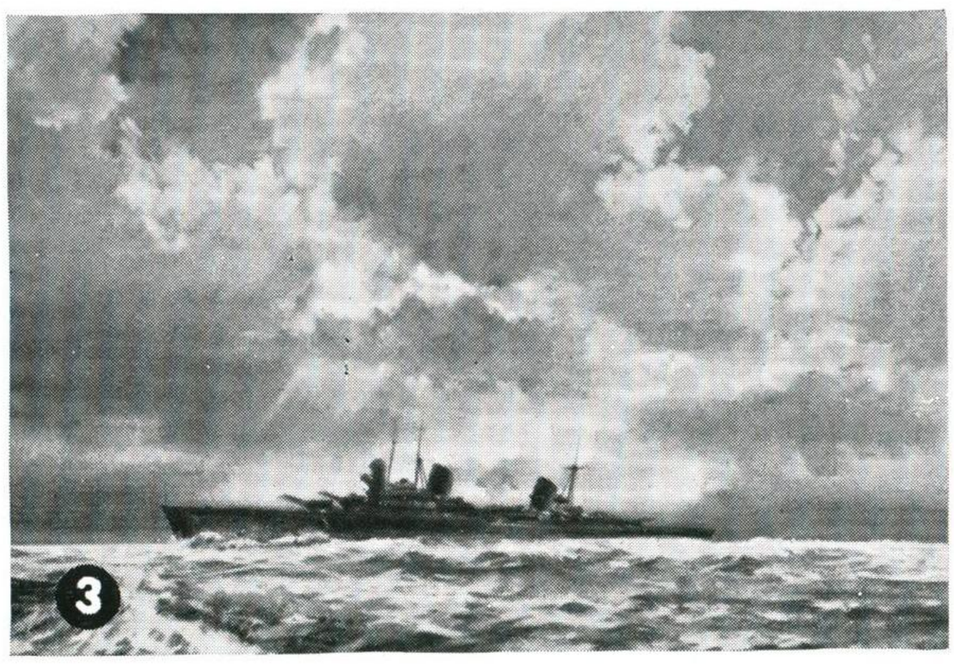
KIROV I and II

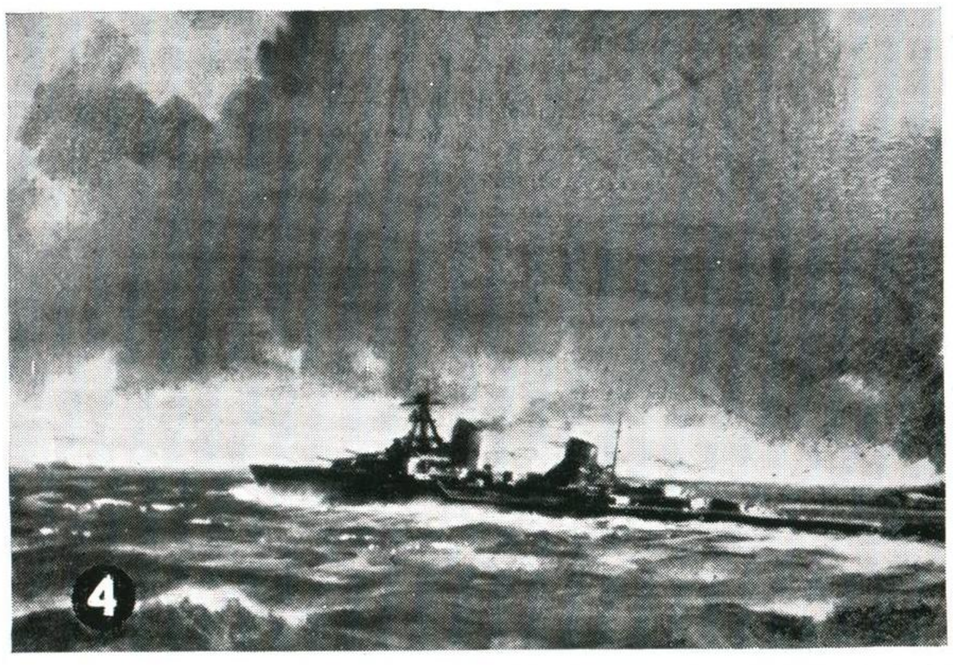
The Soviet Navy has two types of cruiser in the Kirov class. The latest, the Kirov II, has a conical control tower on the fore-end of the bridge (see large picture). With the aid of this single clue and, perhaps, a magnifying glass, can you identify both types in this group of views ? and also say what other differences there are between them.

(Solutions on the rear cover.)

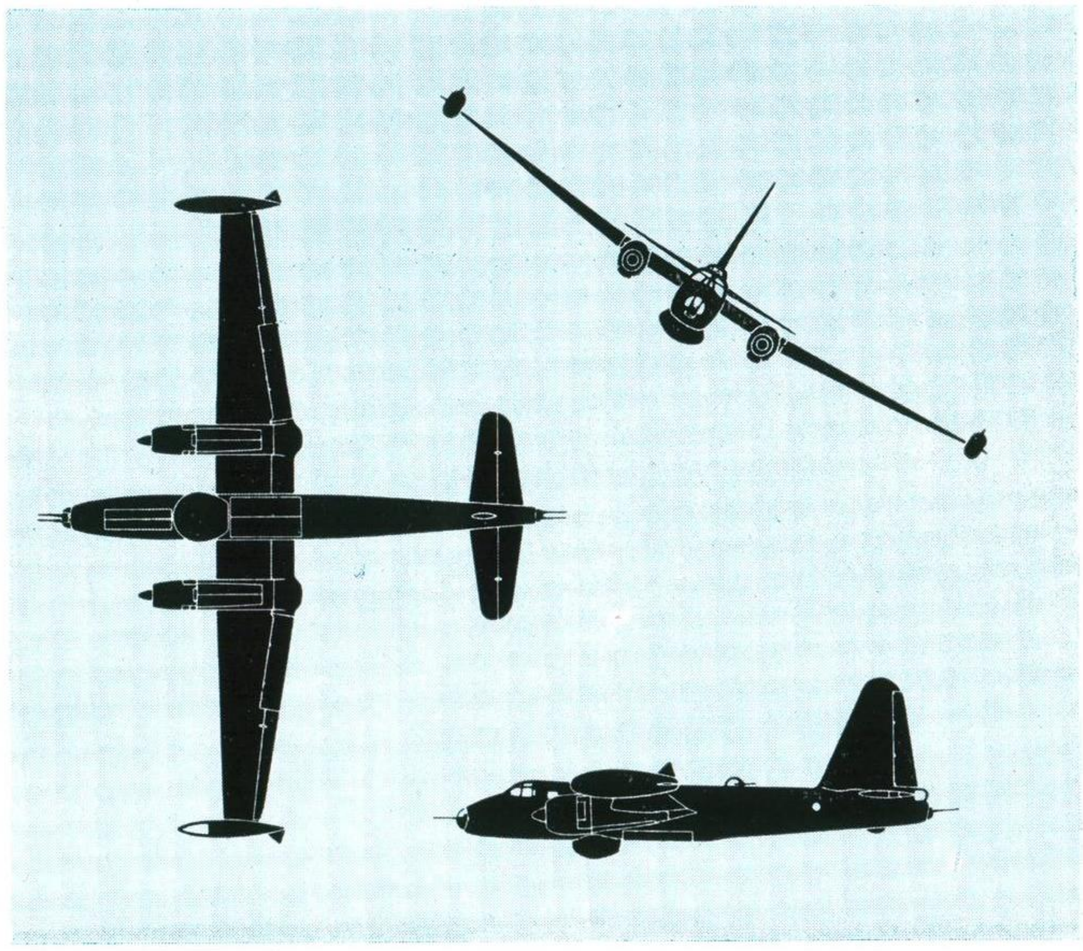


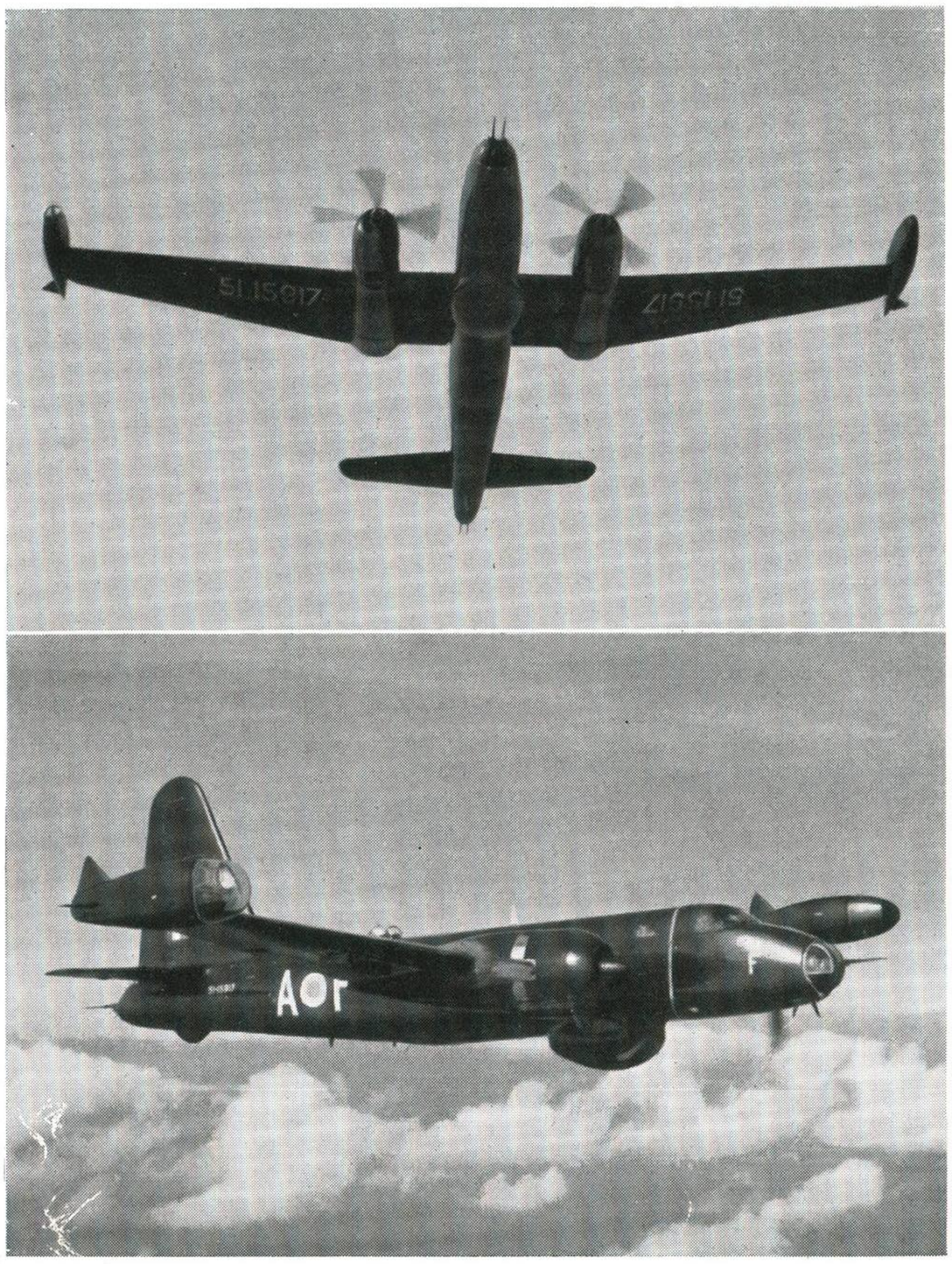






EXERCISE "NEPTUNE"





The **LOCKHEED NEPTUNE** first flew in 1944, and has been in service as a patrol bomber with the U.S. Navy since 1945. Here we introduce the Neptune MR Mk. 1 reconnaissance and anti-submarine version of the R.A.F. (U.S.N. designation P2V-5.) With the aid of these illustrations, carefully identify which of the pictures on the page overleaf are of the Neptune MR Mk. 1. First, list the numbers. Do the easiest views first, and then the more difficult ones as your experience grows. Gain maximum exercise by checking and cross-checking before consulting solutions on rear cover.

(See Exercise overleaf)

. . . *Exercise Neptune*

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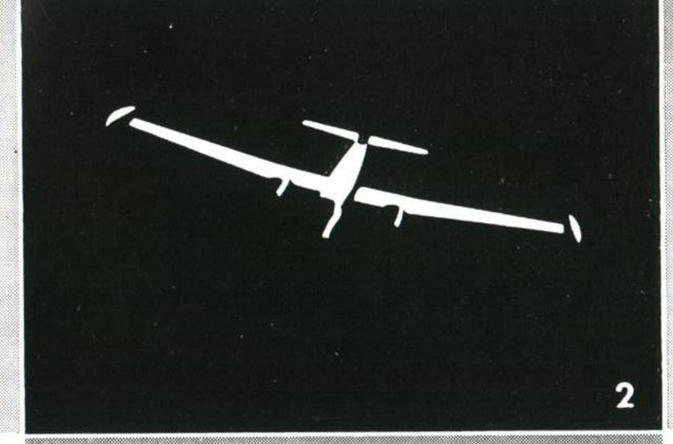
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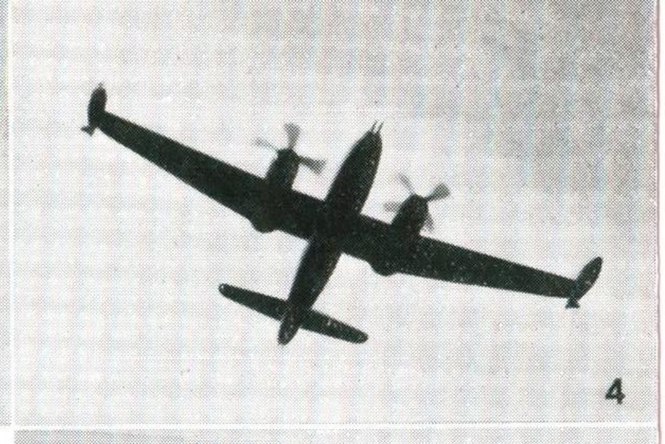
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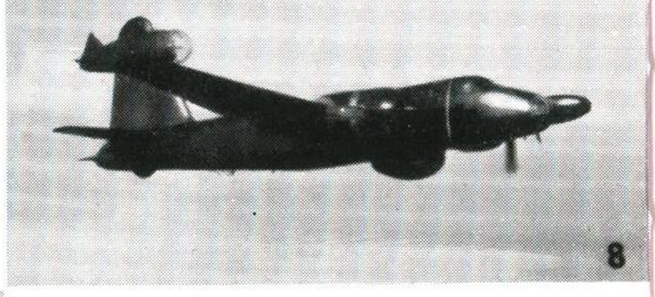
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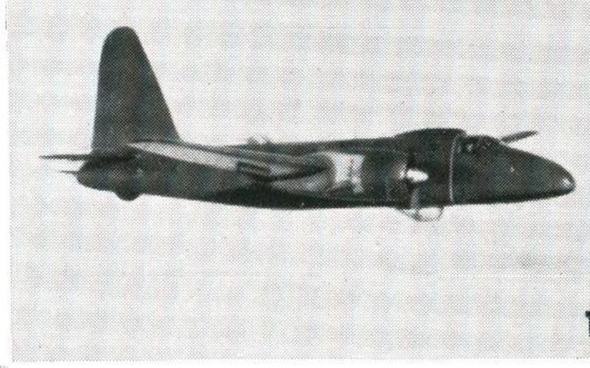
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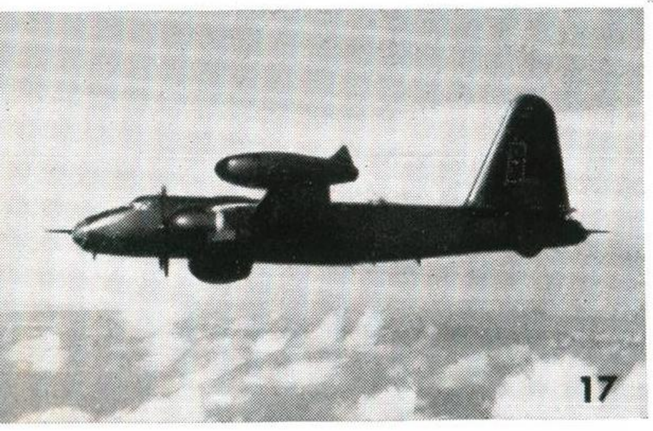
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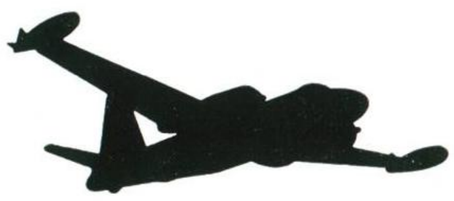
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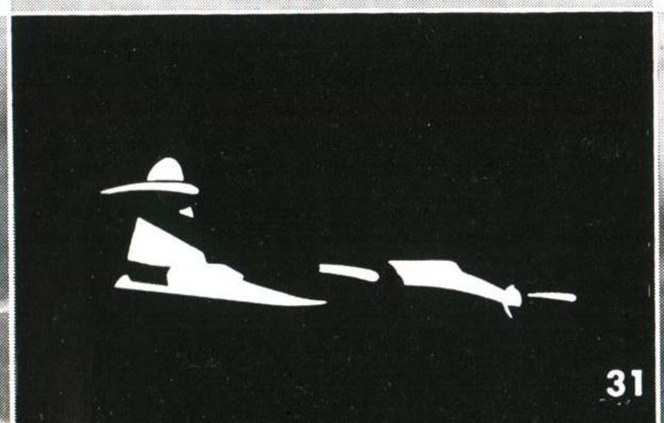
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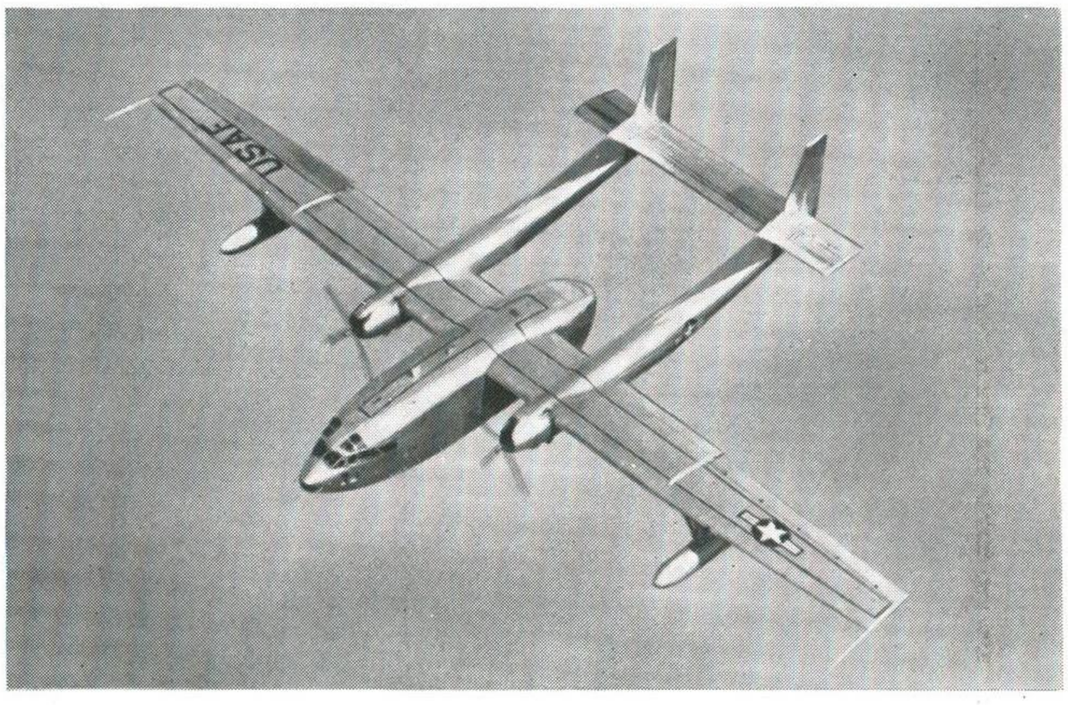
A further selection of new or modified aircraft of which readers may care to have

EARLY WARNING

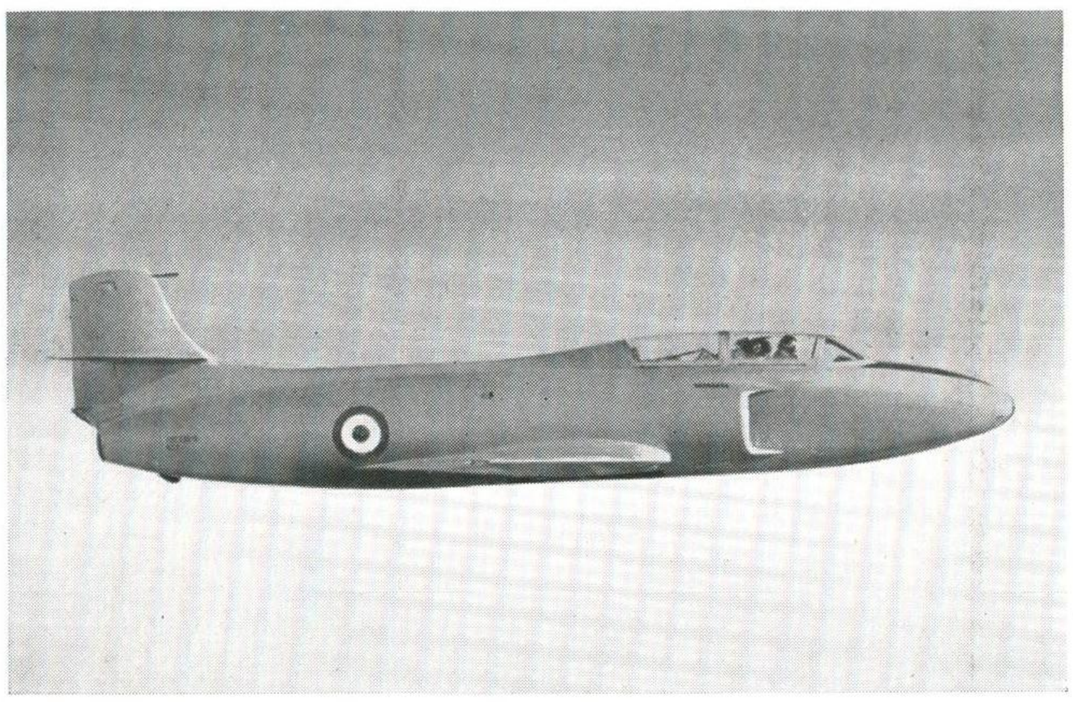
De Havilland DHC-3 OTTER This 8 to 14 seat high wing monoplane is to replace the Norseman as a bush transport and ambulance. It can operate on wheels, skis, or floats.
Span: 58 ft.

De Havilland DHC-1 CHIPMUNK 30 is externally the same as the R.A.F. Mk. 10 except for a "blown" cockpit hood. Thirty-seven have been supplied to Canadian flying clubs, and more are being exported to other countries.
Span: 58 ft.



Fairchild C-119H PACKET This is a totally redesigned Packet, except for the central fuselage nacelle, which remains the same. All fuel is carried in external wing pods.
Span: 148 ft.

McDonnell F2H-3 BANSHEE has a longer nose for improved radar and bigger guns. Tailplane has dihedral and is set on fuselage. One hundred and fifty-five have been ordered.
Span: 45 ft.



FIAT G-80 is a two-seat Italian jet trainer powered by a DH Goblin. Ten have been ordered for the Italian Air Force, and more may be forthcoming. Shown here is the first prototype. Second prototype has a Nene turbojet, and the third will probably have a Ghost. **Span: 36 ft.**

PIAGGIO 136 Fourteen of these five-seat amphibians are now in service in the Italian Air Force, and more are in service as civil transports. The Piaggio 136 is powered by two Franklin 245 h.p. "pusher" engines.
Span: 43 ft. 11 in.

'MULTI-TYPE' TUTOR

Instructions for use : (1) Prepare a list of numbers (1 to 52). (2) With the aid of the photo/silhouette key overleaf, carefully identify each illustration, starting with the easiest and returning to the more difficult ones as your experience grows. (3) Check and cross-check your answers before comparing them with the solutions given on the rear cover. Instructors Note : The scope of this exercise can be improved by the preparation of additional sheets for deduction by students.

(KEY ILLUSTRATIONS AND SILHOUETTES ON PAGE 44)

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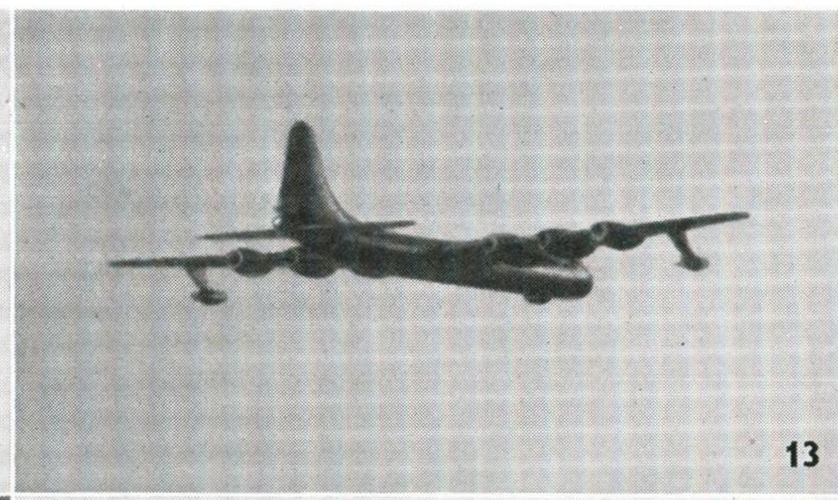
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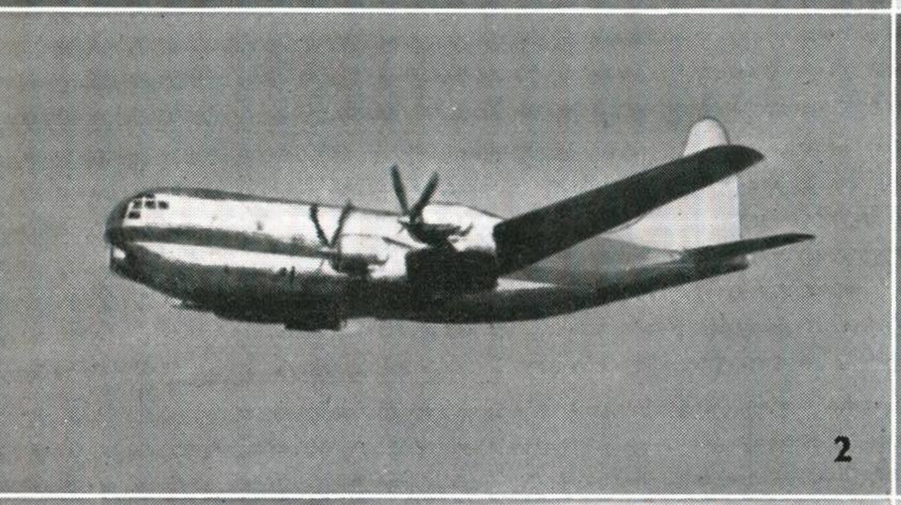
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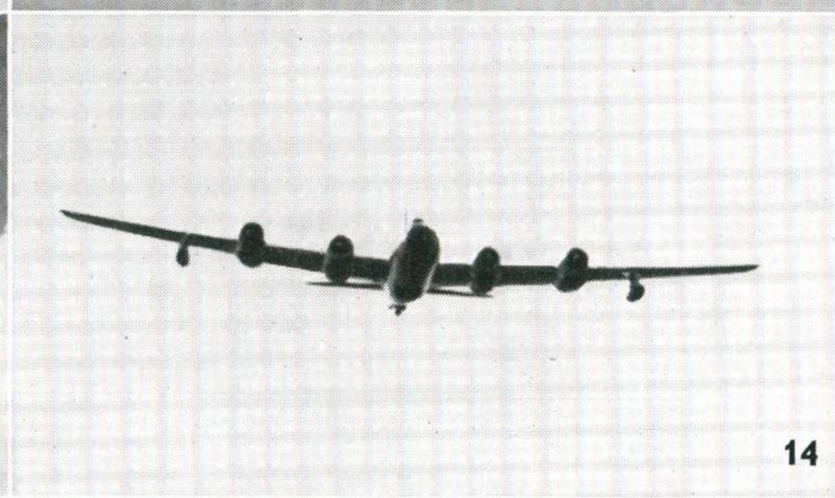
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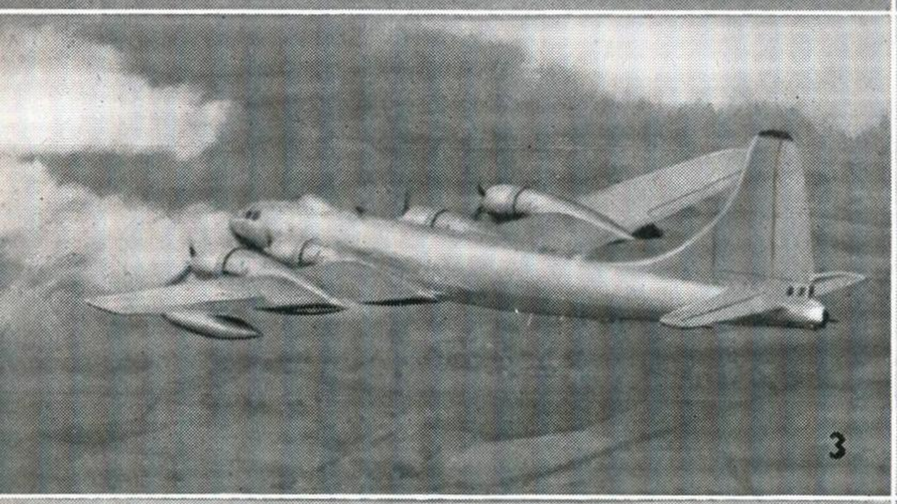
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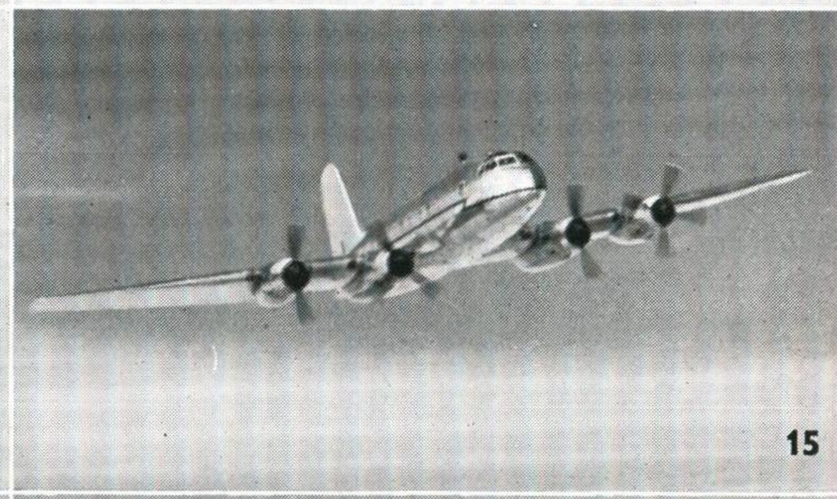
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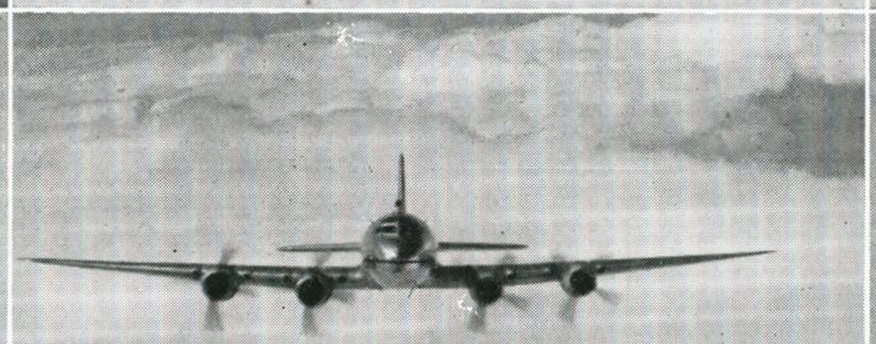
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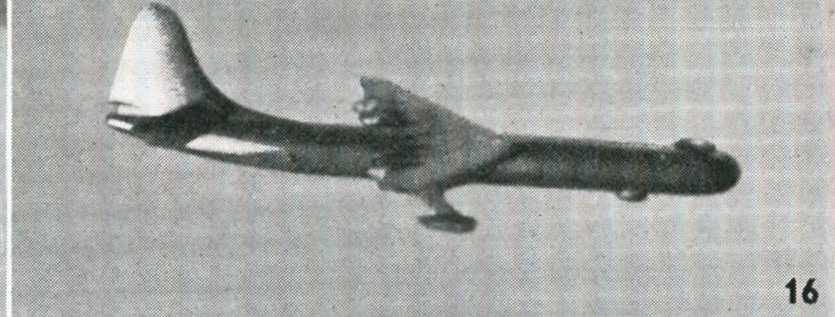
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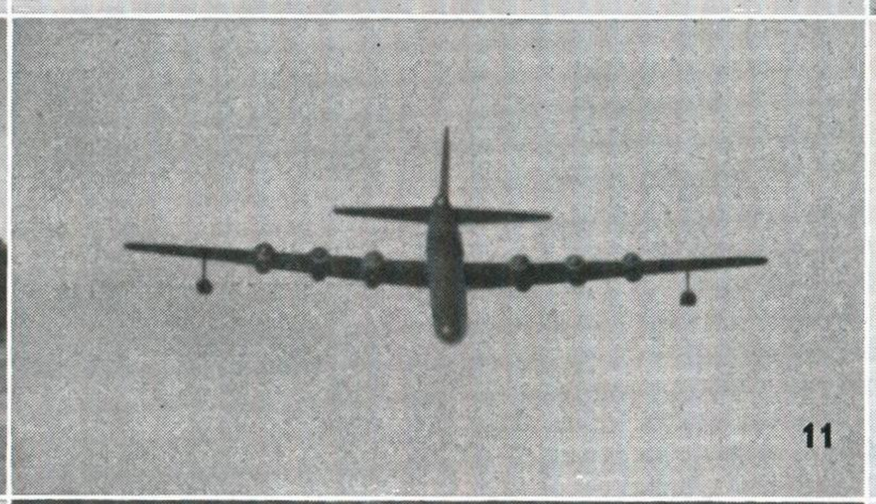
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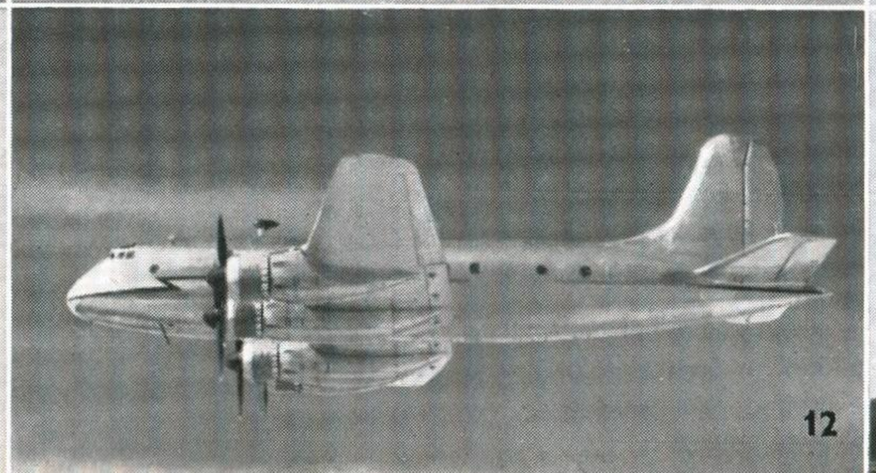
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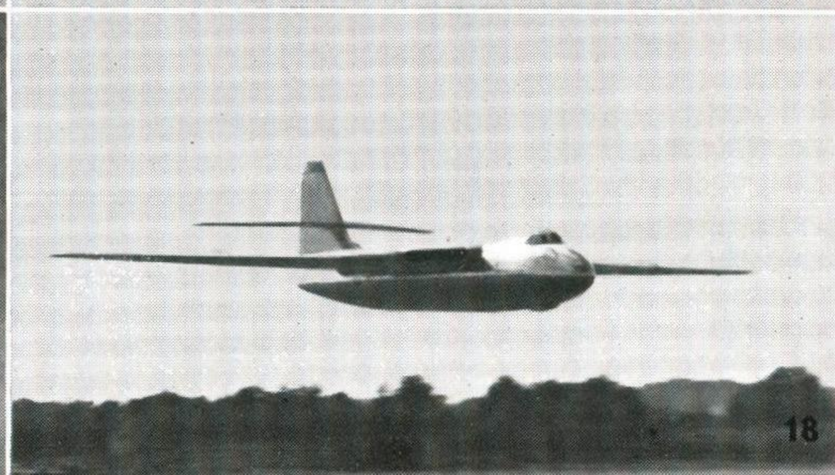
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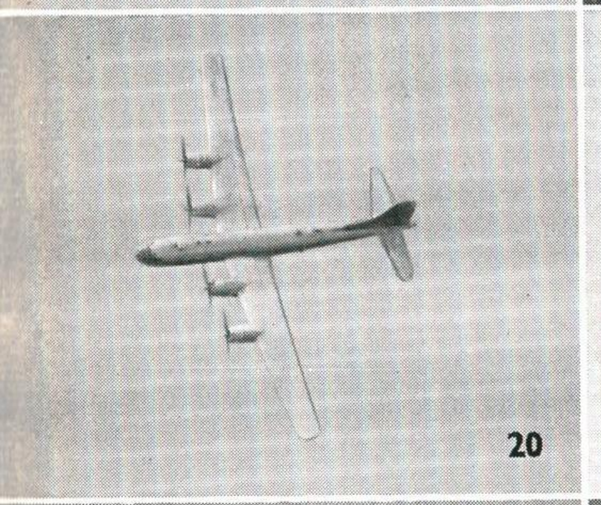
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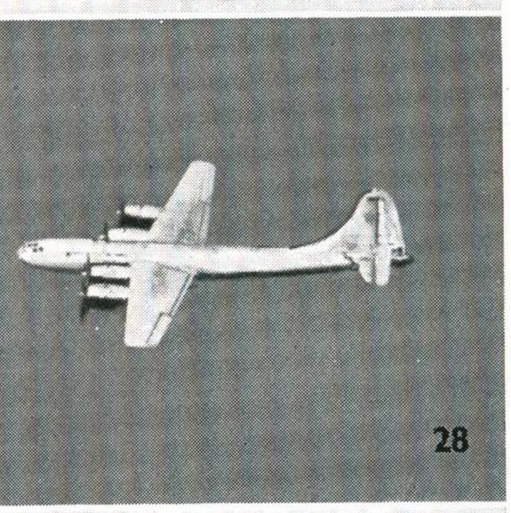
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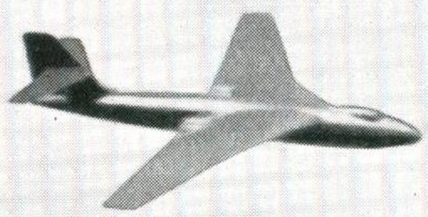
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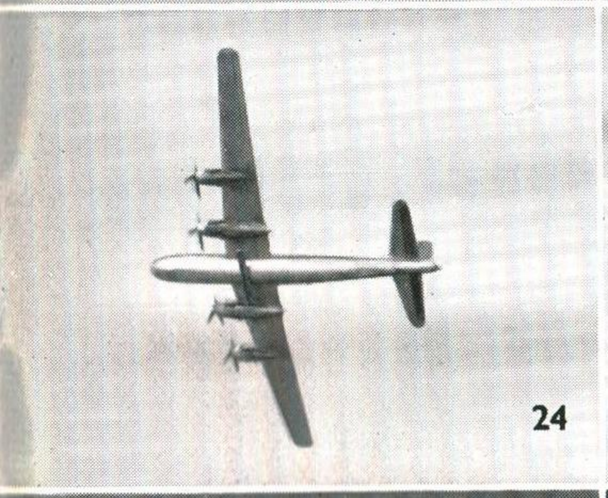
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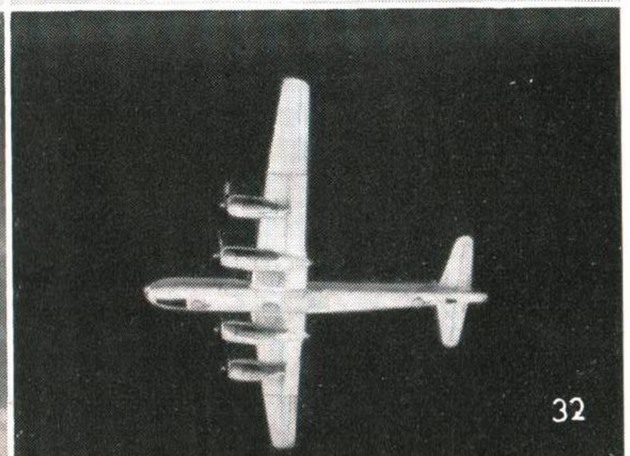
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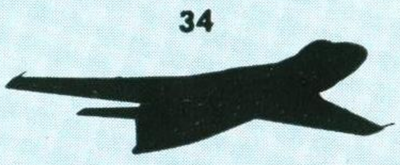
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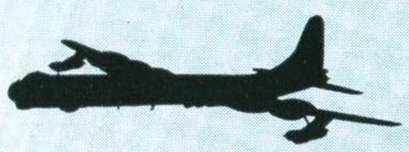
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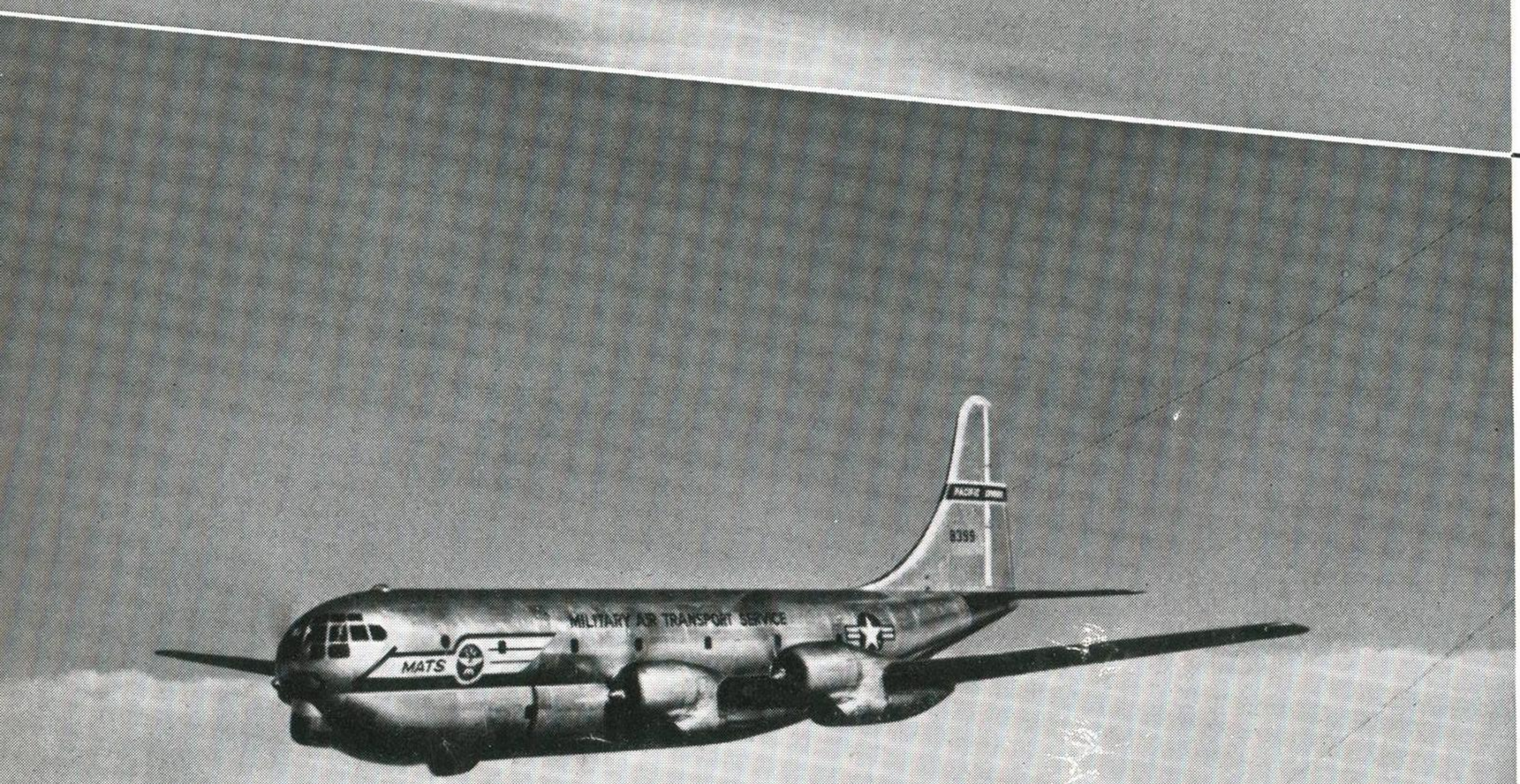
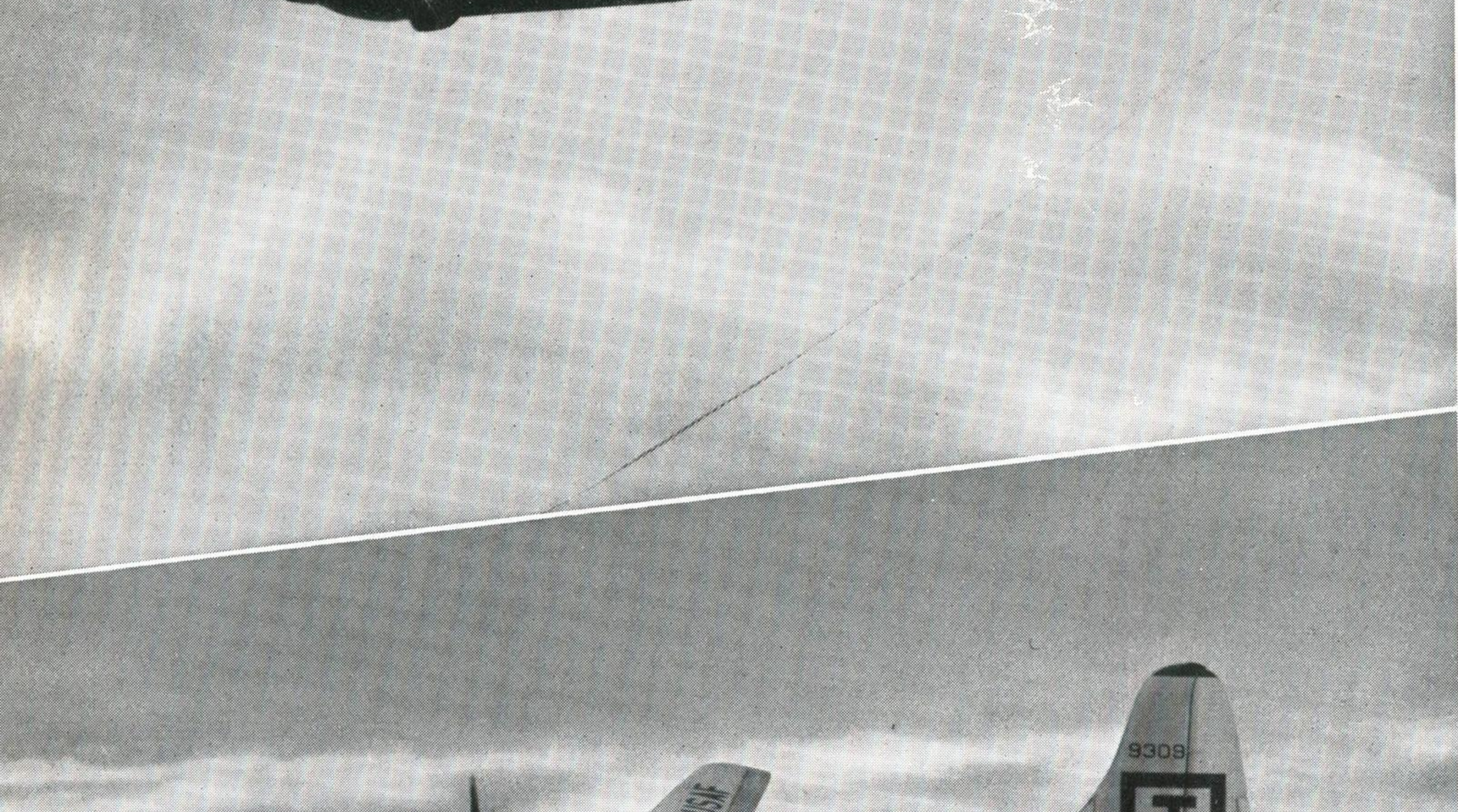
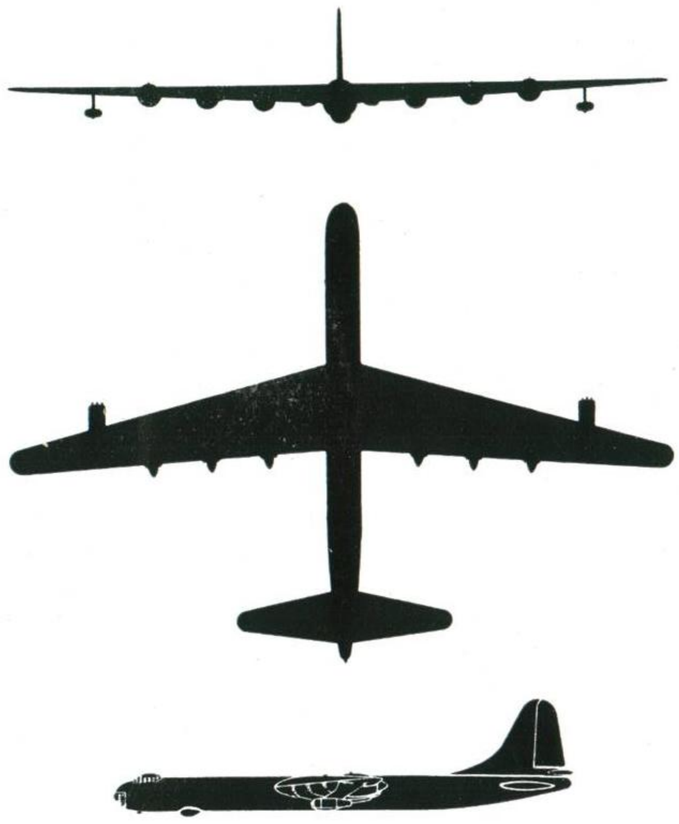
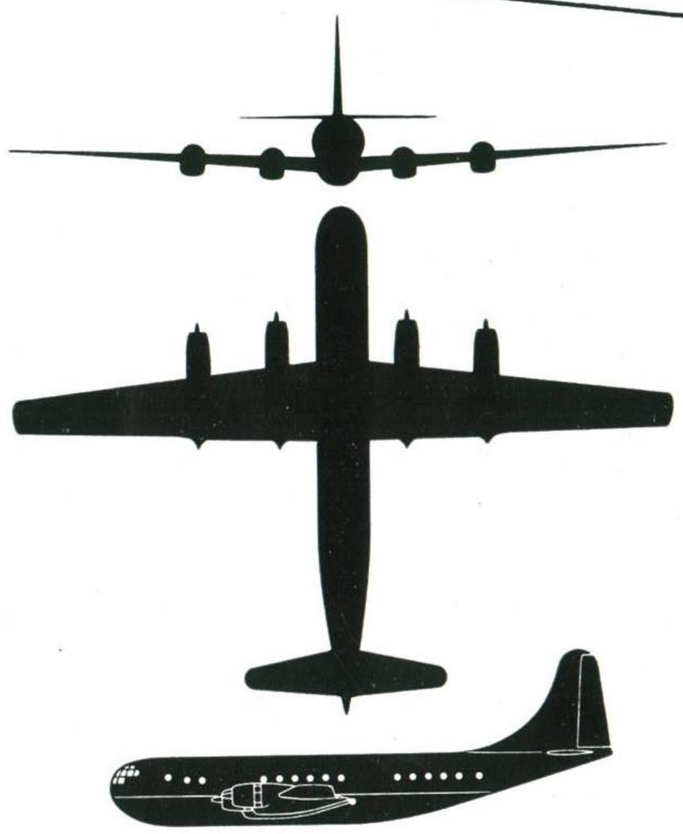
KEY ILLUSTRATIONS FOR "MULTI-TYPE" TUTOR



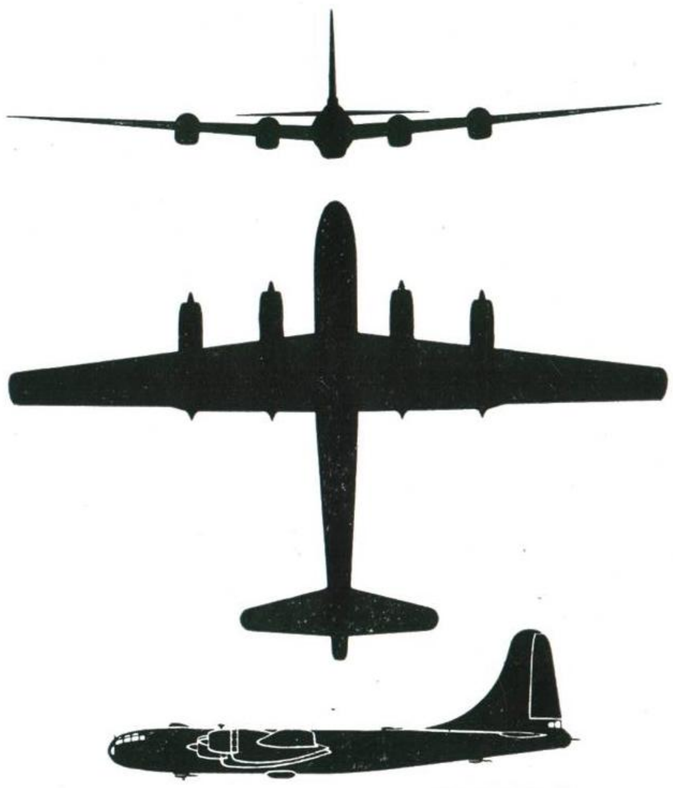




B-36
(B-36D)
Span : 230 ft.



STRATOFREIGHTER
(C-97)
Span : 141 ft. 3 ins.

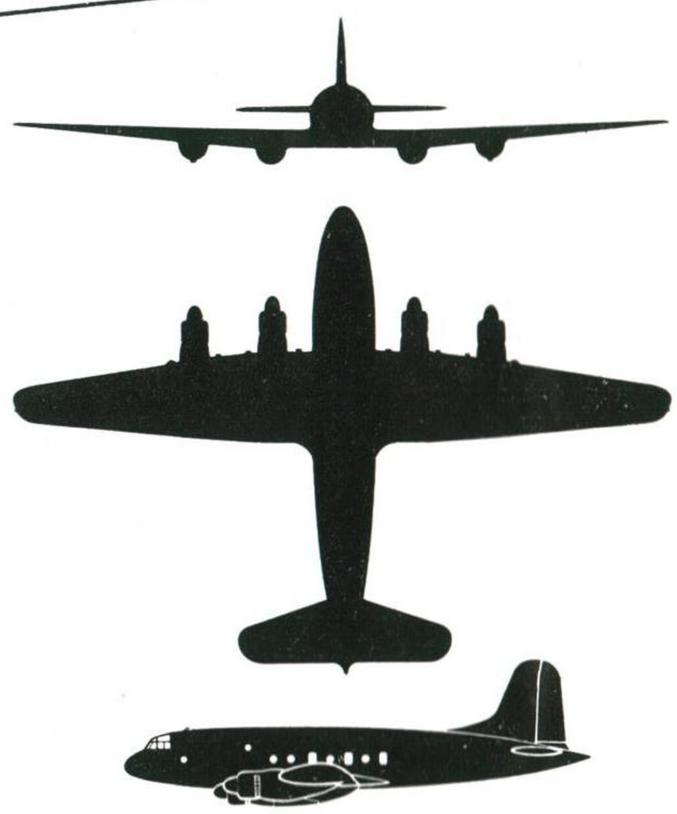


SUPERFORTRESS
(B-50)
Span : 141 ft. 3 ins.

VALIANT

(B Mk. 1)

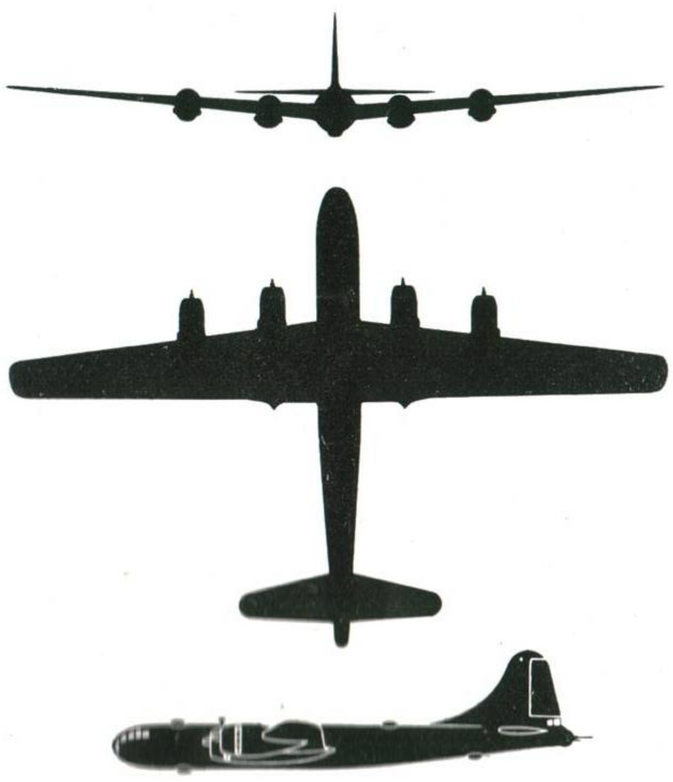
Span : 114 ft. 4 ins.



HASTINGS

(C Mk. 1)

Span : 113 ft.



SUPERFORTRESS

(B-29)

Span. 141 ft. 3 ins.

Spotting Possibles in Britain

The following revised list replaces that in the January/February, 1952, *Journal* :—

Aero 45
Aero Commander
Aeronca (C3, 50 and 100)
Aerovan
Aiglet (Auster)
Air Horse
Albatross
Ambassador
Ambrosini S7
Anson
Apollo
Argus
Aries (Miles)
Arrow (Auster)
Ashton
Athena
Attacker
Auster (A.O.P.)
Auster B.4
Autocar (Auster)
Autocrat (Auster)
Avenger
Avian
Avro 504
Avro 707
A.W.52

Balliol
Barracuda
Beaufighter
Beaver (DHC-2)
Belfair (Tipsy)
Bell 47
Bestmann (Bucker 131)
Bird-Dog
Blackburn B.2
Bobcat (Cessna C.78)
Bonanza
Boulton Paul P.111
Brabazon
Breda BZ 308
Bretagne (SO 30P)
Brigand
Bristol Fighter (Brisfit)
Bristol 170 (Freighter and Wayfarer)
Bristol 173
Britannia
Buckmaster

Cadet (Avro)
Canadair C.4 and C.5
Canberra
Cessna 140
Chilton
Chipmunk
Cierva C.30
Comet
Commando (C-46)
Constellation
Consul (and Oxford)
Convair-Liner
Convair B-36D
Corse
Cygnet (GAL)
Cygnet (Hawker)

Dakota
Desford
D.H.86
D.H.110
Douglas DC-4 (Skymaster)
Douglas DC-6
Dove (and Devon)
Dragon
Dragonfly (D.H.)
Dragonfly (Westland)
Dragon-Rapide (and Dominie)
Drone (B.A.C.)

Ercoupe
Expeditor

Falcon (Miles)
Fiat G.212
Firebrand
Firefly
Flamant
Flamingo
Fokker S.11 (Instructor)
Fortress (B-17)
Fox Moth
Fulmar

Gannet
Gemini
Globemaster (C-124)
Goeland
Gyrodyne

Hadrian
Halifax (and Halton)
Hamilcar
Harpoon
Hart
Harvard
Hastings
Hawker P.1052
Hawker P.1072
Hawk Major (Miles)
Hawk Speed Six (Miles)
Hawk Trainer 3 (ex Magister)
Heath Parasol
Hendy Heck
Hermes
Heron
Hiller 360
Hillson Praga
Hornet (and Sea Hornet)
Hornet Moth
Horsa
H.P.80
Hunter
Hurricane

IL-12
Invader

Javelin
Junior (Fairey)
Junkers Ju 52/3m
Junkers Ju 86

Kitten (Dart)
Klemm L.25
KZ.VII Lark

Lancaster
Lancastrian
Languedoc
Leopard Moth
Liberator
Lincoln
Lockheed 12A
Lockheed 14
Lockheed 18 (Lodestar)
Loire Leo 45

Mallard
Marathon
Martinet
Master
Messerschmitt Me 108
Mentor (Miles)
Mercator (P4M-1)
Mercurey (Boisavia)
Mercury (Miles)
Messenger
Meteor
Mitchell
Monarch (Miles)
Mosquito
Mosscraft MA-4
Moth (DH.60)
Moth Minor
Motor-Tutor
Mustang

Navigator (Beech T.7)
Navion
Neptune
Nighthawk
Nord 1101 Noralpha
Nord 1201 Norecrin

Packet
Petrel (Percival Q.6)
Phoenix (Heston)
Pioneer (Scottish Aviation)
Piper Cub
Piper Super Cruiser
Prefect (Avro)
Prentice
Prince (and Sea Prince)
Princess
Privateer (PB4Y-2)
Proctor
Provost
Pup (Sopwith)
Puss Moth

Reliant

Sabre
Safir (Saab 91
Sandringham
Savage
Seabee
Sea Fury
Seagull
Sea Hawk
Sealand
Sea Otter
Sentinel
Shackleton
Shooting Star
Short SA-4
Short SB-5
Siebel 204 (NC 701)
Sikorsky S-55
Silvaire (Luscombe)
Simoun
Skeeter (Cierva)
Skyjeep (Crislea)
Skyraider
SIAI-Marchetti SM-95
SIAI-Marchetti SM-102
SIPA S.11
Sokol (Mraz M 1c)
Solent
Spitfire (and Seafire)
Stampe-Vertongen SV-4
Stratocruiser
Sturgeon
Sunderland
Super Ace (Chrislea)
Super DC-3
Superfortress (B-29 and Washington)
Superfortress B-50
Supermarine 508
Supermarine 510
Swallow (B.A.)
Swift (Comper)
Swift (Globe)
Swift (Vickers)
Swordfish
Sycamore

Taylorcraft Cub
Taylorcraft Plus
Tempest
Thunderjet
Tiger Moth
Tipsy B.2
Tomtit (Hawker)
Tornado (RB-45C)
Traveller (Beech 17)
Tudor
Tutor (Avro)

Universal (Blackburn)

Valetta
Valiant
Vampire (and Sea Vampire)
Varsity
Vega Gull
Venom (and Sea Venom)
Victor
Viking
Viscount
Voyager (Stinson)
Vulcan

Walrus
Wellington
Whitney-Straight (Miles)
Wicko G.M.1
Wyvern

York

Zaunkonig

THE HELICOPTER FROM A to Z

The world's newest form of transportation, the helicopter, is already a leap ahead of most other ways of getting about the earth's surface in the variety of tasks which have been thrust upon it. From Alaska to Malaya and Japan to Norway it has been used in a series of rôles which run from A almost to Z. Not only has it replaced the conventional aircraft for many jobs, but it has taken on some which would be beyond the capabilities of conventional aircraft.

The Alphabet which follows is an ABC of the jobs done by helicopters in various part of the world. It concentrates on their more everyday work, and takes no account of esoteric tasks such as the helicopter ballet once performed in Paris, or the Father Christmas who descended from a helicopter in Milan, or the Newfoundland Company which used one to search for seals.

A for Ambulance work
B for Bandit patrol
C for Cable laying
D for Directing traffic
E for Exploration
F for Forest fire fighting
G for Geological survey
H for Harbour patrol
I for Inspecting pipelines
J for Jungle rescue
K for Killing weeds
L for Locust control
M for Mail carrying
N for Naval liaison
O for Observation
P for Passenger services
Q for Quarry work
R for Reconnaissance
S for Survey
T for Troop carrying
U for Uranium prospecting
V for Volcano inspection
W for Whale spotting
XYZ These rôles are still on the " secret list."

For this imposing list, we are indebted to the Society of British Aircraft Constructors. The mind boggles at the " secret list " possibilities. An X model of unknown performance for undreamed of purposes, a Y model for Yorkshire pudding research or a Z model for Zoot-suit sales promotion may all sound pretty silly ; but in these days, with trips to the moon just around the corner, so to say—Why not ?

* * *

Deception, Perception, Detection

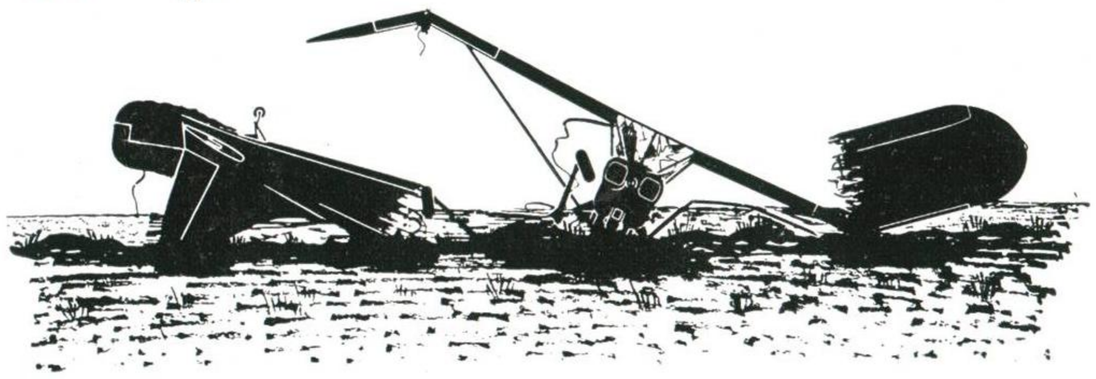
Last month's photos were *top :* Ambassador natural photo; *bottom :* model Gannet.

* * *

Will any reader within reasonable distance of London who is in possession of an accurate scale model (about 12 inches in length) of H.M.S. " Daring " please communicate with the Editor, "Joint Services Recognition Journal", S.T.11, Air Ministry, Richmond Terrace, Whitehall, S.W.1. (Telephone: TRAfalgar 8811, Ext. 6481.)

* * *

Wreck-cognition

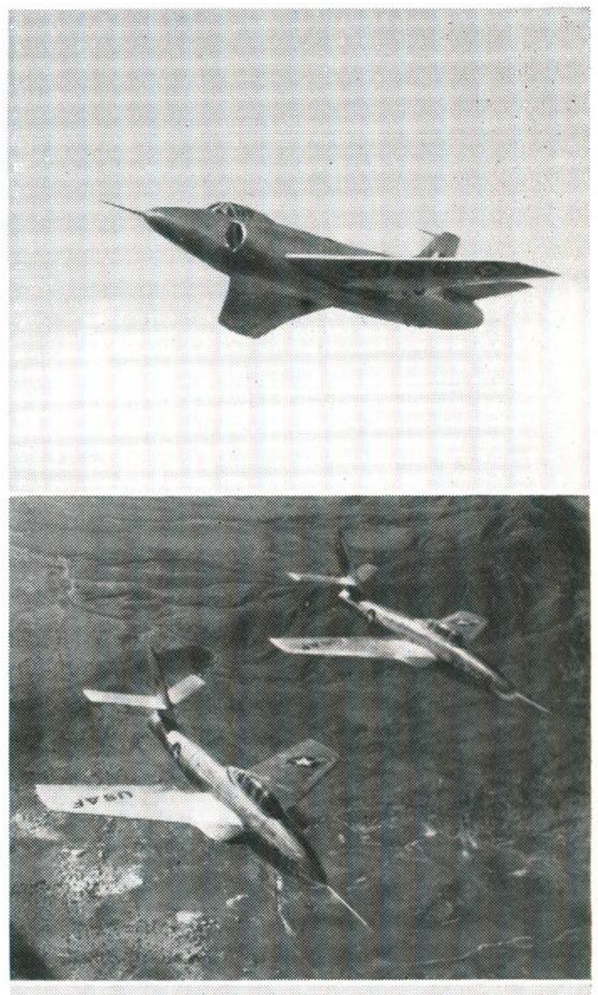


(*Solution on rear cover*)

Supplementary to the October, 1952 aircraft catalogue edition of the *Journal*, we present here in the same style some

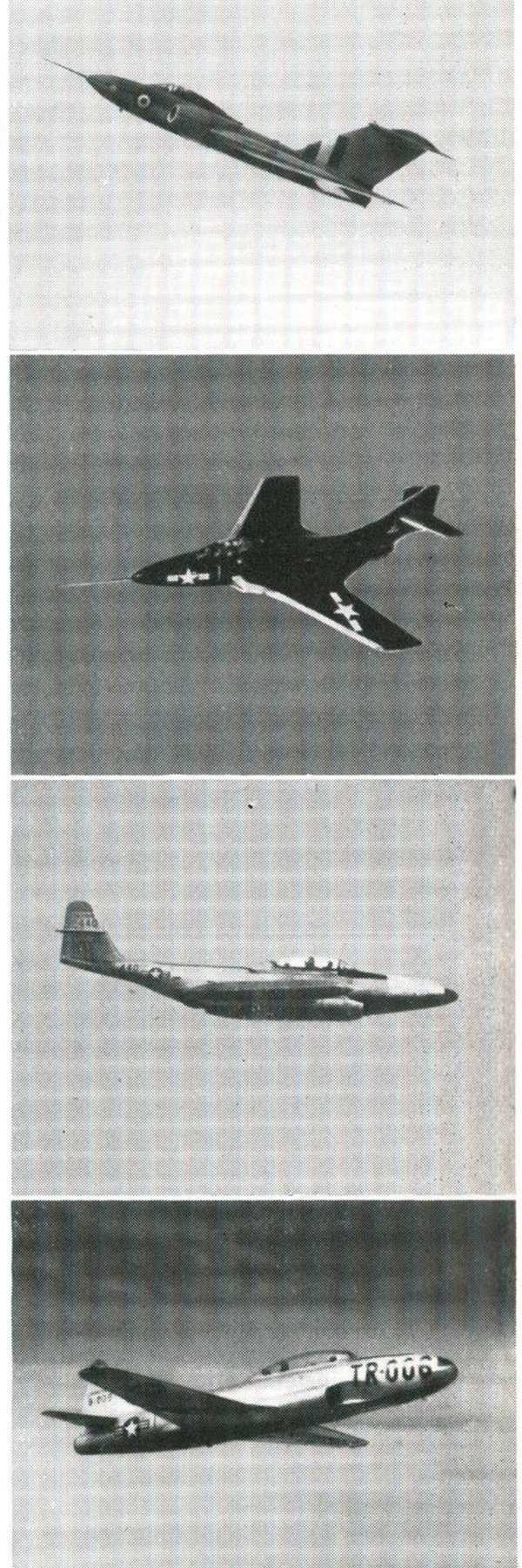
NEW and REVISED SILHOUETTES

Vickers
SWIFT F Mk. 1
(One R.R. Avon turbojet)
Span : 32 ft. 2 in.
Length : 41ft. 8 in.



Republic
THUNDERSTREAK
USAF : F-84F
(One Wright turbojet)
Span : 34 ft.
Length : 47 ft.

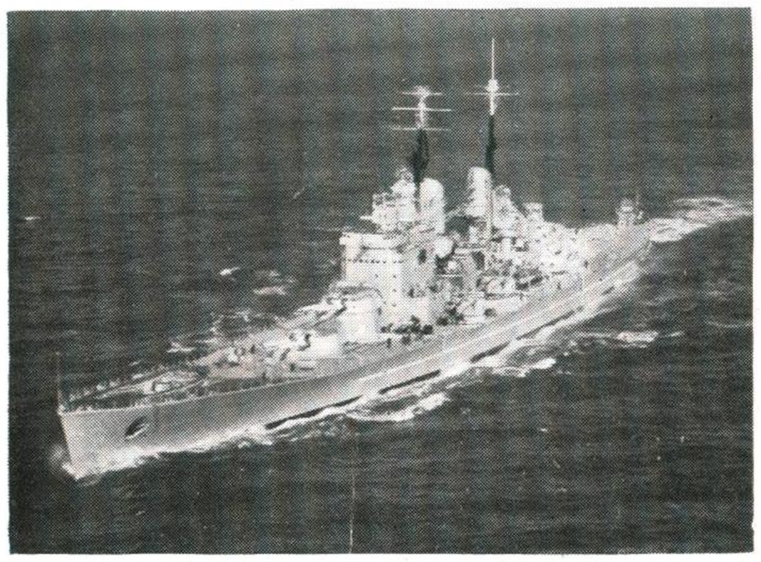
Gloster
JAVELIN F(AW) Mk. 1
(Two A.S. Sapphire turbojets)
Span : 52 ft.
Length : 57 ft.



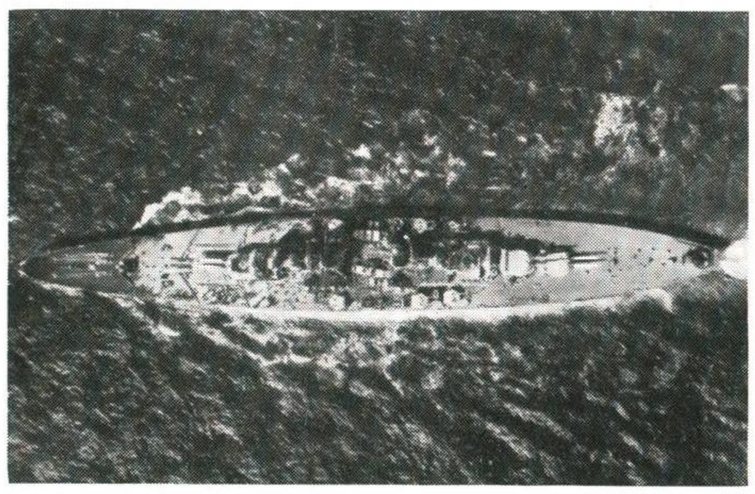
Grumman
COUGAR
USN : F9F-6
(One P & W turbojet)

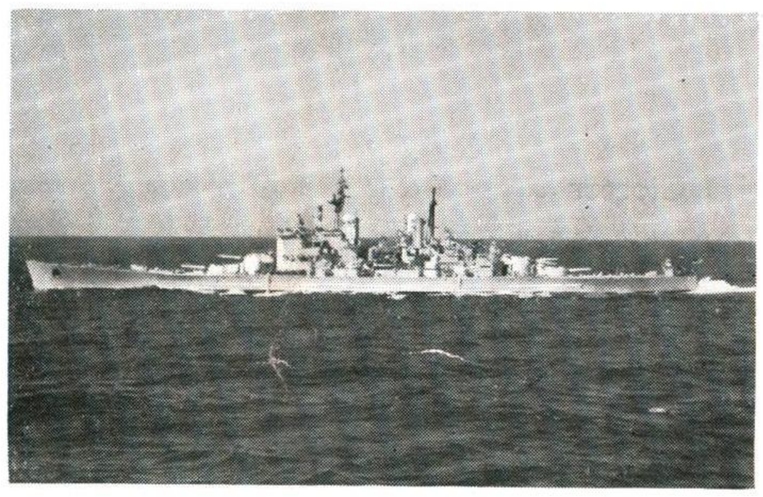
Northrop
SCORPION
USAF : F-89C
(Two Allison turbojets)
Span : 56 ft. 2 in.
Length : 53 ft. 5 in

Lockheed
SHOOTING STAR
USAF : T-33
(One Allison turbojet)
Span : 38 ft. 10 in.
Length : 37 ft. 9 in.



Cover Photo : H.M.S. *Vanguard* 15-inch gun battleship. Top and side view below.





EXERCISE "NEPTUNE"

All Neptune MR Mk. 1 (P2V-5) except :—

No. 16. **P2V-2 Neptune**

No. 27. **AJ-1 Savage**

KIROV I AND II

1. **Kirov I**
2. **Kirov II**
3. **Kirov II**
4. **Kirov I**

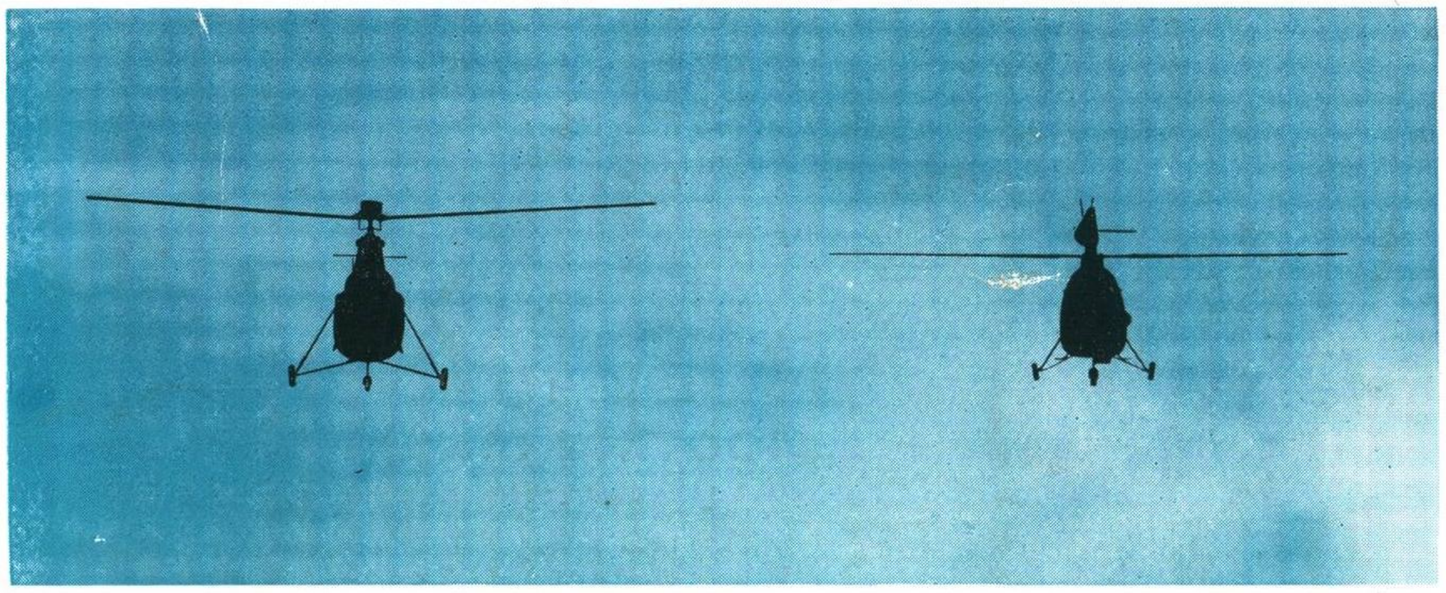
Loop : **Kirov II**

Other differences :

Kirov I—trunked after funnel and quadruped foremast.

Kirov II—large forebridge with one polemast and one tripod.

PERPLEXING PAIR



SOLUTIONS TO TESTS AND EXERCISES IN THIS EDITION :

If you are unable to recognize 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.

ELEMENTARY

289. **Bloch 175 T**
290. **Meteor** (F Mk. 8)
291. **Convairliner**
292. **Junkers Ju 52**
293. **Armagnac** (SE.2010)
294. **Firefly** (AS Mk. 7)
295. **Supermarine 508**
296. **Guardian** (AF-2S)
297. **Sea Vampire** (F Mk. 20)
298. **Sabre** (F-86A)
299. **Beaver**
300. **Globemaster** (C-124A)
301. **Auster** (AOP Mk. 6)
302. **Buckmaster** (T Mk. 1)
303. **Provost** (T Mk. 1)
304. **Shackleton** (MR Mk. 2)
305. **Canberra** (T Mk. 4)
306. **Navion**

SILLOGRAPHS

316. **Stratofreighter** (KC-97)
317. **Meteor** (T Mk. 7)
318. **Meteor** (NF Mk. 11)
319. **Canberra** (B Mk. 2)
320. **Mitchell** (B-25)
321. **Barracuda** (TFB Mk. 5)
322. **Firebrand** (TF Mk. 5)
323. **Thunderbolt** (F-47D)
324. **Hastings** (C Mk. 1)
325. **Neptune** (P2V-2)
326. **Firefly** (FR Mk. 4)
327. **Dove**
328. **Corsair** (F4U-4)
329. **Seafury** (FB Mk. 11)
330. **Lincoln** (B Mk. 2)
331. **Beaver**
332. **Spitfire** (F Mk. 22)
333. **Convair L-13**

TANK TEST

1. **A.E.C. Arm. Car**
2. **A.E.C. Arm. Car**
3. **Valentine S.P.G.**
4. **Staghound**
5. **Sexton S.P.G.**
6. **A.E.C. Arm. Car**
7. **A.E.C. Arm. Car**
8. **BA-64**
9. **SU-76**
10. **JSU-152**
11. **Daimler Arm. Car**
12. **Valentine S.P.G.**
13. **Daimler Arm. Car**
14. **Daimler Scout Car**
15. **Bren Carrier**
16. **SU-100**
17. **JSU-122**
18. **M-40**

MULTI-TYPE TUTOR

1. **Superfortress** (B-29)
2. **Stratofreighter**
3. **Superfortress** (B-50)
4. **Superfortress** (B-29)
5. **Valiant**
6. **Superfortress** (B-50)
7. **Valiant**
8. **Superfortress** (B-29)
9. **Stratofreighter**
10. **Hastings**
11. **Conqueror**
12. **Hastings**
13. **Conqueror**
14. **Superfortress** (B-50)
15. **Hastings**
16. **Conqueror**
17. **Stratofreighter**
18. **Valiant**
19. **Conqueror**
20. **Superfortress** (B-29)
21. **Superfortress** (B-50)
22. **Conqueror**
23. **Stratofreighter**
24. **Superfortress** (B-29)
25. **Hastings**
26. **Superfortress** (B-50)
27. **Conqueror**
28. **Superfortress** (B-29)
29. **Valiant**
30. **Hastings**
31. **Superfortress** (B-50)
32. **Superfortress** (B-29)
33. **Superfortress** (B-50)
34. **Valiant**
35. **Stratofreighter**
36. **Conqueror**
37. **Hastings**
38. **Valiant**
39. **Superfortress** (B-50)
40. **Valiant**
41. **Conqueror**
42. **Superfortress** (B-29)
43. **Superfortress** (B-50)
44. **Stratofreighter**
45. **Superfortress** (B-50)
46. **Superfortress** (B-29)
47. **Valiant**
48. **Conqueror**
49. **Hastings**
50. **Hastings**
51. **Stratofreighter**
52. **Superfortress** (B-29)

EXERCISE "VENOM"

1. **Venom** (FB Mk. 1)
2. **Venom** (FB Mk. 1)
3. **Venom** (FB Mk. 1)
4. **Venom** (FB Mk. 1)
5. **Venom** (FB Mk. 1)
6. **Venom** (NF Mk. 2)
7. **Venom** (FB Mk. 1)
8. **Venom** (FB Mk. 1)
9. **Venom** (FB Mk. 1)
10. **Venom** (FB Mk. 1)
11. **Venom** (NF Mk. 2)
12. **Venom** (FB Mk. 1)
13. **Venom** (FB Mk. 1)
14. **Venom** (FB Mk. 1)
15. **Venom** (FB Mk. 1)
16. **Venom** (FB Mk. 1)
17. **Venom** (NF Mk. 2)
18. **Venom** (FB Mk. 1)
19. **Venom** (FB Mk. 1)
20. **Venom** (FB Mk. 1)
21. **Venom** (FB Mk. 1)
22. **Venom** (FB Mk. 1)
23. **Venom** (NF Mk. 2)
24. **Venom** (FB Mk. 1)
25. **Venom** (FB Mk. 1)
26. **Venom** (FB Mk. 1)
27. **Venom** (FB Mk. 1)

HIGHLIGHTS

73. **Savage** (AJ-1)
74. **Hastings** (C Mk. 1)
75. **IL-28**
76. **MIG—15**
77. **Globemaster** (C-124A)
78. **Sabre** (F-86A)
79. **Banshee** (F2H-2)
80. **Vampire** (F Mk. 3)
81. **Javelin** (F (AW) Mk. 1)

SEMI-SILLOGRAPHS

121. **Meteor** (PR Mk. 10)
122. **Hermes** (Mk. 4)
123. **Neptune** (P2V-2)
124. **Raider** (C-125)
125. **Norseman** (C-64)
126. **Rescuer** (HRP-2)
127. **Packet** (C-82)
128. **Heron**
129. **Prince** (Survey)

PERPLEXING PAIR

Left: MIL helicopter

Right: Sycamore

The November 1951 "Journal" is now out of print, and the Editorial Office is urgently in need of a few copies. Will anyone who can spare a copy or copies, please send them to the Editor, "Joint Services Recognition Journal", Air Ministry, Room 213, Richmond Terrace, Whitehall, London, S.W.1

SPOT THE SEA FURY !

All Sea Furies except :—

No. 4. **Firebrand**

No. 10. **Firefly**

WRECK-COGNITION

L-5 Sentinel

50,500 1/53 38-241-0

Printed under the Authority of H.M. Stationery Office by Fosh & Cross Ltd., London