

RESTRICTED

Aircraft
RECOGNITION
MANUAL



RESTRICTED

DEPARTMENT OF THE ARMY FM 30-30
DEPARTMENT OF THE AIR FORCE AFM 50-40
DEPARTMENT OF THE NAVY OPNAV 32P-1200

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RECOGNITION
MANUAL



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This Manual was produced jointly by the Office of Naval Intelligence and the Director of Training and Requirements, Deputy Chief of Staff, Operations Headquarters, U.S.A.F., for the guidance and instruction of personnel within the Department of Defense.

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FM 30-30

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AIRCRAFT
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DEPARTMENTS OF THE ARMY, THE NAVY, AND THE AIR FORCE
WASHINGTON 25, D. C.

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FM 30-30—OPNAV-32P-1200—AFM 50-40, Aircraft Recognition Manual, is published for the information and guidance of all concerned.

By order of the Secretaries of the Army, the Navy, and the Air Force:

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The Aircraft Recognition Manual covering aircraft of the United States and Foreign Countries contains all the aircraft recognition information available under a Restricted classification.

New types of aircraft, design changes of present aircraft and discarding of old aircraft will necessitate revisions. Therefore, from time to time supplements will be published and distributed for insertion in the Manual.

The following is a complete in-line assembly arrangement of the publication. It is important that the standard continuity be maintained at all times in order that revisions and supplements may be entered without delay or confusion. Material is grouped by section index tabs and pagination is not employed in the body of the manual. In its stead, within each section, aircraft have been arranged according to the Uniform Classification for Combining USAF, Navy and Foreign Aircraft.

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U.S.A.

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Navy

PB4Y-2	PBM-5	F6F	FJ-1
P4M-1	TBM	F7F-3	R60
PV-2	SB2C	F8F-2	JRM-1
P2V	AD-1	F9F-2	SC-1
PBY	AM-1	FH-1	JR2F-1
	F4U-4	F2H	

UNITED KINGDOM

The Royal Air Force, Fleet Air Arm, and Equipment. Australian, Canadian, Indian, New Zealand, Pakistan, South African Air Forces and their equipment.

Aircraft Illustrated:

R.A.F.

Lincoln 2	Sunderland	Vampire 3	Valetta
York	Spitfire 24	Tudor 4	Dove or
Mosquito	Meteor 4	Hastings	Devon

FLEET AIR ARM

Brigand 1	Firefly 4	Seafury	Sea Attacker
Firebrand 5	Seafire 47	Sea Hornet	

THE UNION OF SOVIET SOCIALIST REPUBLICS

The Soviet Air Force, Aircraft Designations and Equipment.

Aircraft Illustrated:

B-29 type	GST	IL-12	YAK-3
PE-8	MDR-6	IL-18	YAK-9
PE-2	MBR-2	TU-70	YAK-15
PE-3	IL-2	LA-5	MIG-9
TU-2	IL-10	LA-7	
IL-4	LI-2	LA-9	

SWEDEN

The Swedish Royal Air Force and Equipment.

Aircraft Illustrated:

B-18	J-21R	J-29
J-21	J-22	SAAB-90

MISCELLANEOUS

Other Air Forces of the World, listed alphabetically, and their equipment.

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AIRCRAFT RECOGNITION MANUAL

[illegible]

INTRODUCTION

Aircraft Recognition is becoming progressively more difficult owing to the tremendous speeds and heights attained by modern aircraft and is actually developing into something more than the memorizing of countless airplane shapes. Generally speaking, almost anything we see of, or read about airplanes, and any contact we have with them is useful. Observance has shown that all airplanes, however complex they may appear at first, have the same basic elements. These are; a power plant, a wing, a body or fuselage and a tail or stabilizing unit. Aircraft recognition revolves around variations of these basic elements. Some of the variations occur in wing-shape, wing-position, tail-shape and form, fuselage-form and power-plant shape and arrangement. In short, recognition is the perception of form. Therefore, the requirement for efficient recognition is familiarity based on a general knowledge of aircraft; a knowledge which will only be gained by an aroused interest and enthusiasm for them.

With this thought in mind the members of the U. S. Armed Forces can improve their acquaintance with the military and naval aircraft of the United States and the aircraft produced and flown by the nations of the world. In addition, commercial aircraft which are seen on all airways will be of military interest to those in the service, for it is a certainty that any commercial aircraft which can be used as military transports, liaison or observation planes will be pressed into those services if the need should ever arise.

The Aircraft Recognition Manual is published to serve as a pictorial guide to the important mili-

tary, naval and commercial aircraft which may be seen in all parts of the globe. Each aircraft in this manual is illustrated by four photographs or sketches and a three view silhouette. In addition, there is included a brief description of the aircraft and its performance. The aircraft arrangement, where there are sufficient types of current interest, is generally by countries with the other nations grouped alphabetically under an over-all miscellaneous classification. From time to time additional supplements and revisions will be published and distributed for insertion in the manual when production of new types of aircraft, design changes of present aircraft and discarding of old aircraft occur.

The material in this manual has been assembled and edited jointly by the U. S. Air Force and the U. S. Navy. The performance figures and data of United States and foreign aircraft are as exact as security classifications permit.

When using this manual to aid in identifying aircraft, special attention should be paid to the national insignia, license numerals and letter designations on the following pages. Any one make of aircraft will probably be used by more than one nation's air force or airlines, and the nationality of an aircraft in question will be indicated only by the insignia or license displayed. Other sections of the introduction such as the glossary, manufacturers' letter designations and so on are included as an aid to understanding and recognizing the various types, models, construction and functions of the aircraft shown.

CLASSIFICATION OF AIRCRAFT

Uniform Classification for Use in Combining USAF, Navy and Foreign Aircraft

Airplanes

1. Bomber
 - a. Heavy or Heavy Patrol
 - b. Medium or Medium Patrol
 - c. Light or Light Patrol
 - d. Attack
2. Fighter
 - a. Interceptor
 - b. All Weather
 - c. Penetration
3. Reconnaissance
 - a. Strategic
 - b. Support/Tactical
4. Transport
 - a. Military
 - (1) Combat
 - (a) Heavy
 - (b) Medium
 - (c) Light
 - (2) Non-combat
 - (a) Heavy
 - (b) Medium

- (c) Light
- b. Non-military
 - (1) Heavy
 - (2) Medium
 - (3) Light
5. Trainer
 - a. Advanced
 - b. Primary and Basic
6. Search and Rescue
7. Communications/Utility
8. Special Research

Other Aircraft

9. Target
 - a. Capable of carrying pilot
 - b. Not capable of carrying pilot
10. Pilotless Aircraft
 - a. Capable of carrying pilot
 - b. Not capable of carrying pilot
11. Guided Missiles
12. Glider
13. Lighter-than-air Craft

Information Useful in Subclassification of the Above

1. Basic Configuration
 - a. Fixed Wing
 - b. Helicopter
 - c. Autogiro
2. Number of Engines
3. Type of Propulsion
 - a. Propeller
 - (1) Reciprocating engine
 - (a) Pusher
 - (b) Tractor
 - (2) Turbo-Prop
 - (a) Pusher
 - (b) Tractor
 - b. Turbo-Jet
 - c. Rocket
 - d. Ram Jet
 - e. Pulse Jet
 - f. Combination of Above
4. Guidance
 - a. Piloted
 - b. Remotely Controlled
 - (1) Beam Rider
 - (2) Command Guidance
 - (3) Celestial Navigation
 - (4) Homing (Specify)
5. Type of Base
 - a. Land
 - (1) Skis
 - (2) Tractor
 - (3) Bicycle
 - (4) Tricycle
 - (5) Conventional-tail support
- b. Ship
 - (1) Carrier
 - (2) Non-carrier (specify type)
- c. Water
 - (1) Pontoons
 - (2) Hull
- d. Amphibian
- e. Parasitic
6. Specialized Equipment
 - a. Anti-submarine
 - b. Early Warning
 - c. Radar/Radio Countermeasures
 - d. Control of Remotely Controlled Aircraft
7. Missile Aircraft
 - a. Air-to-Air
 - b. Air-to-Surface
 - c. Air-to-Underwater
 - d. Surface-to-Air
 - e. Surface-to-Surface
 - f. Surface-to-Underwater
8. Guided Missile
 - a. Air-to-Air
 - b. Air-to-Surface
 - c. Air-to-Underwater
 - d. Surface-to-Air
 - e. Surface-to-Surface
 - f. Surface-to-Underwater
 - g. Underwater-to-Air
 - h. Underwater-to-Surface

Designation of Air Force Aircraft (AFR 65-60)

1. Definitions:

a. "Type" as applied to aircraft designates the original design purpose of an aircraft, i.e., bombardment, fighter, cargo, etc.

b. "Model" as applied to aircraft designates those aircraft of a given type which are alike in general configuration, construction, equipment, and performance.

c. "Series" as applied to aircraft designates those aircraft of a given type and model having, for all practical purposes, interchangeable parts and identical tactical usefulness.

2. Designator Assignment. Aircraft will be assigned a basic type designator in accordance with the function for which they are basically designed. When a type of aircraft is modified to perform a function other than its basically designed function, the basic type designator will be prefixed by the appropriate auxiliary symbol.

a. **Type.** The basic type designation will consist of one letter as follows:

	Type
(1) Amphibious.....	A
(2) Bomber.....	B
(3) Cargo.....	C
(4) Fighter.....	F
(5) Glider.....	G
(6) Rotary Wing (Helicopter).....	H
(7) Liaison.....	L
(8) Target Aircraft and Drones.....	Q
(9) Reconnaissance.....	R
(10) Search and Rescue.....	S
(11) Trainer.....	T
(12) Special Research or Experimental.....	X

b. **Model.** A particular model of a given type will be designated by a number or numbers separated from the preceding type letter or letters by a dash, such as B-50.

c. **Series.** Following the model number there will always be a series letter, such as B-50A. The letters "O" and "T" will not be used. The series letters of a model will be changed when:

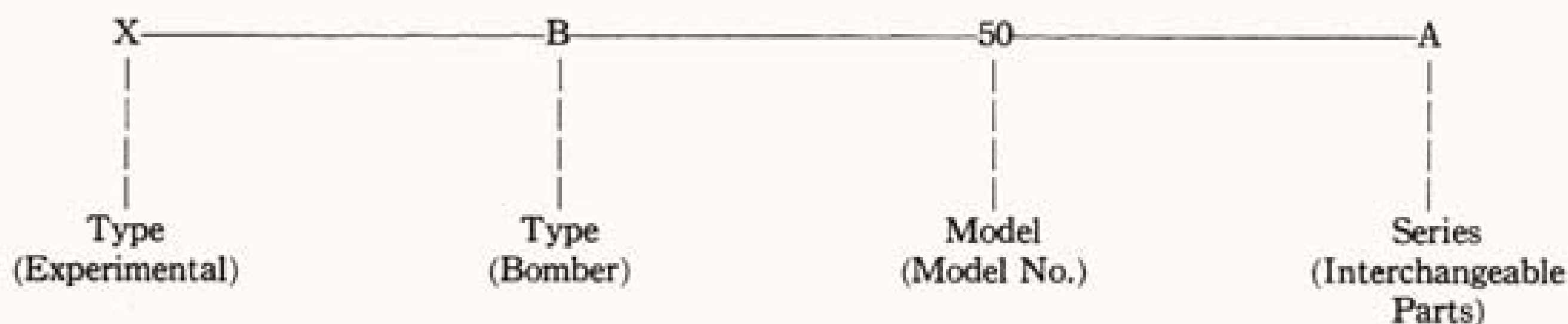
(1) A change is made in the engine which materially affects the engine performance rating or seriously affects the interchangeability in the aircraft.

(2) A change is made in propellers which affects interchangeability (Curtiss instead of Hamilton Standard) or flying characteristics of an aircraft (13' 6" propellers instead of 12' 6" propellers).

(3) A major change is made in primary installed armament (Addition of chin turret, addition of side guns, installation of 20 mm guns instead of .50 caliber, etc.).

(4) A major change is made in structure and/or equipment installation affecting interchangeability.

3. The following is a breakdown of the XB-50A, employing the foregoing definitions.



4. **Prefix Symbols.** The symbols listed below will be used as prefix symbols to indicate the current usage of an aircraft when it is so modified that its originally intended usage is no longer applicable.

As an example of this redesignation, a B-50A aircraft modified as a reconnaissance aircraft will be redesignated an RB-50A. An aircraft so redesignated will retain this prefix until such time as those features which provided its reconnaissance characteristics are removed and it is restored to its original basic condition or remodified for an entirely different function. Only in exceptional cases will more than one prefix symbol be used to designate an aircraft. Such an exception could occur, for example, if an RF-80 is modified for reconnaissance training. It would then be redesignated as a TRF-80. However, if it is modified for normal training purposes, it should become a TF-80. If more than one prefix symbol is used, the first symbol from the left will be considered the primary prefix symbol and the next one the secondary prefix symbol.

a. **Prefix "B".** The prefix symbol "B" will be used to designate aircraft modified to function as bomber type aircraft, i.e., the inclusion of a bombardier nose in fighter type aircraft. The addition of external bomb, torpedo, or depth-charge carrying devices and dive or skip bombing sighting equipment on any basic type aircraft does not constitute sufficient cause for the redesignation of that aircraft as "B" type.

b. **Prefix "C".** The prefix symbol "C" will be used to designate aircraft specifically modified for cargo use. Basic type aircraft utilized for cargo purposes without modification will not be redesignated with the prefix "C".

c. **Prefix "D".** The prefix symbol "D" will be used to designate those aircraft which are modified to function as director aircraft in conjunction with remotely controlled aircraft or guided missiles.

d. **Prefix "F".** The prefix symbol "F" will be used to designate basic aircraft modified for fighter operations. The addition of rocket launchers on liaison or rotary wing aircraft does not constitute sufficient cause for redesignation as "F" type aircraft.

e. **Prefix "G".** The prefix symbol "G" will be used to designate those powered aircraft after modifications removing all means of self-contained thrust have been completed.

f. **Prefix "L".** The prefix symbol "L" will be used to designate aircraft modified for liaison missions. The use of this prefix will be extremely limited.

g. **Prefix "M".** The prefix symbol "M" will be used to designate aircraft modified for use as missiles.

h. **Prefix "Q".** The prefix symbol "Q" will be used to designate basic aircraft modified through the inclusion of special electronic equipment for use as targets or drones.

i. **Prefix "R".** The prefix symbol "R" will be used to designate those basic aircraft which have been so modified as to make them suitable for reconnaissance missions, i.e., weather reconnaissance, photo reconnaissance, etc.

j. **Prefix "S".** The prefix symbol "S" will be used to designate basic aircraft modified through the inclusion of special search electronic equipment, airborne life boats, life rafts, or extensive life saving equipment, etc. This symbol will not be used to redesignate those aircraft utilized for air evacuation of litter patients.

k. **Prefix "T".** The prefix symbol "T" will be used to designate those aircraft which have had equipment removed to make them more suitable for training purposes. This symbol will also be used to designate those aircraft modified through the inclusion of special training equipment, i.e., navigator trainers, engineer trainers, etc. Aircraft used for training purposes for which authorization to remove equipment has not been granted, will not carry the prefix "T". "T" prefixed aircraft will not be considered suitable for return to combat status; therefore, the "T" prefix normally will not be authorized to combat potential aircraft.

l. **Prefix "V".** The prefix symbol "V" will be used to designate those aircraft which are modified as staff administrative transports. This will include modified cargo types.

5. **Classification Symbols.** Aircraft may have any one of the following classification symbols applied where applicable.

a. **Classification "E".** The classification symbol "E" (Exempt) will be used to designate those aircraft on special tests or experimental projects by authorized activities and for aircraft on bailment contract (Work contracted for by a nonmilitary agency using AF-owned aircraft). Aircraft utilized in special tests, experimental projects, or bailment contracts that have not received modifica-

tions and where the interchangeability of the aircraft with like type, model, series, and block aircraft has not been affected, will not be classified with the symbol "E". At the termination of tests, etc., "E" classified aircraft will either be returned to their original condition and designation or, if certain modifications become a permanent part of the aircraft, an appropriate redesignation of prefix, series, or block, other than "E," will be made. The "E" classification is not applicable to "X" classified aircraft.

b. **Classification "X".** The classification symbol "X" will be used to designate experimental aircraft and indicates that the item being developed has not progressed to the stage where engineering tests indicate that the item is sufficiently satisfactory to warrant service tests.

c. **Classification "Y".** The classification symbol "Y" will be used to designate those aircraft which have the required military characteristics and are of a quantity produced to develop the potentialities of the model. This classification indicates the item has been developed beyond the experimental stage, but is not ready for classification as an adopted item.

d. **Classification "Z".** The classification symbol "Z" will be used to designate aircraft which are considered by the Chief of Staff, USAF, to be obsolete and of and for which no further procurement will be made. Obsolete aircraft are those aircraft that are declared unsuitable for their original military purposes or for training purposes.

The assignment of a classification symbol to an aircraft will replace any prefix symbol which the aircraft currently possesses, except where the aircraft concerned retains those characteristics and/or equipment which previously classified it under the type indicated by the prefix. In such exceptional cases, the assignment of the classification symbol will be in addition to the prefix symbol. For example, if an RB-17 is placed on bailment contract and is modified, but still retains its reconnaissance features, it would be reclassified as an ERB-17. However, if its reconnaissance equipment is removed, it would become an EB-17. On the other hand if this aircraft is completely superseded by more modern aircraft, it would become a ZRB-17. If, while still in service, the reconnaissance equipment is removed, it then becomes a ZB-17. In no instance will the aircraft classification, prefix, and type designator exceed three symbols. In the event a classification symbol is assigned an aircraft already designated with two prefixes, only the most important prefix will be retained.

Designation of Naval Aircraft.

1. Naval aircraft are divided into types designated as follows:

<i>Type</i>	<i>Designation</i>
(a) Heavier-than-air (fixed wing)	V
(b) Heavier-than-air (rotary wing)	H
(c) Pilotless	K
(d) Guided Missiles	M
(e) Lighter-than-air	Z

2. The above types are further subdivided into classes in accordance with their basic mission as follows:

- (a) Heavier-than-air (fixed wing) V

<i>Class</i>	<i>Mission</i>	<i>Designation</i>
(1) Fighter	Air defense and escort	VF
(2) Attack	Surface and ground attack	VA
(3) Patrol	ASW reconnaissance and attack	VP*
(4) Observation	Gunfire and artillery spotting	VO
(5) Transport	Air logistic support	VR*
(6) Utility	Fleet utility support	VU
(7) Training	Basic and fleet training	VT
(8) Glider		VG

(b) Heavier-than-air (rotary wing) H

<i>Class</i>	<i>Designation</i>
(1) Air-sea rescue.....	HH
(2) Observation.....	HO
(3) Training.....	HT
(4) Transport.....	HR
(5) Utility.....	HU

(c) Pilotless Aircraft K

<i>Class</i>	<i>Designation</i>
(1) Aerial target.....	KD

(d) Guided Missiles M

<i>Class</i>	<i>Designation</i>
(1) Air-to-Air.....	AAM
(2) Air-to-Surface.....	ASM
(3) Air-to-Underwater.....	AUM
(4) Surface-to-Air.....	SAM
(5) Surface-to-Surface.....	SSM
(6) Surface-to-Underwater.....	SUM
(7) Underwater-to-Air.....	UAM
(8) Underwater-to-Surface.....	USM
(9) Test Vehicle.....	TV

(e) Lighter-than-air Z

<i>Class</i>	<i>Designation</i>
(1) Patrol and escort.....	ZP
(2) Search and rescue.....	ZH
(3) Training.....	ZT
(4) Utility.....	ZU

*NOTE: For administrative purposes Class VP and VR aircraft are further classified into four-engine landplane, two-engine landplane, four-engine seaplane and two-engine seaplane and are further identified by adding the letters (HL), (ML), (HS) and (MS) respectively to the basic class designation.

3. Manufacturer's identification letters have been established to simplify the designation of naval aircraft except guided missiles and test vehicles and to identify the manufacturer of the aircraft. The identification letters assigned to manufacturers of naval aircraft are grouped according to types of aircraft produced. Airplane manufacturers not currently engaged in the active manufacture or development of airplanes for the U. S. Navy, are listed as "inactive".

Aircraft manufacturers

Identification letter (a) Heavier-than-air (fixed wing) Type "V"

C	Curtiss-Wright Corporation, Columbus, Ohio
D	Douglas Aircraft Co., Inc., Santa Monica Plant, Santa Monica, Calif. Douglas Aircraft Co., Inc., El Segundo Plant, El Segundo, Calif.

Identification
letter*Aircraft manufacturers—(Continued)*

F Grumman Aircraft Engineering Corp., Bethpage, L.I., N.Y.
 H McDonnell Aircraft Corporation, St. Louis, Missouri (formerly "D")
 J North American Aviation Inc., Los Angeles, Calif.
 M Glenn L. Martin Company, Baltimore, Maryland
 O Lockheed Aircraft Corp., (Factory "B") Burbank, Calif.
 Q Fairchild Engine & Airplane Corp., (Fairchild Aircraft Div.) Hagerstown, Md.
 U Chance Vought Aircraft Corp., Division of United Aircraft Corp., Dallas, Texas
 V Lockheed Aircraft Corp., (Factory "A") (formerly Vega), Burbank, Calif.
 Y Consolidated Vultee Aircraft Corp. (San Diego Div.) San Diego, Calif.

Inactive

B Beech Aircraft Company, Wichita, Kansas
 B Boeing Aircraft Company, Seattle, Washington
 B Boeing Aircraft of Canada Ltd., Vancouver, B.C.
 C Culver Aircraft Corp., Wichita, Kansas
 E Edo Aircraft Corporation, College Point, L.I., N.Y.
 F Fairchild Aircraft Ltd., Longueuil, Quebec
 G Goodyear Aircraft Corp., Akron, Ohio
 L Columbia Aircraft Corp., Valley Stream, L.I., N.Y.
 M General Motors Corp., (Eastern Aircraft, Trenton Div.) Trenton, N.J.
 M General Motors Corp., (Eastern Aircraft, Linden Div.) Linden, N.J.
 N Naval Aircraft Factory, NAMC, Philadelphia, Pa.
 R Interstate Aircraft & Engineering Corp., El Segundo, Calif.
 R Ryan Aeronautical Company, San Diego, Calif.
 S Boeing Airplane Co., Wichita Div. (formerly Stearman) Wichita, Kansas
 S Schweizer Aircraft Corp., Elmira, N.Y.
 T Northrop Aircraft Inc., Hawthorne, Calif.
 W Canadian Car & Foundry Company, Montreal, Quebec
 Y Consolidated Vultee Aircraft Corp., (Stinson Div.) Wayne, Michigan

(b) Heavier-than-air (rotary wing) Type "H"

H McDonnell Aircraft Corp., St. Louis, Mo. (Formerly "D")
 L Bell Aircraft Corp., Buffalo, N.Y.
 P Piasecki Helicopter Corp., Morton, Pa.
 S Sikorsky Aircraft, Div. of United Aircraft Corp., Bridgeport, Conn.

(c) Pilotless aircraft Type "K"

C Curtiss-Wright Corp., Columbus, Ohio
 H McDonnell Aircraft Corp., St. Louis, Mo. (Formerly "D")
 F Grumman Aircraft Engineering Corp., Bethpage, L.I., N.Y.
 G Goodyear Aircraft Corp., Akron, Ohio
 G Globe Corp., (Aircraft Div.) Joliet, Ill.
 M Glenn L. Martin Co., Baltimore, Md.
 N Naval Air Development Station, Johnsville, Pa.
 Q Fairchild Engine & Airplane Corp., (Pilotless Plane Div.) Farmingdale, L.I., N.Y.
 R Radioplane Company, Van Nuys, Calif. (Formerly "D")
 S Sperry Gyroscope Co., Inc., Great Neck, L.I., N.Y.
 U Chance Vought Aircraft, Division of United Aircraft Corp., Stratford, Conn.
 W Willys-Overland Co., Toledo, Ohio

(d) Guided Missiles Type "M"
 and
 Test Vehicles Type "TV"

Manufacturer's letter is not used in designation of guided missiles or test vehicles.

(e) *Lighter-than-air Type "Z"*

Goodyear Aircraft Corp., Akron, Ohio (Manufacturer's letter is not used in designation of airships).

The manufacturer's letter in model designations shall be assigned only to companies designing aircraft. Aircraft manufactured by companies other than the designer shall carry the designation of the original designer.

4. **Prefix letter**—A prefix letter shall be used to denote the development status of a given aircraft. The letter "X" is used to denote that the aircraft is experimental. This letter is dropped from the designation when the aircraft is placed in a production status.

5. **Suffix letter**—A suffix letter shall be used only when an aircraft is modified for an additional or special mission. Suffix letters shall be assigned only from the list below and for the purpose listed. This letter indicates that the modifications are of a permanent nature and limit or augment the primary mission accordingly.

<i>Suffix</i>	<i>Purpose</i>
A	Amphibious version
B	Special armament version
C	Carrier operation version (of non-carrier aircraft)
D	Drone control version
E	Special electronic version
G	Search and rescue version
H	Hospital version
J	Target towing version
K	Target drone version
L	Searchlight version
N	All weather operating version
P	Photographic version
Q	Countermeasures version
R	Support/transport version
S	Anti-submarine version
T	Training version
U	Utility version
W	Air warning version
Z	Administrative version

6. Model designations for piloted and pilotless aircraft shall be made as follows

- (a) *Prefix letter*
 - (1) "X" is used to denote experimental model.
- (b) *Type letter*
 - (1) "V" may be omitted for fixed wing heavier-than-air craft.
 - (2) "H" and "K" are used as applicable.
- (c) *Class letter*

Only one class (mission) letter shall be used for each model designation.
- (d) *Design number*

The numeral following the class letter indicates the order number of the designer's aircraft in the same class, except that for the first design, the numeral "1" shall be omitted.
- (e) *Designer's letter*

The letter assigned to the designer is taken from the authorized list contained herein.

(f) *Modification number*

The numeral following the dash after the designer's letter indicates the modification of the model. The numeral "1" indicates the first model of the series and succeeding numerals indicate the first modification, second modification, etc.

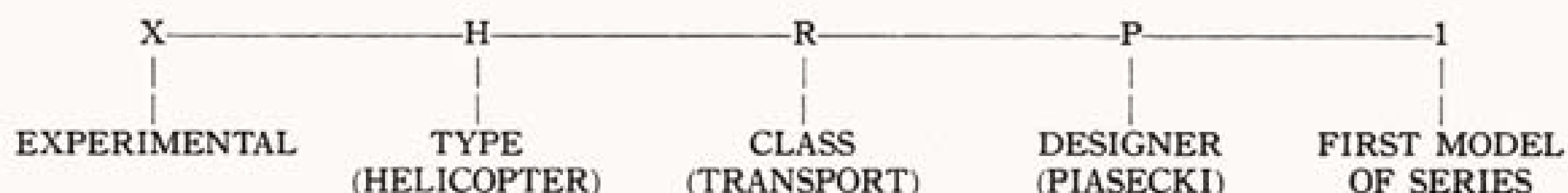
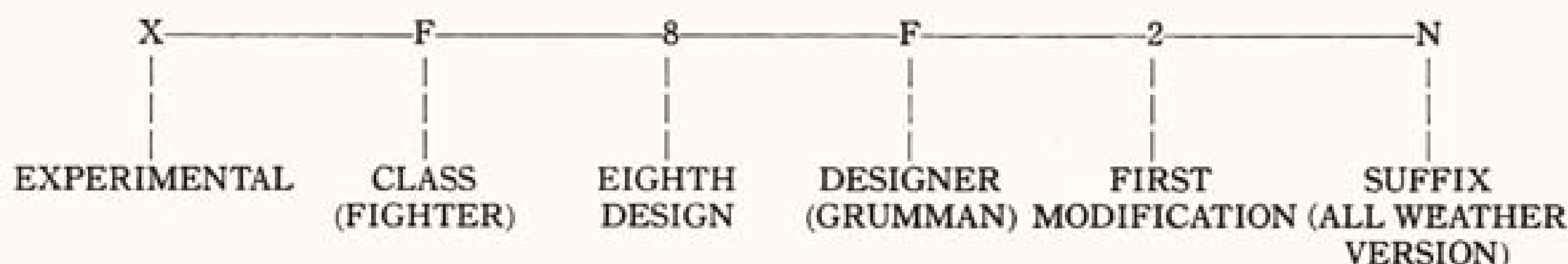
(g) *Suffix letter*

A suffix letter selected from the authorized list herein indicates added or special mission.

(h) *Suffix number*

A suffix number may be added after the suffix letter when an aircraft configuration is modernized with different equipment without changing its special mission. The numeral "1" indicates the first configuration and succeeding numerals indicate second, third, configuration, etc.

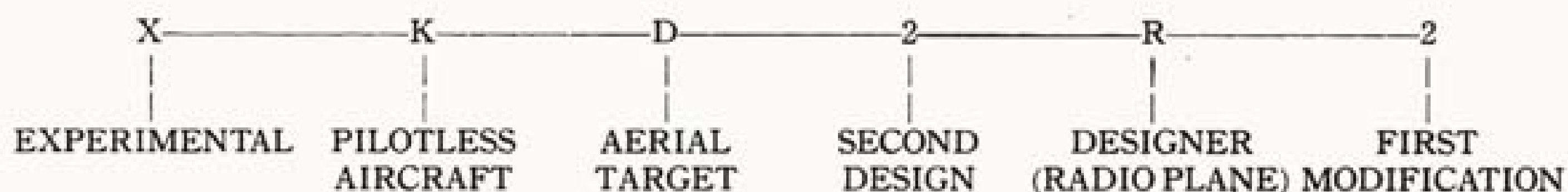
7. The following are typical examples of designations of piloted aircraft in accordance with the preceding.



8. Pilotless Aircraft Targets (non-man-carrying) are aircraft in which no provision has been made for a human pilot.

9. Pilotless Aircraft Target Drones (man-carrying) are conventional aircraft specially equipped for operation by remote control and intended for use as a pilotless aircraft aerial target.

10. The following is an example of a designation of a pilotless aircraft aerial target.



11. Model designations for guided missiles shall be made up as follows (practice for piloted and pilotless aircraft is given above).

(a) *Prefix letter*

- (1) "X" is used to denote experimental models.
- (2) "Y" is used to denote service test models.
- (3) "Z" is used to denote obsolete models.

(b) *Class letters*

Two letter combinations of three letters—A (air), S (surface) and U (underwater) in which the first letter denotes the origin and the second letter denotes the objective of the missile.

(c) *Type letter*

"M" after the class letters indicates "Missile".

Examples:

AAM—Air-to-Air Missile
 ASM—Air-to-Surface Missile
 AUM—Air-to-Underwater Missile
 SAM—Surface-to-Air Missile
 SSM—Surface-to-Surface Missile
 SUM—Surface-to-Underwater Missile
 UAM—Underwater-to-Air Missile
 USM—Underwater-to-Surface Missile

(d) *Service letter*

Each basic designation shall be followed by a letter to indicate cognizant Service—"A" Air Force, "G" Army, "N" Navy.

Note: After approval for joint use, the service letter shall be dropped and the designation preceded by "ANG".

(e) *Design number*

The service letter shall be followed by a number to indicate the design number.

(f) *Modification letter*

The model number shall be followed by a modification letter: "a" indicates first modification, etc.

(g) *Designer's letter*

Not used in designation of guided missiles.

(h) *Prefix letters*

"M" prefixed to a conventional aircraft designation indicates "Missile Aircraft".
 "D" prefixed to a conventional aircraft designation indicates "Director Aircraft".

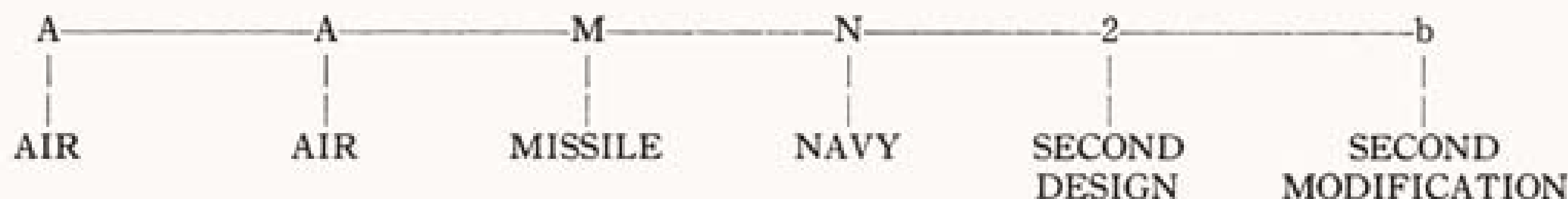
*Note: When conventional aircraft are changed to guided missiles or missile "director control", the letter shall be prefixed instead of suffixed.

(i) *Popular name*

A popular name may be assigned to a guided missile when the missile enters the development phase prior to the assignment of a designation, and will in general, conform to the following:

AAM—Winged Creatures (Except Birds of Prey or Game Birds)
 ASM—Birds of Prey
 SAM—Mythological Terms
 SSM—Astronomical Terms or Bodies
 Targets—Game Birds

12. The following is a typical sample of designation of guided missile in accordance with the above.

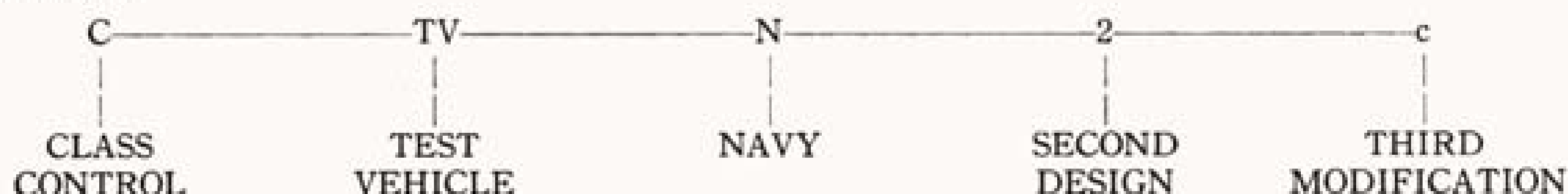


13. When a guided missile is used as a Test Vehicle, it shall be designated "TV", followed by service letter, design number, and modification letter as used with guided missiles with the following prefix letters indicating the type of testing:

(a) *Prefix letters*

- (1) "C"—Control
- (2) "P"—Propulsion
- (3) "L"—Launching
- (4) "R"—Research (includes high altitude rockets).

EXAMPLE



14. Model designations for lighter-than-air craft are made up as follows:

(a) *Prefix letter*

"X" is used to denote experimental model.

(b) *Type letter*

"Z" is used to denote lighter-than-air.

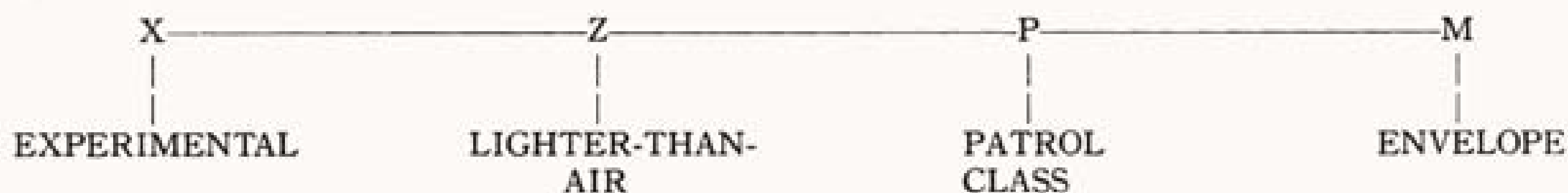
(c) *Class (Mission) letter*

Only one mission letter shall be used in each designation.

(d) *Design letter*

A letter following the class letter indicates the order number of the designer's airship in the same class.

15. The following is an example of a designation of a lighter-than-air craft in accordance with the preceding.



16. The following abbreviations are used in the list of characteristics of Naval Aircraft.

M —Monoplane
 TB —Tractor Biplane
 TM —Tractor Monoplane
 Conv't —Convertible

Date —Delivery of first airplane
 Land —Landplane
 Carrier —Equipped with arresting gear
 Catapult —Equipped for catapulting

U. S. AIRCRAFT NAMES AND DESIGNATIONS

RESTRICTED

The aircraft listed in this tabulation include most of the operational types employed by the Air Force and the Navy. The arrangement is in keeping with the Uniform Classification of USAF, NAVY and FOREIGN Aircraft.

TYPE	AIR FORCE	NAVY and MARINE CORPS	NAME	ORIGINAL MANUFACTURER
BOMBER				
Heavy	B-36			Consolidated Vultee
Medium	B-17 B-24 B-29 B-47 YB-49 B-50	PB-1 PB4Y-1 PB4Y-2 P2B	Flyingfortress Liberator Privateer Superfortress Stratojet Flying Wing Superbomber	Boeing Consolidated Vultee Consolidated Vultee Boeing Boeing Northrop Boeing
Patrol	B-34, 37 A-10	PV-1, 3 PV-2 P2V P4M PBY PBM	Ventura Harpoon Neptune Mercator Catalina Mariner	Lockheed Lockheed Lockheed Martin Consolidated Vultee Martin
Light	B-25 B-26 B-45	PBJ JD	Mitchell Invader Tornado	North American Douglas North American
Attack	ZA-25	SB2C TBF TBM AM AD AF AJ	Helldiver Avenger Avenger Mauler Skyraider Guardian	Curtiss Grumman General Motors Martin Douglas Grumman North American
FIGHTER	F-47 F-51 F-61 F-80B F-82 F-84 F-86 F-88 F-89	FT-1 TO-1	Thunderbolt Mustang Black Widow Shooting Star Twin Mustang Thunderjet Saber Voodoo Scorpion	Republic North American Northrop Lockheed North American Republic North American McDonnell Northrop

MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200

TYPE	AIR FORCE	NAVY and MARINE CORPS	NAME	ORIGINAL MANUFACTURER
FIGHTER—(Continued)		F4U	Corsair	Chance Vought
		FG	Corsair	Goodyear
		F6F	Hellcat	Grumman
		F7F	Tigercat	Grumman
		F8F	Bearcat	Grumman
		FR	Fireball	Ryan
		FH	Phantom	McDonnell
		F2H	Banshee	McDonnell
		F3D	Skyknight	Douglas
		FJ	Fury	North American
		F6U	Pirate	Chance Vought
		F7U	Cutlass	Chance Vought
		F9F	Panther	Grumman
<hr/>				
RECONNAISSANCE		SC-1	Seahawk	Curtiss
<hr/>				
TRANSPORT	C-46	R5C	Commando	Curtiss
	C-47	R4D	Skytrain	Douglas
	C-53	R4D-3	Skytrooper	Douglas
	C-54	R5D	Skymaster	Douglas
	C-60	R5O	Lodestar	Lockheed
		R6O	Constitution	Lockheed
	C-61	GK	Forwarder	Fairchild
	C-64	JA	Norseman	Noorduyn
	C-69		Constellation	Lockheed
	C-74		Globemaster	Douglas
	C-82		Packet	Fairchild
	C-87A, C	RY-1, 3	Liberator Express	Consolidated Vultee
	C-97		Stratocruiser	Boeing
	XC-99			Consolidated Vultee
	C-119	R4Q-1	Packet	Fairchild
	C-121		Constellation	Lockheed
	C-125		Raider	Northrop
		JRM	Mars	Martin
<hr/>				
TRAINER				
Advanced	T-6	SNJ	Texan	North American
	T-7	SNB-2	Navigator	Beechcraft
	T-11	SNB-1	Kansas	Beechcraft
	T-19		Reliant	Consolidated Vultee
	F-80C	TO-1	Shooting Star	Lockheed
	TF-80C		Shooting Star	Lockheed

TYPE	AIR FORCE	NAVY and MARINE CORPS	NAME	ORIGINAL MANUFACTURER
TRAINER—(Continued)				
Primary & Basic	T-13, 17 T-19, 3	N2S	Kaydet Cornell	Boeing Fairchild
SEARCH AND RESCUE				
	SA-16A A-10	JR2F-1 PBV	Albatross Catalina	Grumman Consolidated Vultee
COMMUNICATIONS AND UTILITY				
	L-4	NE	Grasshopper	Piper
	L-5	OY	Sentinel	Consolidated Vultee
	L-13			Consolidated Vultee
	L-15			Boeing
	L-16		Champion	Aeronca
	L-17B		Navion	Ryan
	C-43	CB	Traveler	Beechcraft
	C-45	JRB	Voyager	Beechcraft
	A-12	J2F	Duck	Grumman
	A-14	J4F	Widgeon	Grumman
	A-19, 13	JRF	Goose	Grumman
HELICOPTER				
	H-4B	HNS-1		Sikorsky
	H-6A	HOS-1		Sikorsky
	H-5F	HO3S-1		Sikorsky
	H-13B	HTL-1		Bell
		HRP-1		Piaseki
		XHJP-1		Piaseki

UNITED KINGDOM

Britain

"Airspeed"Airspeed, Ltd.
 "Armstrong
 Whitworth" ..Sir W. G. Armstrong Whitworth
 Aircraft, Ltd.
 "Auster"Auster Aircraft, Ltd.
 "Avro"A. V. Roe & Co., Ltd.
 "Blackburn"The Blackburn Aircraft, Ltd.
 "Boulton Paul" .Boulton Paul Aircraft, Ltd.
 "Bristol"The Bristol Aeroplane Co., Ltd.
 "Chilton"Chilton Aircraft Co., Ltd.
 "Chrislea"Chrislea Aircraft Co., Ltd.
 "Cierva"The Cierva Autogiro Co., Ltd.
 "Cunliffe-Owen".Cunliffe-Owen Aircraft, Ltd.
 "de Havilland" ..The de Havilland Aircraft Co.,
 Ltd.
 "Fairey"The Fairey Aviation Co., Ltd.
 "Folland"Folland Aircraft, Ltd.
 "G.A.L."General Aircraft, Ltd.
 "Gloster"The Gloster Aircraft Co., Ltd.
 "Handley Page".Handley Page, Ltd.
 "Hawker"Hawker Aircraft, Ltd.
 "Hawker-
 Siddeley"Hawker-Siddeley Aircraft Co.,
 Ltd.
 "Heston"The Heston Aircraft Co., Ltd.
 "Martin-Baker" .Martin-Baker Aircraft Co., Ltd.
 "Miles"Miles Aircraft, Ltd.
 "Percival"Percival Aircraft, Ltd.
 "Planet"Planet Aircraft, Ltd.
 "Portsmouth" ...Portsmouth Aviation Ltd.
 "Reid & Sigrist".Reid & Sigrist, Ltd.
 "Saro"Saunders-Roe, Ltd.
 "Scottish
 Aviation"Scottish Aviation, Ltd.
 "Short"Short Bros. & Harland, Ltd.
 "Supermarine" ..Supermarine Aviation Works,
 Div. Vickers-Armstrongs, Ltd.
 "Topsy"Topsy Aircraft Co., Ltd.
 "Vickers"Vickers-Armstrongs, Ltd.
 "Westland"Westland Aircraft, Ltd.

Australia

"Common-
 wealth" Commonwealth Aircraft Corp.
 P.T.Y., Ltd.
 "de Havilland" ..de Havilland Aircraft Co., Ltd.
 "Fairey-Clyde" ..The Fairey-Clyde Aviation
 Proprietary, Ltd.

Canada

"Avro"A. V. Roe (Canada) Ltd.
 "Bellanca"Northwest Industries, Ltd.

"Boeing"Boeing Aircraft of Canada Ltd.
 (inactive)
 "C.C.F."Canadian Car & Foundry Co.,
 Ltd. (acquired Noorduym)
 "Canadair"Canadair Ltd.
 "Cancargo"Cancargo Aircraft Manufactur-
 ing Co., Ltd.
 "Cub"Cub Aircraft Corp., Ltd.
 "de Havilland" ..de Havilland Aircraft Co., Ltd.
 "Fairchild"Fairchild Aircraft Ltd.
 "Federal"Federal Aircraft Ltd.
 "Fleet"Fleet Aircraft Ltd.
 "Szyceer-
 Gottlieb"Inter-City Airlines Co.

India

"Hindustan"Hindustan Aircraft Ltd.

New Zealand

"de Havilland" ..de Havilland Aircraft Co., Ltd.

FRANCE

"Aérocentre" ...Société Nationale De Construc-
 tions Aéronautiques Du
 Centre. (S.N.C.A.C.)
 "Arsenal"Arsenal De L'Aéronautique
 "Avianautic" ...Avianautic
 "Bloch"Société Des Avions Marcel Bloch
 "Breguet"Société Anonyme Des Ateliers
 D'Aviation Louis Breguet
 "Carmier"Carmier
 "Colombes"Atelier Aéronautiques De
 Colombes.
 "Guerchais
 Roche"Roche Aviation.
 "Latécoère"Société Industrielle D' Aviation
 Latécoère.
 "M.D.G."Materiel Deniss-Gruson.
 "Matra"Société Générale De Mechanique,
 Aviation, Traction. (MATRA)
 "Mauboussin" ...Etablissements Fouga Et Cie.
 "Max Holste" ...Avions Max Holste.
 "Morane-
 Saulnier"Aéroplanes Morane-Saulnier.
 "Nord"Société Nationale De Construc-
 tions Aéronautiques DuNord
 (S.N.C.A.N.)
 "SCAN"Société De Constructions Aéro
 Navales, Du Port Beuf.
 "S.E.C.A.N." ...Société D'Etudes Et De Construc-
 tions Aéro-Navales.

FRANCE—(Continued)

- "S.E.C.A.T." Société D'Etudes Et De Construc-
tion D'Avions De Tourisme.
- "S.I.P.A." Société Industrielle Pour
L'Aéronautique.
- "Starck" Avions Starck.
- "Sud-Est." Société Nationale De Construc-
tions Aéronautiques De Sud-
Est (S.N.C.A.S.E.)
- "Sud-Ouest" Société Nationale De Construc-
tions Aéronautiques De Sud-
Ouest (S.N.C.A.S.O.)

U. S. S. R.

The Russian State Aeronautical Industry comes under the direct jurisdiction of the Commissariat for Aircraft Industries and all aircraft production is undertaken in State factories.

The technical organization is shared by three establishments, the Z. A. G. I. (Central Aero Hy-

drodynamics Institute) which is in charge of all aircraft development; the Z. A. I. M., which does the same for aircraft engines; and the V. I. A. M., which conducts and directs research on materials.

SWEDEN

- "Kungl. Flygförvaltningens Royal Air Board
Flygverkstad" Aircraft Factory.
- "SAAB" Svenska Aeroplan
A.B.
- "Skandinaviska Aero A. B." . . Scandinavian Air-
ways, Ltd.

ARGENTINA

- "I.Ae" Military Aircraft Factory, Instituto
Aerotechnico.
- "Impa" Compania Industria Metalúrgica &
Plástica, S. A.
- "Tucan" . . . Sociedad Anonima Sfreddo & Paolini.

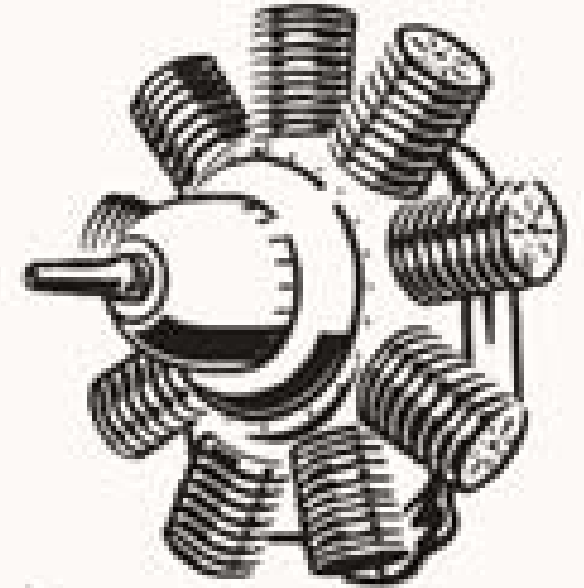
It is advantageous to have a knowledge of the various kinds of aircraft engines and, needless to say, such information is of great value in recognition.

There are two main types of aircraft engines in service today. They are the piston engine and the gas turbine. Piston engines, for our purposes, may be sub-divided into two main classes, radial and in-line. The gas turbines may also be sub-divided into two classes, propeller turbines (turbo-props) and pure jets (turbo-jets).

PISTON ENGINES

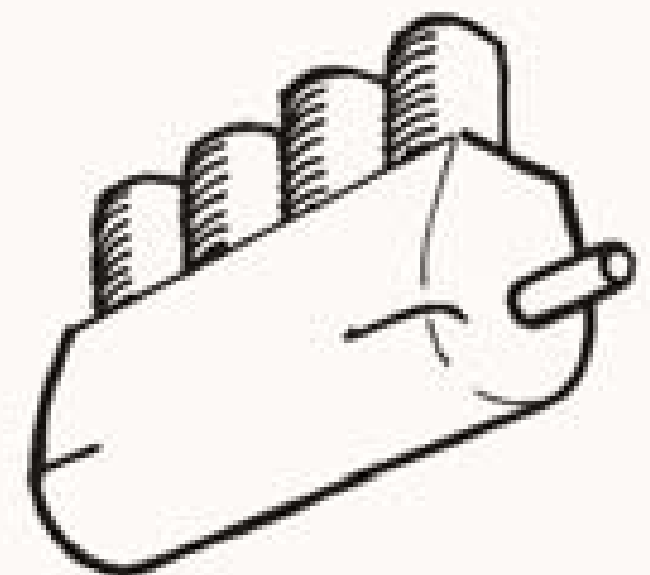
Air-cooled Radials

In World War II the radial was the prime mover of our aviation and it is still the most common type seen. The term radial is applied because of the cylinder arrangement which is like the spokes of a wheel, they catch the airflow and are thus cooled. In earlier days these engines were completely uncowed for cooling purposes and were easily recognizable. They have, naturally, a wider frontal area than other engines, but today the radial engine is enclosed within a cylindrical covering, which usually has an open front and through which air enters to cool the cylinders. We usually associate radial engines with a certain bluntness of entry, though the careful streamlining of cowlings and the shaping of airscrew spinners has produced some elegant outer shapes for them and they are no less efficient than the in-line type we mention later. Even so, it is usually best to distinguish a radial by its shape.



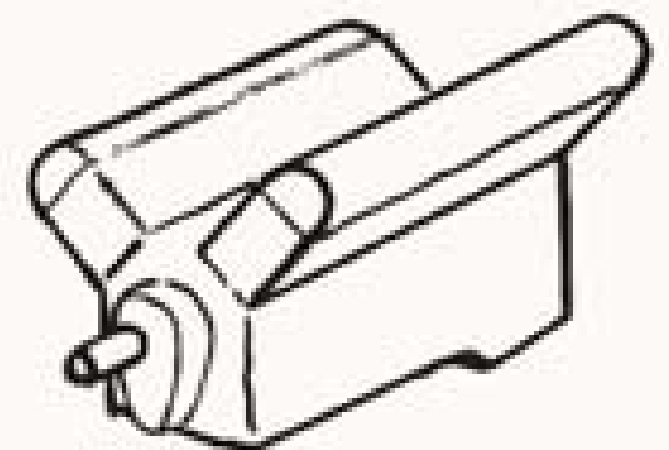
Air-cooled In-lines

These engines have their cylinders arranged one behind the other in one or more rows. The air-cooled type as employed in this country, is usually well under the 500 h.p. class and is fitted to the lighter types of aircraft, such as the Grasshopper. Most often the engine is inverted, thus putting the crank-case above the cylinders. In proportion the engine tends to be deep and narrow, having the spinner high up and a large gap or duct in the front cowl.



Liquid-cooled In-lines

The usual form is two rows of cylinders making a "V" though there are other arrangements such as the "H" type (so called because its banks of cylinders form an "H"), though they are not common. These engines lend themselves very well to good streamlined cowlings and by using a pointed spinner on the propeller a good aerodynamic shape to the whole engine can be formed. The Allison in-line used in the World War II Cobras is a good example.

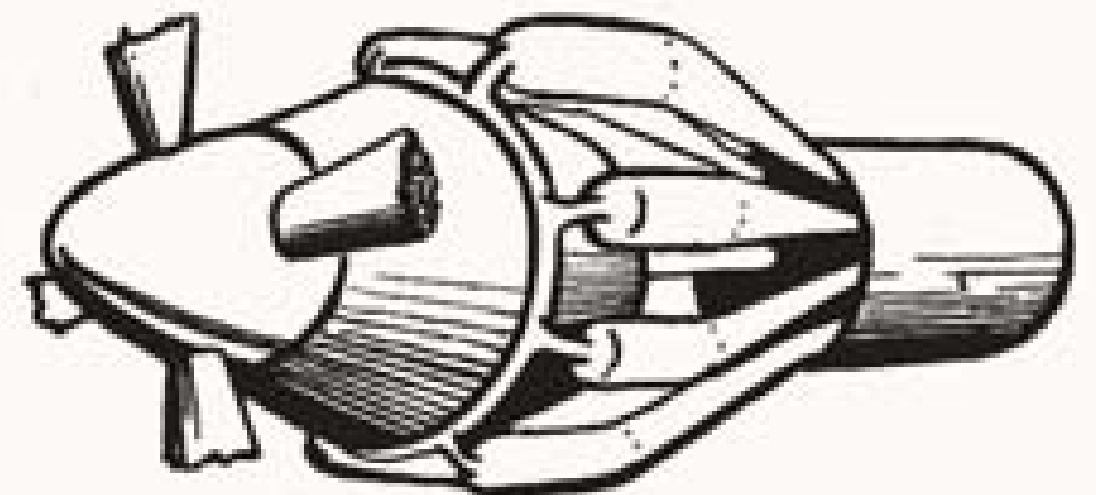


GAS TURBINES

Propeller Turbines

Or, as they are familiarly called, turbo-props, are offshoots of the turbo-jet. Instead of using jet-reaction as a means of propulsion, the hot gases are directed on to a turbine wheel which is connected to a propeller. The advantages of this type of engine are that it can be easily installed, presents less drag with a small frontal area and is easy to maintain. The present disadvantage is its high fuel consumption, though there seems to be the possibility of improvement in this respect as the engine is developed in service.

There has been a development called the compounded piston engine, that is to say a normal piston engine which makes full use of the exhaust gas energy to drive a turbine or turbines which are geared to the engine crankshaft.

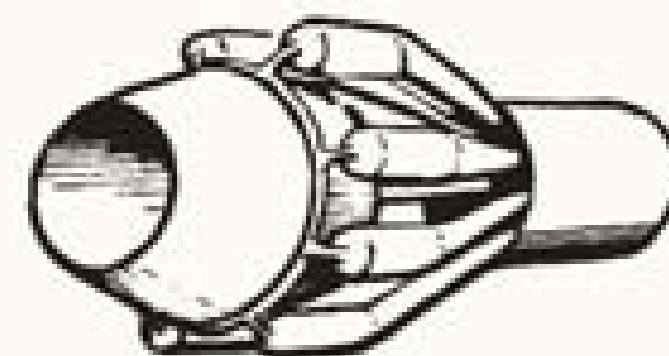


An example of a turbo-prop installation is that of the British Rolls-Royce Dart as fitted in the Vickers Viscount. The P5Y will also be fitted with turbo-props.

Because the turbo-prop engine employs a propeller to turn its power into thrust, however, much of the engine is "buried" inside the airplane's structure, there will always be some sort of "stem" for the propellers which, from our point of view, would be almost as useful as an engine itself.

Pure Jets or Turbo-Jets

The principles of operation and construction of the turbo-jet are simple, and it can be tailored into an airplane design almost anywhere. We find them "buried" inside wings, or set out on long slender "stalks" beneath the wing; they are tucked into wing roots or attached to wing tips; they are paired, tripled, and even quadrupled, in one nacelle. In fact, an airplane designer has so much license in their positioning, that a race of airplanes is being born in which the variety of shapes introduced has made them much more interesting, and in many ways easier to recognize.



Engine Details

All types of aircraft engines must "breathe", "exhaust" and "keep cool". To do this effectively they are usually designed with a quota of scoops, ducts, radiators, and exhaust systems of one kind or another. There are in fact so many varieties of each of these items that it is impossible to detail them all. All of them are helpful in recognition (at some time or another), some more than others.

What to Look For

The points to observe specially about engines which may be visible on an airplane are: shape, type, position and grouping. Shape gives a clue to type. Positions are at the nose of the fuselage, on the top of a pylon, on the back of, or slung beneath, the fuselage; they sit upon, are sunk into, or hang on the wings (underslung) or are suspended from them on "stalks". Engines may be set close together or well spaced out along the wing. They may be set out singly or in groups. Sometimes they extend only a short distance towards the length of the nose of the fuselage, sometimes in line with it, and occasionally beyond it.

THE DESIGNATION OF SERVICE AIRCRAFT ENGINES

Reciprocating Engines

The Air Force and Navy systems for the designation of aircraft engines are similar. All service engines are designated by a letter indicating their basic type:

<i>Letter symbols</i>	<i>Types</i>
R	Radial
V	Upright Vee
L	Line
O	Opposed

This is followed by the displacement of the engine in cubic inches to the nearest multiple of 5 and, finally, the Service model: R-1830-65, V-770-8, R-1820-56, R-2600-8. The final model number of engines ordered to an Air Force specification is always an odd number. Engines ordered by the Navy always carry even model numbers. However, under this system it is possible for a Navy airplane to be equipped with an engine originally contracted for, by the Air Force with an Air Force Number. Such an engine will retain the Air Force designation.

Turbine and Jet Engines

The first part of the designation shall consist of a letter (or letters) together with a number, indicating the type of engine.

<i>Letter symbols</i>	<i>Types</i>
J	Turbo-Jet (Gas Turbine Engine without External Propeller)
T	Turbo-Prop (Gas Turbine Engine with External Propeller)
PJ	Pulse Jet
RJ	Ram Jet

The type numerals used in connection with the type letters will be assigned progressively by the Services and shall begin with the number 30 for the Navy and the number 31 for the Air Force. The type numerals are arbitrary, and do not represent any characteristics of the units involved. Even numbers will be assigned by the Bureau of Aeronautics to types approved by the Navy, and odd numbers will be assigned by the Air Materiel Command to types approved by the Air Force. The second part of the designation will consist of dash letter (s) symbol indicating the manufacturer, as follows:

<i>Manufacturer's name</i>	<i>Letter symbol</i>	<i>Manufacturer's name</i>	<i>Letter symbol</i>
Aerojet Engineering Corp.....	AJ	Harvey Machine Co. Inc., Aviation	
Allis-Chalmers Manufacturing Co....	AC	Div.	HM
Allison Division, General Motors Corp.	A	Kaiser Fleetwing, Incorporated.....	FW
Bell Aircraft Corp.....	BA	Lockheed Aircraft Corp.....	LA
Bodine Soundrive Co.....	BD	Menasco Manufacturing Co.	MN
Chevrolet Motor Co., Division General		Marquardt Aircraft Co.....	MA
Motors Corp.....	C	McDonnell Aircraft Corp.....	MD
Chrysler Corp.....	D	Northrop Hendy Co.....	NH
Continental Aviation and Engineering		Packard Motor Car Co.....	V
Corp.....	T	Pratt & Whitney Aircraft Div. United	
DeLaval Steam Turbine Co.....	DL	Aircraft Corp.....	P
Elliott Co.	EE	Radio Plane Co.....	RP
Ford Motor Co.....	F	Ranger Aircraft Engine Div. Fair-	
Fredric Flader Co.....	FF	child Engineering & Airplane Corp.	R
General Electric Co.....	GE	Taylor Turbine Corp.....	TT
Globe Aircraft Corp.....	GA	West Engineering Co.....	WS
G. M. Giannini & Co.....	GN	Westinghouse Electric Corp.....	WE
		Wright Aeronautical Corp. Div. Cur-	
		tiss Wright Corp.....	W

The third part of the designation will consist of a dash numeral, the model number. These model numbers will be assigned to jet engines as they are now applied to reciprocating aircraft engines, that is, odd numbers for Air Force models and even numbers for Navy models. Air Force model numbers for each type of jet engine will begin with one and will continue with consecutive odd numbers. Navy model numbers for each type of jet engine will begin with two and will continue with consecutive even numbers. All even model numbers will be assigned by the Bureau of Aeronautics, including those applied to Air Force approved engine types. All odd numbers will be assigned by the Air Materiel Command, including those applied to Navy approved engine types.

A given engine design will have only one type and model designation for both Services. For example, should the Navy desire to use an engine bearing Air Force type and model numbers, the Navy will use those numbers without change for all designation purposes. Further, should the Air Force desire to use a Navy approved type of engine, but require minor production changes to the Navy model of that type, the Air Force shall use the Navy type designation and assign its own model designation, which will begin with one and will continue with consecutive odd numbers, to the modified engine regardless of the Navy model number.

The letters "X" and "Y" may be used at the discretion of the Services for the purpose of signifying experimental and service test of restricted service engines, respectively. When used, such letters shall precede the designation arrangement described above.

The following hypothetical examples illustrate the arrangement and significance of the subject designations:

J30-A-2	First Navy Model of First Navy Turbo-Jet Type. (Made by Allison)
J31-W-1	First Air Force Model of First Air Force Turbo-Jet Type. (Made by Wright Aeronautical)

J31-GE-1	First Air Force Model of First Air Force Turbo-Jet Type. (Wright Engine made by General Electric)
J35-GE-2	First Navy Model of Third Air Force Turbo-Jet Type. (Made by General Electric)
T34-P-3	Second Air Force Model of Third Navy Turbo-Prop Type. (Made by Pratt & Whitney)
RJ35-T-6	Third Navy Model of Third Air Force Ram Jet Type. (Made by Continental Motors)
PJ36-RP-7	Fourth Air Force Model of Fourth Navy Pulse Jet Type. (Made by Radio Plane)
XJ34-BA-2	First Navy Model of Third Navy Turbo-Jet Type. (Experimental Status) (Made by Bell Aircraft)
YRJ37-LA-2	First Navy Model of Fourth Air Force Ram Jet Type. (Restricted Service Status) (Made by Lockheed Aircraft)

All nations but the United States follow a registration system adopted at Versailles in 1919, whereby the nationality and registration marks of civil aircraft of countries which are members of the International Commission for Air Navigation (C. I. N. A.) consist of groups of five letters. Each nation is assigned a one or two-letter registration symbol, the actual license of the airplane appearing as a combination of three letters with a two-letter national symbol, and four letters with a single-letter symbol (G-ABXY, CF-BEL). The United States uses the letter N as the national symbol followed by a registration number (N-13365). This practice supersedes the old identification marking system which employed the letter N followed by another letter which was either C for standard, L for limited, R for restricted or X for experimental. The second letter was in turn followed by a registration number. However, under the new requirements the regulation states that aircraft having other than a STANDARD airworthiness certificate shall display in print the appropriate airworthiness classification at each passenger or cockpit entrance in a position so as to be readily visible to passengers or crew entering the aircraft; i.e., LIMITED, RESTRICTED or EXPERIMENTAL. The required date of compliance with the new regulation has been set by the Civil Aeronautics Administration for not later than December 31, 1950.

Letter symbols and licenses appear on both sides of the fuselage, and across both panels of upper and lower wing surfaces. The United States is an exception, applying the license only to both sides of the rudder and to the upper right and lower left wing surfaces. Russia uses URSS or its Russian equivalent, CCCP, on fuselage and on both right and left wing panels.

INTERNATIONAL AIRCRAFT MARKINGS

Afghanistan	YA	*Ethiopia	ET
Albania	ZA	Finland	OH
Argentine Republic	LV	France, Colonies & Protectorates, less Morocco.....	F
Australia	VH	Greece	G
Austria	OE	Guatemala	LG
Belgium	OO	Haiti	HH
Bolivia	CP or CB	Honduras	XH
Brazil	PP or PT	Hungary	HA
British Colonies & Protectorates with the exception that after the 3 letter com- VP bination following the National symbol VQ there is another 3 letter combination VR		Iceland	TF
Bulgaria	LZ	India	VT
Burma	XY	Iran (Persia).....	EP
Canada	CF	Iraq	YI
Chile	CC	**Israel	4X
China	XT	Italy	I
Colombia	HK	*Lebanon	LR
Costa Rica	TI	*Liberia	LI
Cuba	CU	Mexico	XA-XB
Curacao (Netherlands West Indies).....	PJ	Monaco, Principality of.....	CZ
Czechoslovakia	OK	Monte Carlo.....	MC
Denmark	OY	Morocco	CN
Dominican Republic.....	HI	Netherlands	PH
Ecuador	HC	Netherlands East Indies.....	PK
Egypt	SU	Newfoundland	VO
Eire	EI	New Hebrides Condominium.....	YJ
El Salvador.....	YS	New Zealand	ZK
		Nicaragua	AN
		Norway	LN

INTERNATIONAL AIRCRAFT MARKINGS—(Continued)

PakistanAP
 Panama, Republic of.....RX
 ParaguayZP
 PeruOB
 *Philippine Commonwealth.....PI
 PolandSP
 PortugalCS
 Portuguese Colonies.....CR
 RumaniaYR
 RussiaURSS
 Saudi Arabia.....SA
 SiamHS
 SpainEC
 SudanSN

Surinam (Netherlands Guiana).....PZ
 SwedenSE
 SwitzerlandHB
 *SyriaSR
 TurkeyTC
 Union of South Africa.....ZS
 United Kingdom.....G
 United States of America.....N
 UruguayCX
 VenezuelaYV
 YugoslaviaYU

*The nationality marks herein are provisional.

**An exception is Israel which employs the first two characters of its radio call sign.

The purpose of inserting a glossary into this manual is to enable all who use it to describe an airplane by the same terms. By no means does it pretend to be an encyclopedia of aeronautical and aerodynamical science but rather a reference page to define those visible features of any airplane by which it is most readily recognized.

AERODYNE (Heavier-than-Air Aircraft)—Airplane, Landplane, Seaplane, Amphibian, Gyroplane, Autogyro, Helicopter, Glider, Ornithopter, Kite.

AEROSTAT (Lighter-than-Air Aircraft)—Airship, Balloon.

AILERON—A movable airfoil usually attached to the trailing edge of the wing and which controls the movement of the aircraft about the longitudinal axis. (roll, bank.)

AIRFOIL—Any surface, such as an aircraft wing, aileron or rudder designed to obtain a reaction from the air through which it moves.

AIRPLANE—A mechanically driven fixed-wing aircraft, heavier than air, which is supported by a dynamic reaction of the air over its wing surfaces.

AIR SCOOP—A scoop or opening designed to induct air into the aircraft or its engine for some purpose such as carburetion, cooling or ventilating.

AIRSHIP—An aerostat provided with a propelling system and with means of controlling the direction of motion. The term airship is sometimes incorrectly applied to heavier-than-air craft (airplane), and should be avoided when used in that sense.

AMPHIBIAN—An aircraft designed to take off from and alight on either land or water.

ARRESTER HOOK—A retractable hook lowered by a carrier-based aircraft in order to make limited-space landings by engaging wires on the deck.

ARRESTING GEAR—Any gear incorporated in aircraft and in the landing area to facilitate landing in a limited space, especially on the deck of an aircraft carrier.

AUTOGIRO—A type of aircraft propelled forward by a conventional engine and propeller but supported in the air by a rotor which is aerodynamically rotated by the forward motion of the plane.

BELLY—Colloquial term for the ventral portion or underside of the fuselage.

BIPLANE—An aircraft with two wings placed one above the other.

BLISTER—A colloquial term for a streamlined transparent housing protruding from the fuselage.

BOMBER—(a) Heavy or Heavy Patrol—Bombardment or patrol bombardment airplane with tactical operating radius of more than 2500 nautical miles at design gross weight and bomb load. (Tactical operating radius is defined as three-eighths of the maximum range under design load conditions.)

(b) Medium or Medium Patrol—Bombardment or patrol bombardment airplane with tactical operating radius of 1000 to 2500 nautical miles at design gross weight and bomb load.

(c) Light or Light Patrol—Bombardment or patrol bombardment airplane with tactical operating radius of less than 1000 nautical miles at design gross weight and bomb load, normally to be used other than for direct support of ground or naval forces.

(d) Attack—Bombardment airplane which specializes in the direct support of ground or naval forces.

CABIN—A compartment for one or more persons built entirely within the profile of the fuselage, usually entirely enclosed except for windows and/or doors.

CANOPY—A transparent hood, covering or enclosure. A BUBBLE CANOPY is a streamlined canopy projecting entirely above the top line of the fuselage and is usually made of only one or two pieces of glass or plastic.

CATHEDRAL—A term applied to wings that have a "drooped" effect, or slight negative dihedral. A Cathedral Angle is sometimes employed in swept-wing aircraft to correct over-stabilization. (British term—"Anhedral").

CENTER SECTION—The central panel of a wing.

CHORD—The straight line distance between the leading and trailing edges of an airfoil; the width of an airfoil.

COCKPIT—The compartment in an aircraft to accommodate the pilot and/or other persons, usually open or covered by a movable canopy.

COMMUNICATIONS/UTILITY—Light airplane used in carrying one or a few persons or light objects relatively short distances, in liaison, or in other military missions including target aircraft control, towing of targets, etc.

CONTROL SURFACE—A movable airfoil, such as aileron, elevator or rudder, which controls the movement of the aircraft.

COWLING—A removable covering, as around an engine.

DIHEDRAL—A wing design in which the wing tips are raised above the center section portions of a wing. Its effect is to improve its lateral stability.

DIVE BRAKE—A flap or movable surface which, when extended, reduces the speed of the aircraft in a dive.

DORSAL—Adjective pertaining to the back or top portion of the fuselage.

DROOP WINGS—A term applied to wings that have cathedral or negative dihedral. The B-47 and the de Havilland D.H. 108 both have droop.

EDGE—See "LEADING EDGE" and "TRAILING EDGE".

ELEVATOR—A movable airfoil usually attached to the stabilizer and which controls the movement of the aircraft about the lateral axis (climb and dive).

ELEVONS or CONTROLLERS—Hinged on each outer wing and serve as both elevators and ailerons; thus achieving longitudinal and lateral control; used on an all wing type aircraft. The term Ailevators is also used.

EMPENNAGE—The rear part of an airplane, usually consisting of a group of stabilizing planes (Horizontal stabilizers and vertical fin) to which are attached the control surfaces.

ENGINE—The motive power of an aircraft.

Conventional reciprocating engines produce forward motion by driving propellers or rotors and are divided into two basic types—**RADIAL** and **IN LINE**, depending on the arrangement of the cylinders about the crankshaft. The former type is usually air-cooled, while the latter type may be either liquid-cooled or air-cooled.

Reaction engines produce forward motion by the discharge of heated gases through a nozzle

and are divided into two basic types—**JET** and **ROCKET**. The former type utilizes the surrounding atmosphere to provide the thrust medium and the oxygen for its fuel combustion, while the latter type functions independently of the surrounding atmosphere, the thrust being provided by the combustion of self-contained oxygen and fuel.

Aircraft may be powered by either a reciprocating or a reaction engine or a combination of both. The word motor should not be applied to an aircraft engine, since it usually refers to one of the many small auxiliary motors in an aircraft which are used to operate pumps, flaps, landing gear, etc.

EXPERIMENTAL AIRCRAFT—Aircraft which have the required military characteristics but which are undergoing flight tests and other experiments as a preliminary to possible acceptance as standard articles.

FAIRING—An auxiliary part of the exterior structure, the function of which is to reduce drag or "streamline" the aircraft.

FIGHTER—(a) **Interceptor**—Fighter airplane of relatively short range and high rate of climb, designed primarily to engage in combat with enemy aircraft during daylight hours and under relatively favorable weather conditions in order to prevent their reaching the target.

(b) **All Weather**—Fighter airplane especially equipped with the electronic and other devices necessary to permit combat operation at night or under adverse weather conditions.

(c) **Penetration**—Fighter airplane of long range, designed to escort friendly bombers or to engage in other combat operations.

FILLET—A fairing used at the intersection of two surfaces, such as a wing fillet installed at the junction of the wing and fuselage.

FIN—A fixed or adjustable airfoil to afford directional stability such as a tail fin or skid fin. Common name for the vertical stabilizer.

FIRST LINE AIRCRAFT—Aircraft with characteristics and performance which make them suitable to perform the missions for which they were produced.

FLAP COWL—A movable section of the cowl used to control the flow of air around the engine or cowl units.

FLAP, WING—A movable section of an airfoil used to change the effect of air flow over the airfoil. Wing flaps are located along the trailing edge of the wing and are lowered during take-off and landing in order to increase the effective lift of the wing.

FLOAT—A completely enclosed watertight structure attached to an aircraft to give it buoyancy and stability when in contact with water.

FLYING BOAT—A form of seaplane whose main body or hull provides flotation.

FUSELAGE—The main body of an aircraft to which the wings and tail unit are attached.

GLIDER—An aircraft heavier than air, with wings but without a power plant. It is supported in the air essentially by forward motion produced by gliding.

PRIMARY GLIDER—A ruggedly built glider designed for use in elementary training of glider pilots.

SECONDARY or UTILITY GLIDER—a glider designed to have better aerodynamic performance than the primary type, but rugged enough for the use of pilots with limited training.

HIGH PERFORMANCE GLIDER—A glider, generally called **SAILPLANE**, having a high degree of aerodynamic refinement and low minimum sinking speed, often used in soaring contests.

CARGO TROOP GLIDERS—Large gliders designed to carry cargo and/or troops and towed by a powered aircraft to within gliding range of the destination.

GREENHOUSE—Colloquial term for the transparent hood or canopy over the cockpit.

GUIDED MISSILES—"The field of guided missiles is considered to include uninhabited missiles the trajectory of which is influenced by a mechanism within the missile, together with components of such missiles and associated systems. Conventional torpedoes are excluded."

HEIGHT—The vertical measurement of an aircraft at rest, taken from the lowest point of contact to the topmost part of the aircraft including the rotation arc of the propeller.

HELICOPTER—A type of aircraft propelled through and supported in the air by rotating

airfoils which are mechanically rotated by an engine.

HULL—The main body of a flying boat which furnishes buoyancy when in contact with the water. It contains accommodations for the crew and passengers.

IN-LINE—See **ENGINE**.

JET—See **ENGINE**.

LANDING GEAR—An assembly of wheels, struts, etc., on a landplane which give support and control to the aircraft while in contact with the ground and in take-off or landing.

CONVENTIONAL type landing gear has a tail wheel (or skid) located behind the main wheels.

TRICYCLE type landing gear has a nose wheel located ahead of the main wheels.

LANDPLANE—An aircraft designed to take off from and alight on land.

LEADING EDGE—The foremost edge of an airfoil or propeller blade.

LENGTH (OVER ALL)—The extreme forward-aft measurement of an aircraft.

LIGHTER-THAN-AIR CRAFT—Aircraft which derives its vertical lift from its weight in relation to that of an equal volume of air.

LOOP—Radio antenna formed of coils of wire.

MAST, RADIO—A fixed spar attached to an aircraft to support the radio antenna.

MACH NUMBER—A Mach number (named for Ernst Mach of Vienna) is a means of expressing speed in relation to the speed of sound. It is generally used to express speeds which approach or exceed the speed of sound. Mach 1.0 indicates the speed of sound—which is 661 knots (or 760.9 m.p.h.) at sea level and 15 degrees centigrade (59 degrees fahrenheit). A speed of Mach .8, for example, would be 8/10ths of the speed of sound. Mach rhymes with lock.

MONOCOQUE—A type of fuselage construction which relies on the strength of the skin or outer shell for its structural stiffness. The shell is supported by crosswise frames called **BULKHEADS** or **FORMERS**. **SEMI-MONOCOQUE** construction is similar to monocoque except that the shell is reinforced with longitudinal stringers running perpendicular to the bulkheads.

MONOPLANE—An aircraft with a single plane or wing. There are four general types.

LOW-WING—A monoplane with the wing located at, or near, the bottom of the fuselage.

MID-WING—A monoplane with the wing located at approximately the mid-point between the bottom and the top of the fuselage.

A **LOW MID-WING** has the wing located slightly below this point, and a **HIGH MID-WING** has the wing located slightly above this point.

HIGH-WING—A monoplane with the wing located at the top of the fuselage.

PARASOL WING—A monoplane with the wing located above the fuselage and connected to it by a cabane strut or other structure.

NACELLE—A separate enclosure for an engine or equipment usually smaller than a fuselage.

NOSE—The foremost part of the fuselage.

NOSE WHEEL (DOLLY)—A small two-wheel dolly fitted to nose wheel strut for tail-up carrier stowage.

OBSOLETE AIRCRAFT—Aircraft which are so deficient in military characteristics and performance that they are no longer usable for the purpose for which they were originally intended.

PANEL, ACCESS—A hinged or removable door which provides access to an interior compartment of the aircraft.

INSTRUMENT—A bulkhead on which the aircraft instruments are mounted.

WING—A section of the wing which is constructed separately from the adjoining structure such as the **CENTER PANEL** or **OUTER PANEL**. On smaller aircraft the wing is often assembled in one integral panel.

PANTS (also SPATS)—Colloquial term for the fairing on fixed landing gear.

PILOTLESS AIRCRAFT—Remotely controlled aircraft which may or may not be capable of carrying one or more persons, but which will not carry persons in the performance of its primary mission.

PROPELLER—Any device for propelling a craft through a fluid such as water or air; especially a device having blades which when rotated by a power-driven shaft, produce a thrust by their action on the fluid.

ADJUSTABLE—A propeller the blades of which are so attached to the hub that the pitch may be adjusted while the propeller is at rest.

AUTOMATIC—A propeller the blades of which are attached to a mechanism that automatically sets them at the optimum pitch for various flight conditions.

CONTRA-ROTATING—Two propellers mounted in tandem on the same shaft axis but geared to rotate in opposite directions. Sometimes called "CO-AXIAL" propellers.

CONTROLLABLE—A propeller the blades of which are so mounted that the pitch may be changed while the propeller is rotating.

FULL-FEATHERING—A propeller the blades of which can be turned so as to present the least resistance to the airstream. This prevents "wind-milling" of the propeller while the engine is not operating while in flight.

PUSHER—A propeller mounted on the rear end of the engine or propeller shaft so as to "push" the plane forward.

REVERSIBLE PITCH—A propeller the pitch of which can be changed during rotation to a negative angle producing a braking effect or reverse thrust.

TRACTOR—A propeller mounted on the forward end of the engine or propeller shaft so as to "pull" the plane forward.

RADIAL—See **ENGINE**.

RECONNAISSANCE — (a) Strategic — Reconnaissance airplane of long range equipped to make flights over enemy territory for the purpose of obtaining photographic or other information useful to the planning of subsequent operations.

(b) Support—Reconnaissance airplane of relatively short range designed to support land or naval operations by securing and transmitting information needed in immediate tactical decisions.

RIB—A chord-wise structural member of the wing.

ROCKET—See **ENGINE**.

ROOT—The "base" of the wing where it is attached to the fuselage.

ROTOR—A complete assembly of rotating airfoils as used on autogiros and helicopters, generally revolving in an approximately horizontal plane. The airfoils are called **ROTOR BLADES** and are attached to the **ROTO HUB**.

RUDDER—A movable airfoil usually attached to the fin and which controls the movement of the aircraft about the vertical axis (turn, yaw).

SAILPLANE—A high-performance type glider.

SEAPLANE—An aircraft designed to take off from and alight on water.

SEARCH AND RESCUE—Airplane equipped to specialize in the location and rescue of wrecked aircrew personnel or other persons on land or on sea.

SECOND LINE AIRCRAFT—Aircraft which may be used for the purposes for which they were produced, or for other purposes, but whose deficiency in characteristics and performance entails a recognized handicap for military use.

SHAFT—The part connected to the power plant which drives the propeller or rotor.

SLAT—A movable auxiliary airfoil, attached to the leading edge of a wing, which when closed falls within the original contour of the wing and which when opened forms a slot.

SLOT—An opening near the leading edge of a wing, either fixed or formed by a movable slat, which improves the airflow characteristics of the airfoil.

SPAT—See PANTS.

SPECIAL RESEARCH—Airplane designed for supersonic research or other research into aeronautical problems.

SPINNER—A fairing of approximately conical or paraboloidal shape, which is fitted co-axially with the propeller hub and revolves with the propeller.

SPOILER—A movable airfoil or plate which when opened projects above the upper surface of the wing to disturb the smooth air flow, with a consequent loss of lift and increase in drag.

SPONSON—A protuberance from a flying boat hull, often like a stub wing, designed to increase the beam and give lateral stability in the water.

SPRAY STRIP—A strip projecting from the hull or float of a seaplane to change the manner in which the spray is thrown.

STABILIZER—Any airfoil the primary function of which is to increase the stability of the aircraft. It usually refers to the fixed horizontal tail surface of an aircraft, as distinguished from the fixed vertical surface (fin).

STEP—A break in the form of the bottom of a float or hull.

STRUT—A generic term for a structural member.

CABANE—An exterior strut connecting the wing to the fuselage, usually in parasol or high wing monoplanes.

OLEO—An oil-filled shock absorbing strut used as the main structural member of the landing gear.

SWEEPBACK—Term applied to a wing whose leading edges and trailing edges are farther aft at the tips than at the roots.

SWEEPFORWARD—When the general wing shape sweeps aft from the tips.

TAB—An auxiliary airfoil attached to a control surface for the purpose of reducing the control force or "trimming" the aircraft.

TAIL—The after part of an aircraft generally consisting of stabilizers, elevators, fin and rudder.

TAIL SKID—A skid for supporting the tail of an aircraft on the ground.

TAIL WHEEL—A wheel for supporting the tail of an aircraft on the ground.

TAPER—A gradual diminishing of the chord or the thickness of an airfoil.

TARGET—Aircraft which may or may not be capable of carrying one or more persons, designed to be remotely controlled in flight for use in gunnery practice. (See Classification of Aircraft.)

TRAILING EDGE—The rearmost edge of an airfoil or propeller blade.

TRAINER — (a) Advanced — Airplane used in training pilots in instrument flying, navigation, gunnery, or other advanced phases of military aviation.

(b) Primary and Basic—Relatively light and slow airplane used in teaching students fundamentals of flying.

TRANSPORT—(a) Heavy — Transport airplane with design payload in excess of 30,000 pounds at a 1000 mile tactical operating radius. (Tactical operating radius is defined as three-eighths of the maximum range under design load conditions.)

(b) Medium—Transport airplane with design payload of 16,000 to 30,000 pounds at a 1000 mile tactical operating radius.

(c) **Light**—Transport airplane with design payload of less than 16,000 pounds at a 1000 mile tactical operating radius, or with a tactical operating radius of less than 1000 miles with any payload.

(d) **Military Transport Aircraft**—A transport aircraft fitted with military structural or design provisions, and may be a "combat" or "non-combat" transport aircraft.

(e) **Combat Transport Aircraft**—A military transport aircraft which is prepared and equipped with sufficient internal protection to operate at no more than reasonable risk over and in active combat area.

(f) **Non-combat military transport aircraft**—A military transport aircraft which is not intended or equipped to operate in an active combat area.

(g) **Non-military transport**—Conventional commercial type transport aircraft containing no provision for specialized military usage.

THRUST—The resultant force in the direction of motion due to the components of the pressure forces in excess of ambient atmospheric pressure acting on all inner surfaces of the vehicle parallel to direction of motion. Thrust less drag equals accelerating force.

Thrust in relation to horsepower varies, in as much, as the performance characteristics of a turbo-jet engine are such that the thrust is approximately constant, but the horsepower output increases directly with airspeed for any given altitude. Therefore, the engine ratings are usually given in pounds of thrust at standard sea level static conditions.

At 375 mph the thrust in pounds is equal to the horsepower.

TURRET—A movable enclosure housing armament. It may be manually operated or power-driven.

REMOTE CONTROL turrets are controlled from the position in the aircraft some distance from the turret itself.

UNDERCARRIAGE—See **LANDING GEAR**.

VENTRAL—Adjective pertaining to the "belly" or bottom portion of the fuselage.

WING—Main supporting surface or airfoil of an airplane. Wings are often classified by their plan shapes, the most usual of which are:

ELLIPTICAL—When leading and trailing edges are elliptical in general shape.

STRAIGHT—When leading and trailing edges are straight, parallel and at right angles to the direction of flight.

TAPERED—When the leading and/or trailing edges are straight but not at right angles to the direction of flight, so that the wing diminishes in chord from the root to the tip.

Wings are also classified by their front-view shape:

DIHEDRAL—When the wing axis slopes up (positive) or down (negative) from the root to the tip.

GULL—When the center panel has positive dihedral and the outer panel is horizontal or has less positive dihedral.

HORIZONTAL—When the wing axis forms a horizontal line.

INVERTED GULL—When the center panel has negative dihedral and the outer panel has horizontal or has positive dihedral.

WING, FLYING—A tailless aircraft, the main body of which is an airfoil shape.

RECOGNITION FEATURES OF GUN CALIBERS

In the recognition of types of gun calibers it is to be noted that even in large calibers, short barrels permit neat installations, and in consequence a sleek streamline fighter may house two to four 30 mm. cannons, noticeable only to the keen observer by the aperture in the aircraft nose or wing, but bear in mind that the exit holes you see may be blast tubes surrounding the barrel and extending forward, giving a false impression of caliber. If the extending projection favors a "thin wall" construction it will most certainly constitute a blast tube. Suggested standards of measurement for the non-technical.

.50 cal. ½ inch in diameter.
20 mm. approx. 1 U.S. cent in diameter.
30 mm. approx. 1 half dollar in diameter.

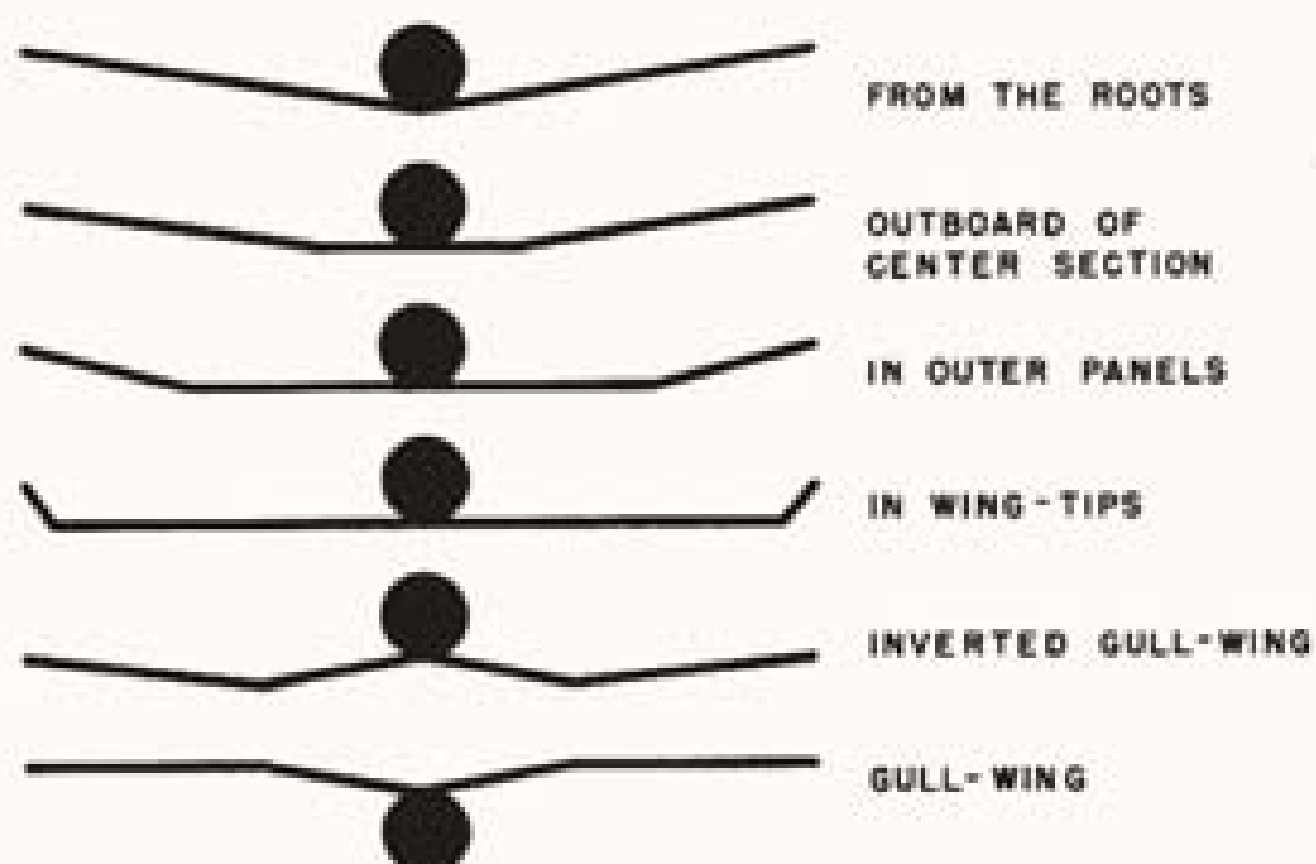
40 mm. approx. 1 silver dollar in diameter.
50 mm. approx. 2 inches in diameter.
75 mm. approx. 1 tennis ball in diameter.

RECOGNITION FEATURES

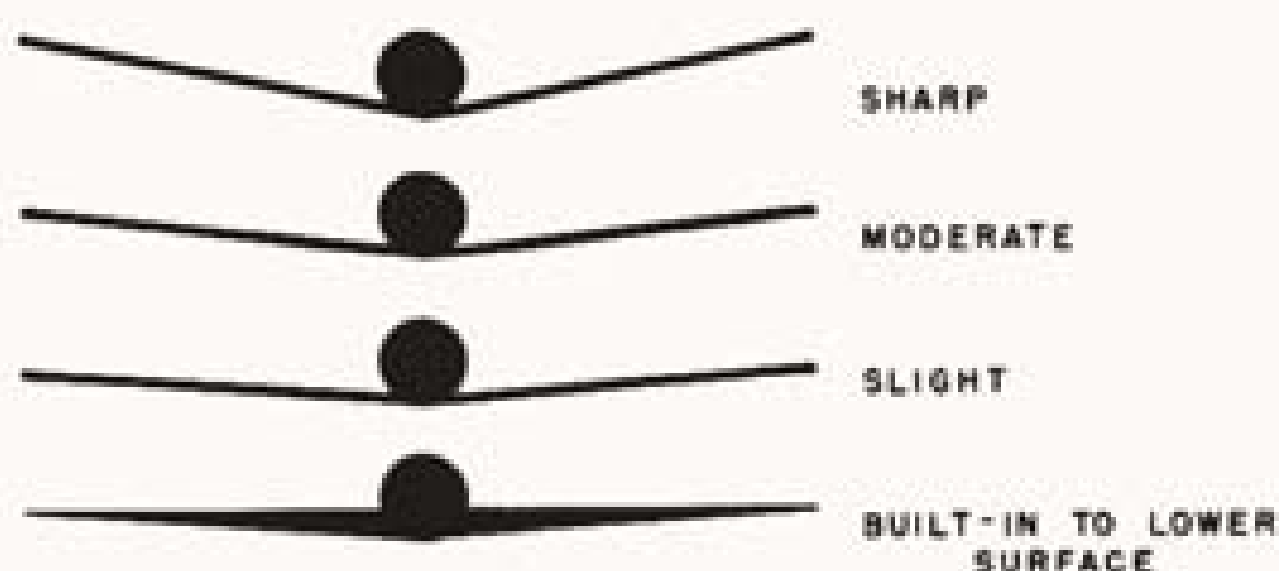
RESTRICTED

ILLUSTRATIONS

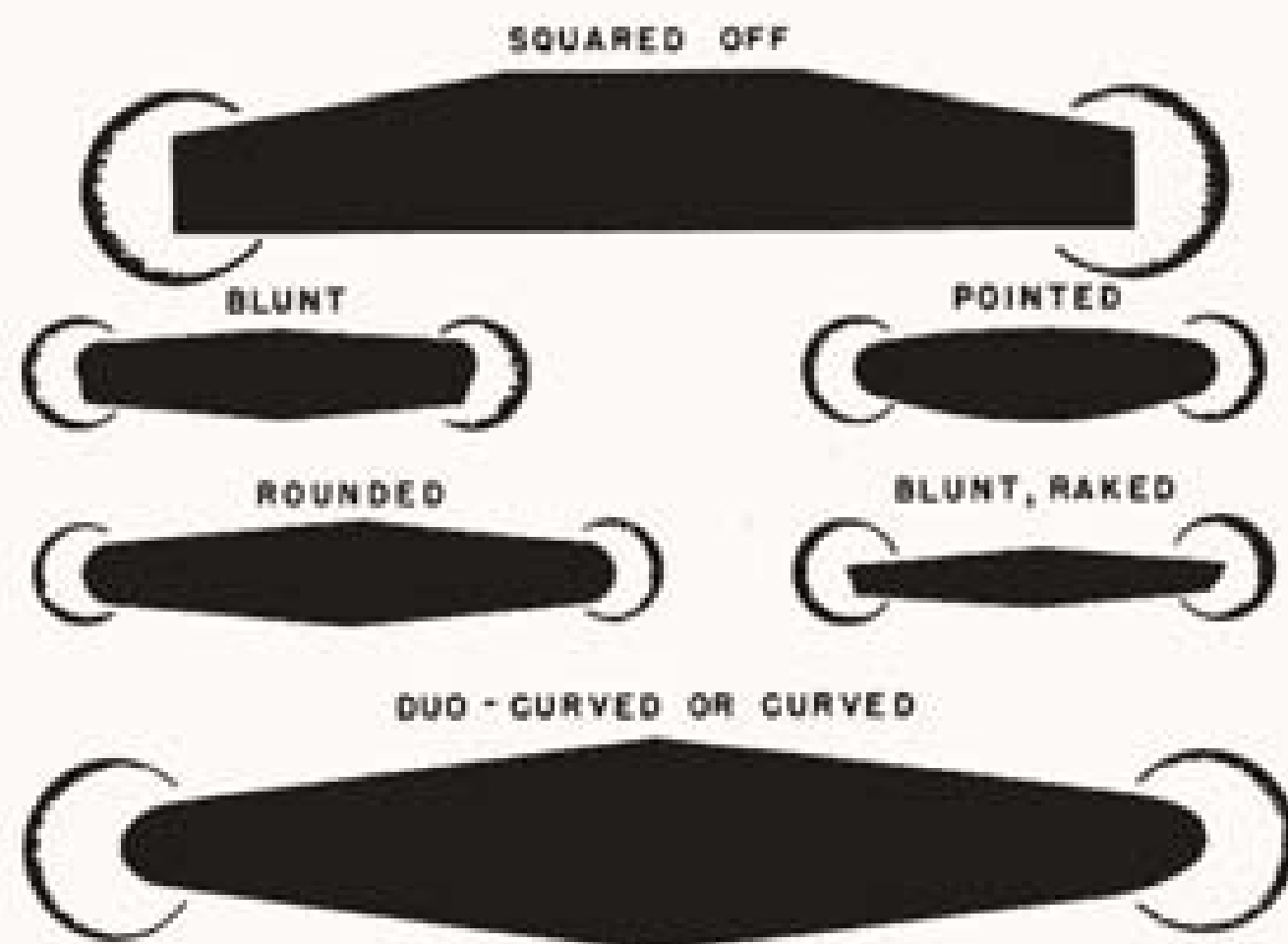
TYPES OF WING DIHEDRAL ANGLE



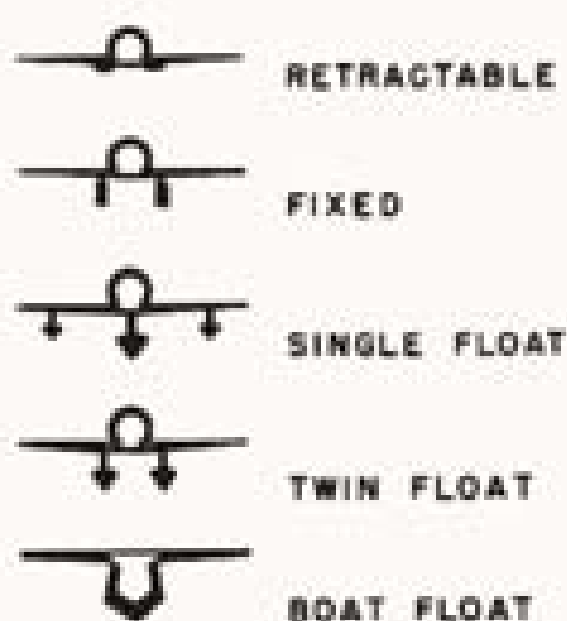
DEGREES OF WING DIHEDRAL ANGLE



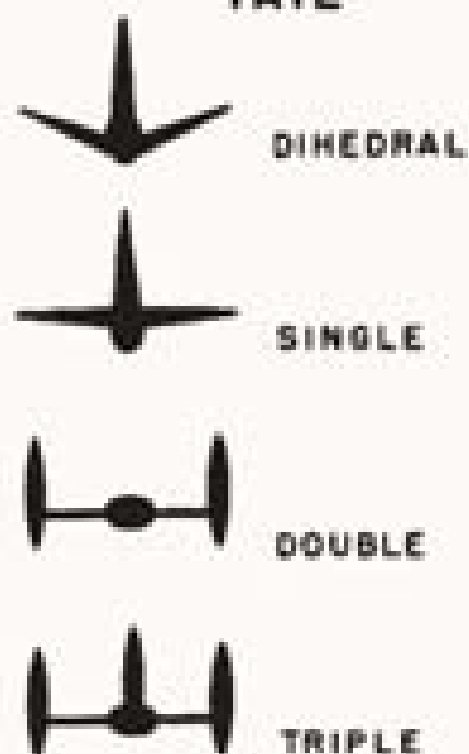
TYPES OF WING-TIP



UNDERCARRIAGE



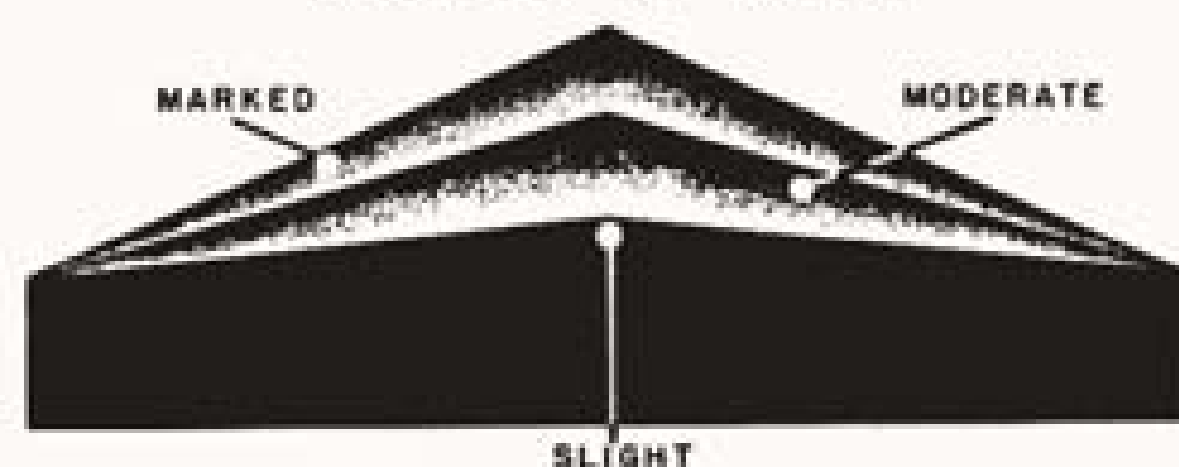
TAIL



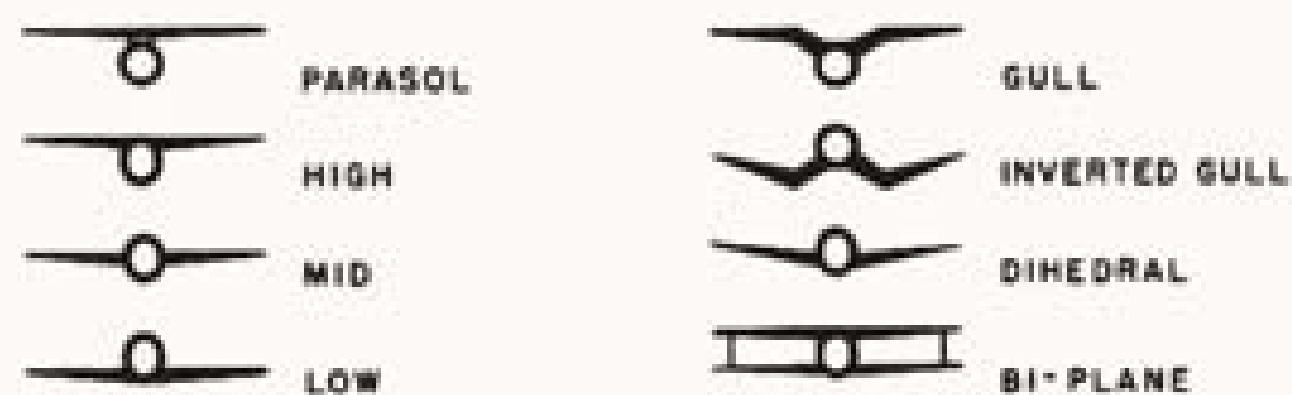
TYPES OF TAPER



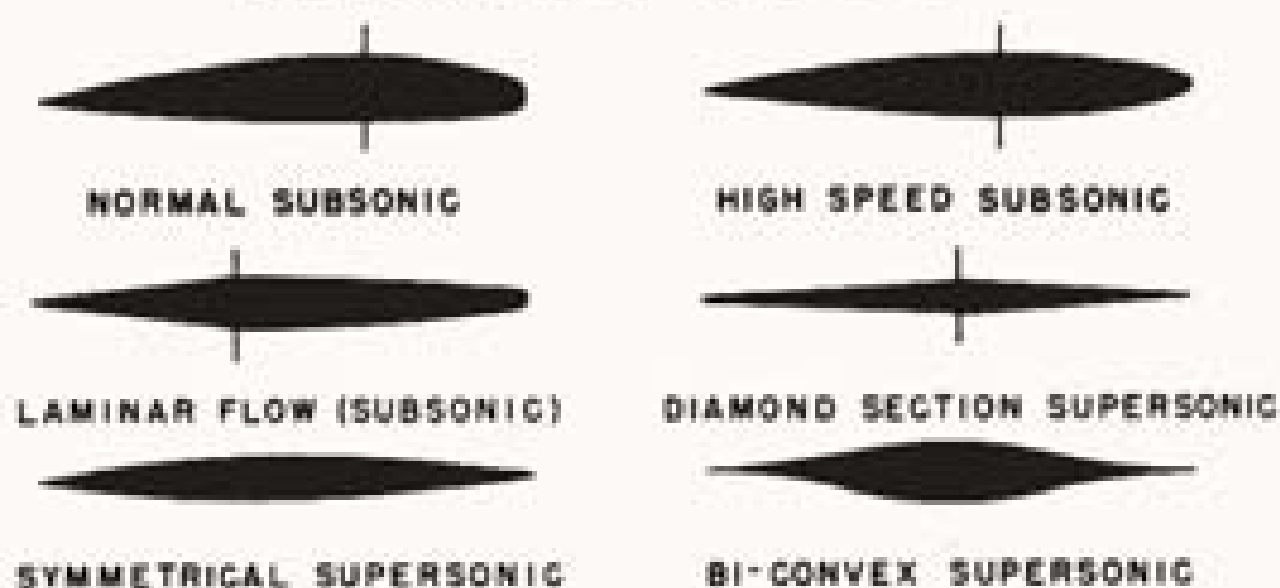
DEGREES OF TAPER

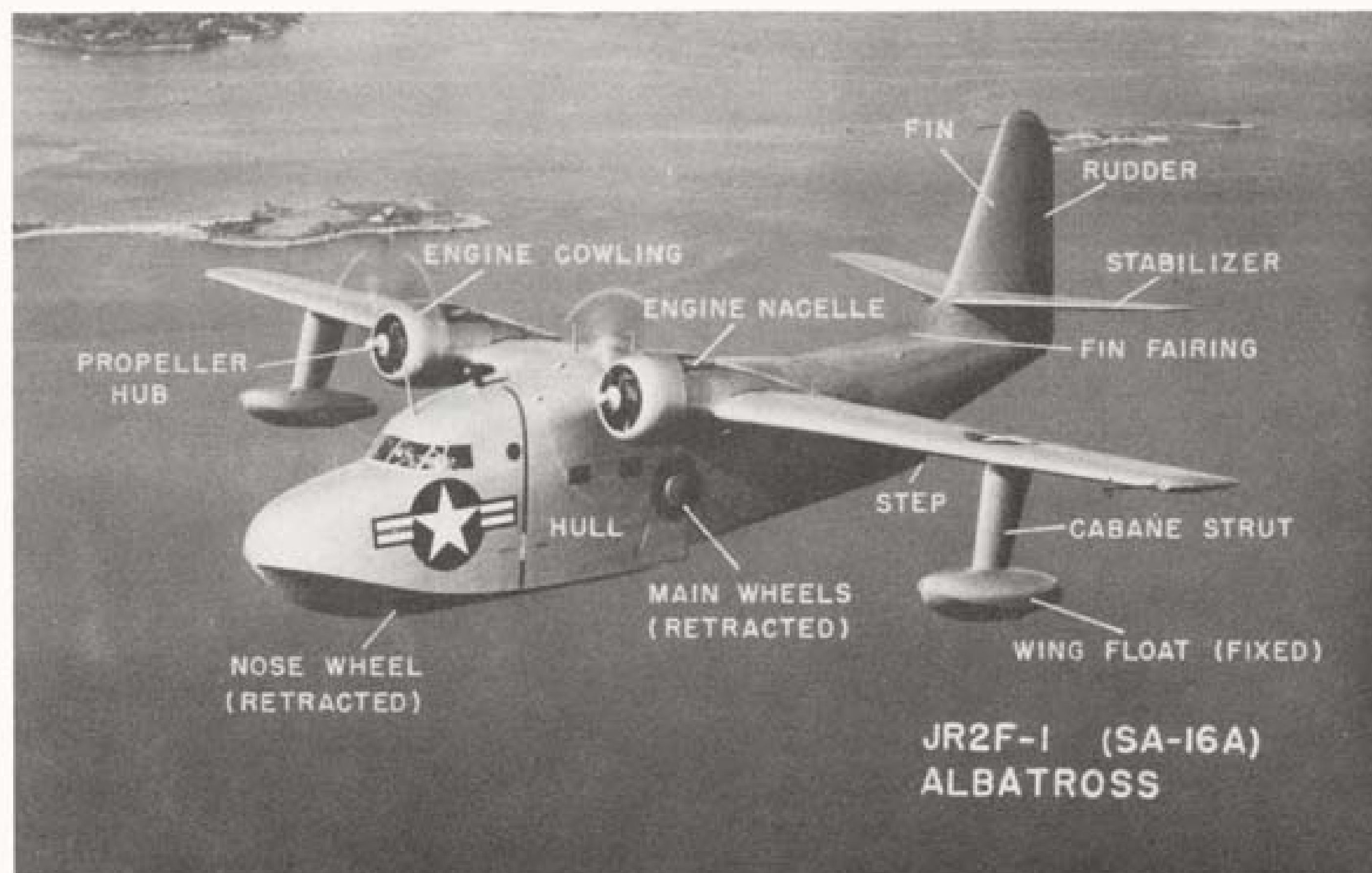
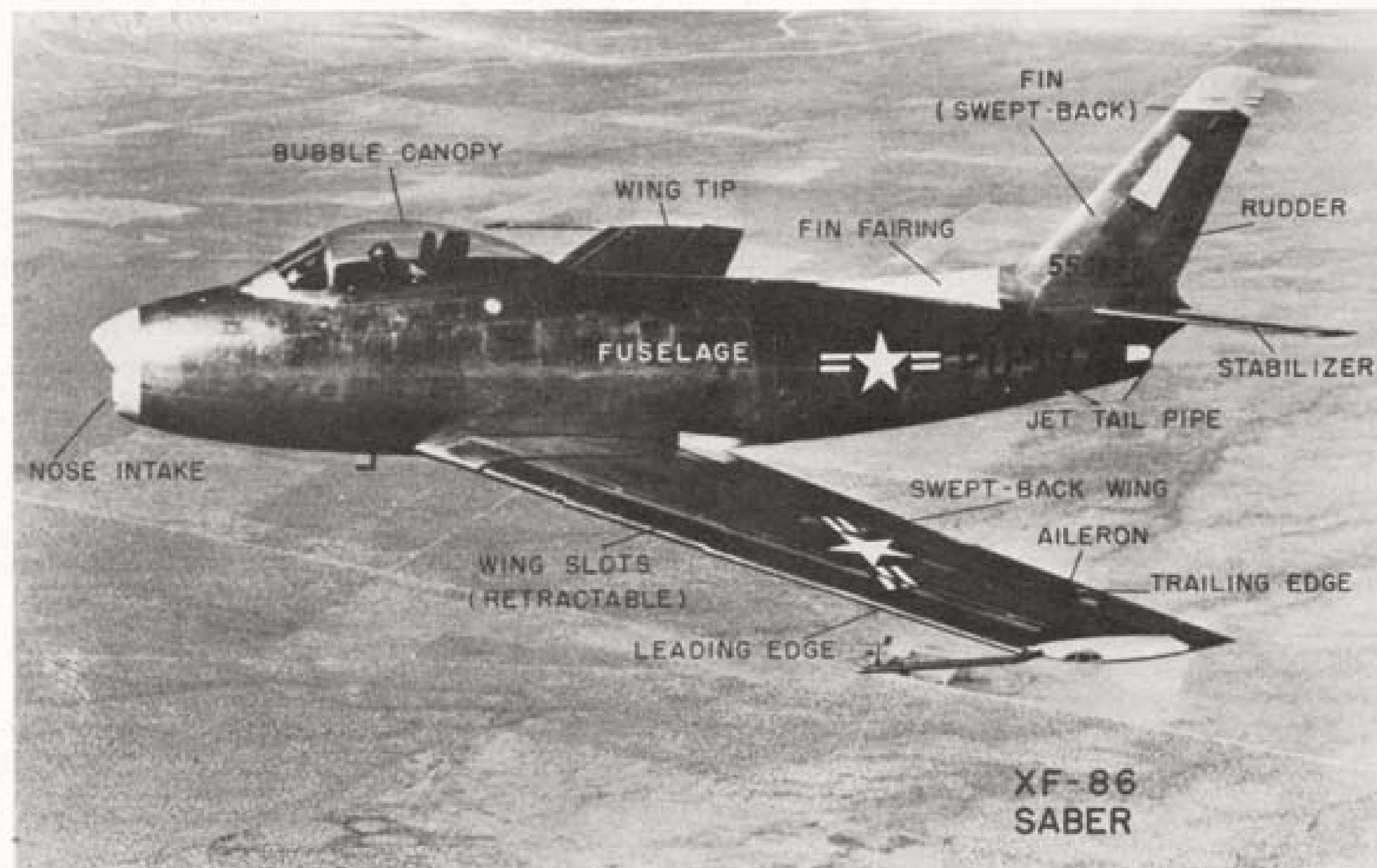


WING POSITIONS



TYPICAL WING SECTIONS







WINGS AND FUSELAGE
UNITED STATES

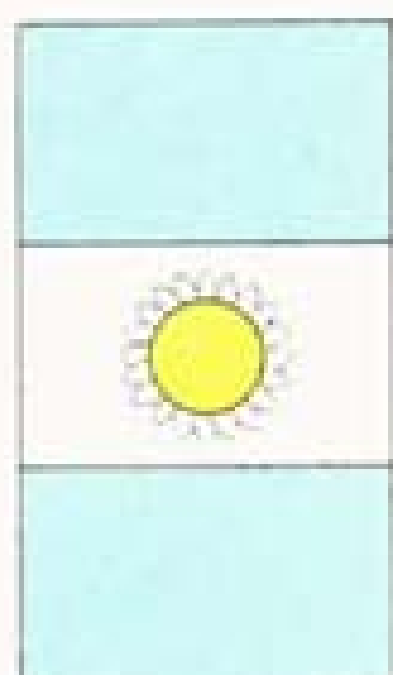


RUDDER

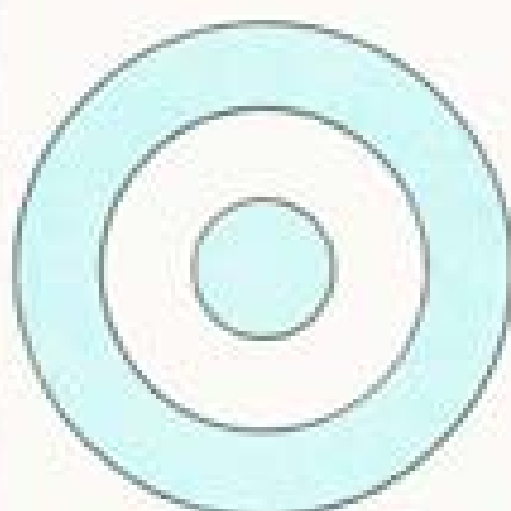


WINGS

AFGHANISTAN



RUDDER



ARMY

WINGS



NAVY

ARGENTINA



RUDDER



WINGS AND FUSELAGE

BELGIUM



RUDDER



WINGS AND FUSELAGE

BOLIVIA

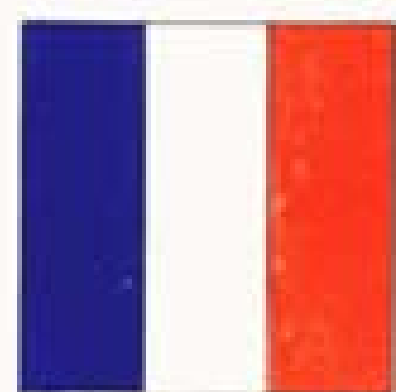


RUDDER



WINGS

BRAZIL

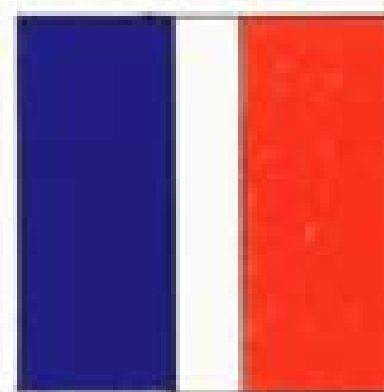


FIN FLASH



WINGS AND FUSELAGE

GREAT BRITAIN

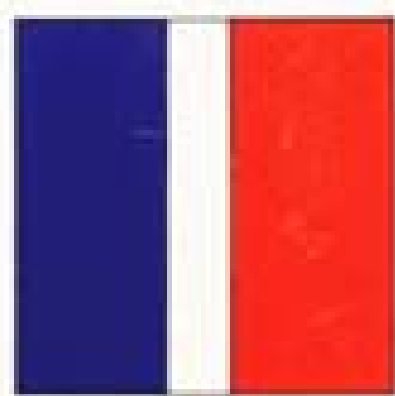


FIN FLASH

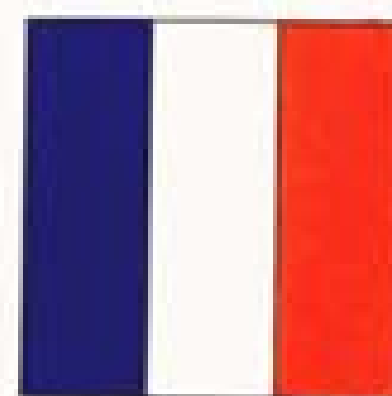


WINGS AND FUSELAGE

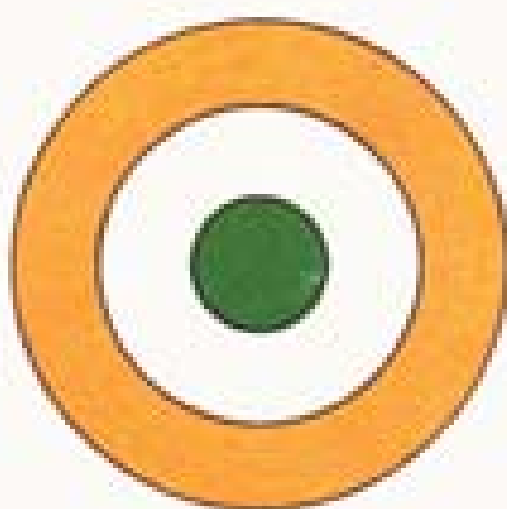
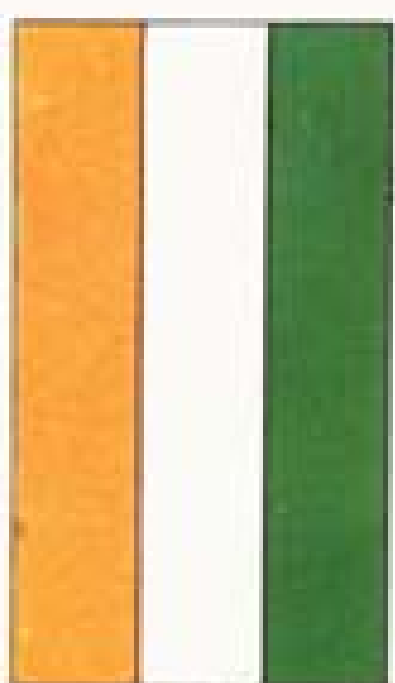
THE DOMINION OF CANADA—RCAF



FIN FLASH WINGS AND FUSELAGE
THE DOMINION OF CANADA—NAVAL



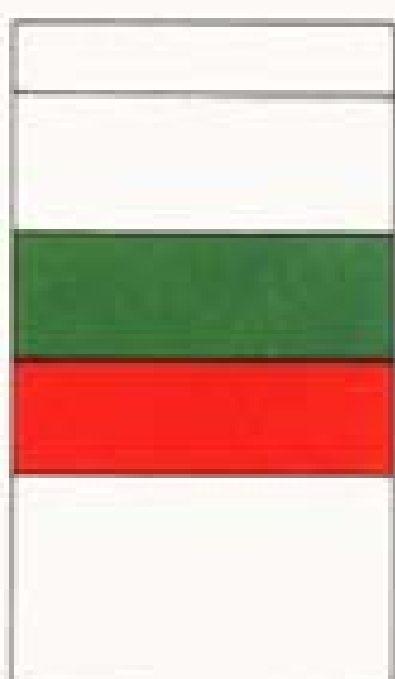
FIN FLASH WINGS AND FUSELAGE
UNION OF SOUTH AFRICA



FIN FLASH WINGS AND FUSELAGE
THE DOMINION OF INDIA



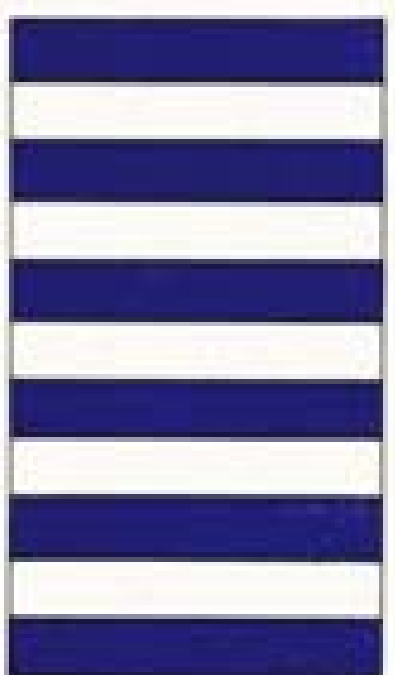
WINGS AND FIN FLASH FUSELAGE
THE DOMINION OF PAKISTAN



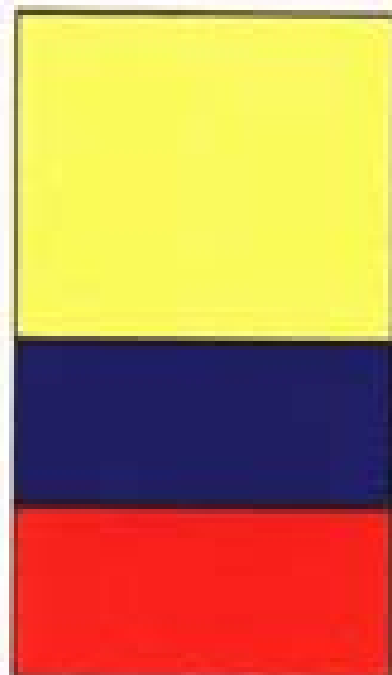
RUDDER WINGS AND FUSELAGE
BULGARIA



RUDDER WINGS
CHILE



RUDDER WINGS AND FUSELAGE
CHINA



RUDDER WINGS
COLOMBIA

AIRCRAFT

RESTRICTED

NATIONAL MILITARY MARKINGS

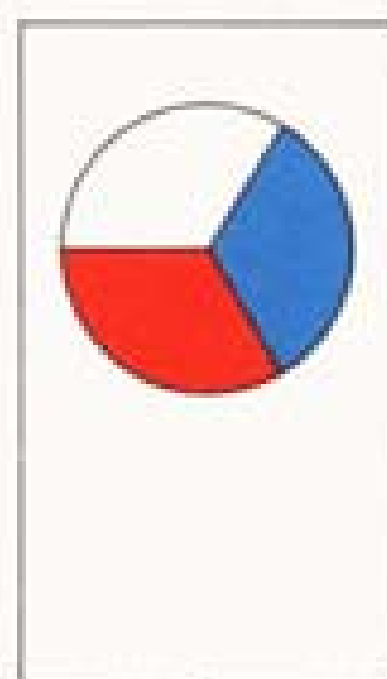


RUDDER

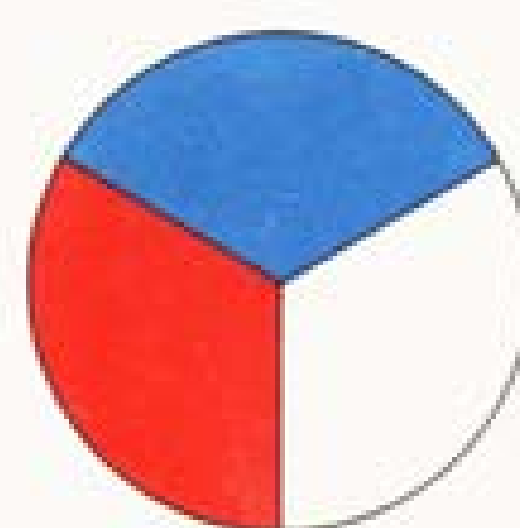


WINGS

CUBA

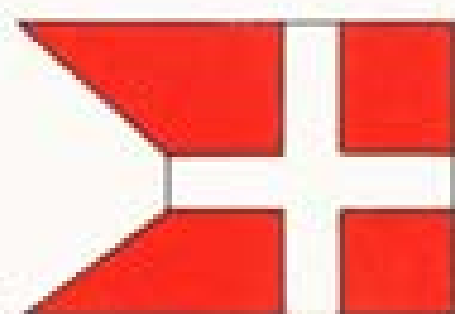


RUDDER



WINGS

CZECHOSLOVAKIA

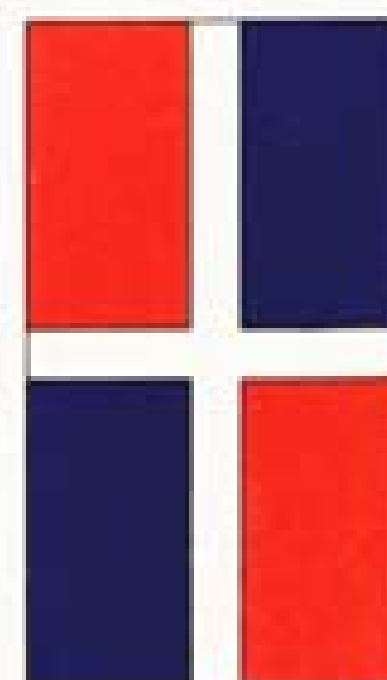


FIN FLASH



WINGS AND FUSELAGE

DENMARK

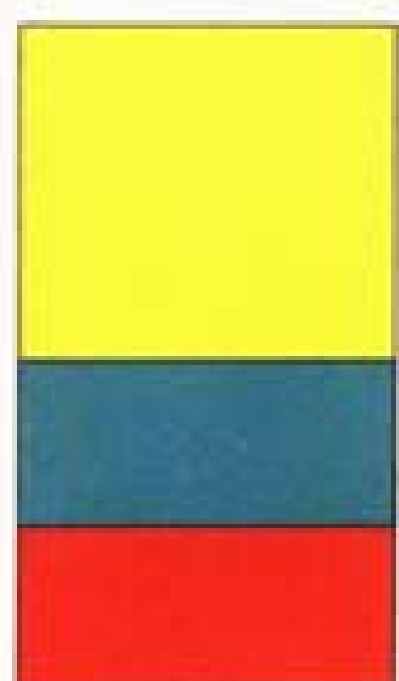


RUDDER



WING

DOMINICAN REPUBLIC

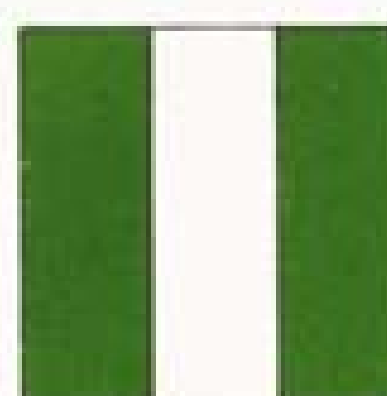


RUDDER



WINGS

ECUADOR



FIN FLASH



WINGS AND FUSELAGE

EGYPT

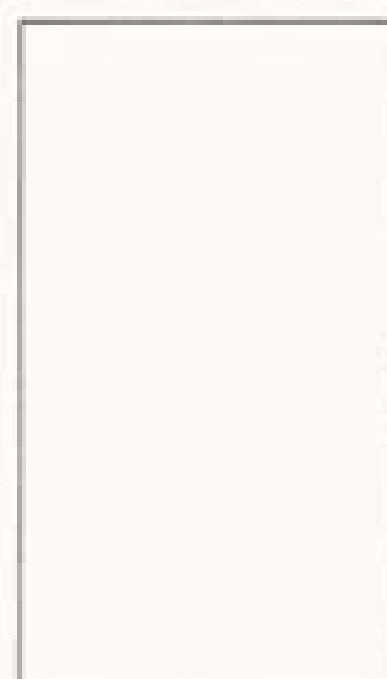


UNDERSURFACE
OF WINGS



FUSELAGE AND
UPPERSURFACE OF WINGS

IRELAND



RUDDER



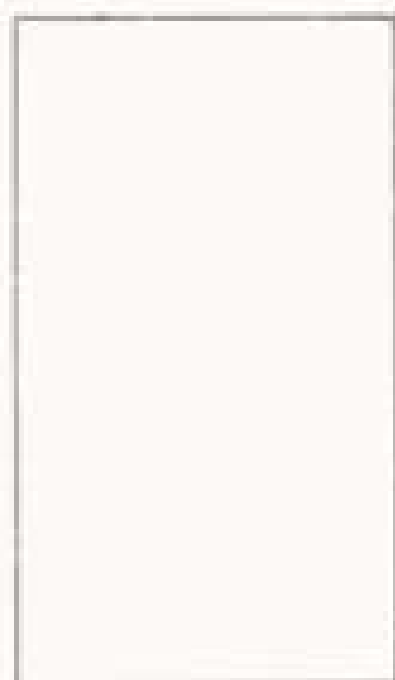
WINGS AND FUSELAGE

ETHIOPIA

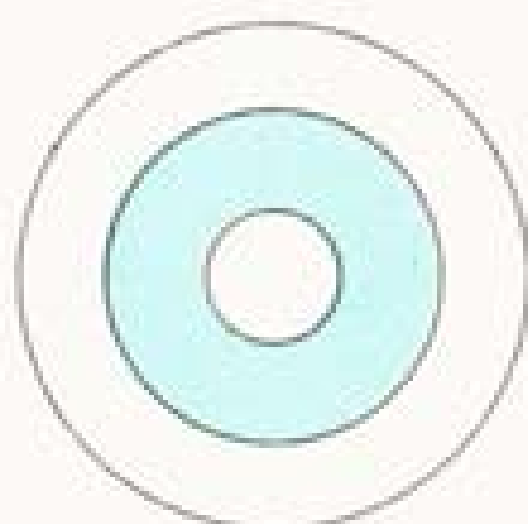
AIRCRAFT

RESTRICTED

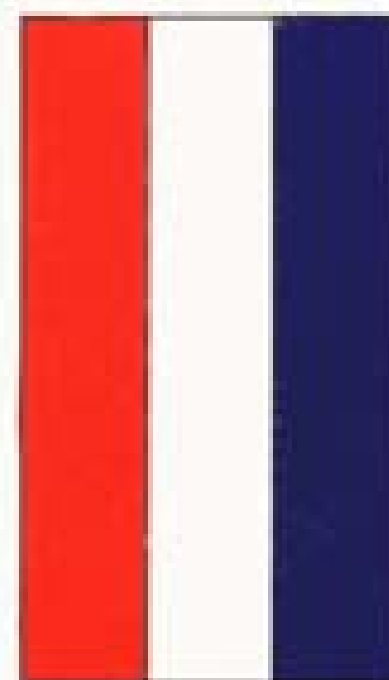
NATIONAL MILITARY MARKINGS



RUDDER



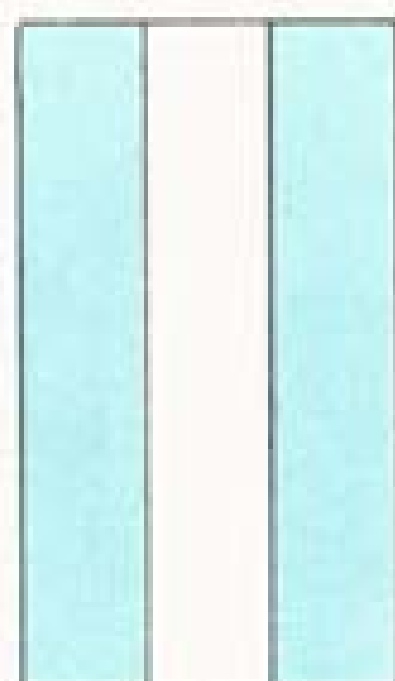
WINGS AND FUSELAGE
FINLAND



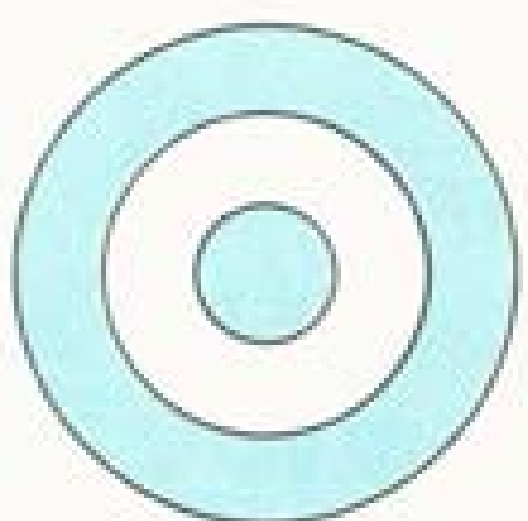
RUDDER



WINGS AND FUSELAGE
FRANCE



RUDDER



WINGS AND FUSELAGE
GREECE



RUDDER



WINGS
GUATEMALA



RUDDER



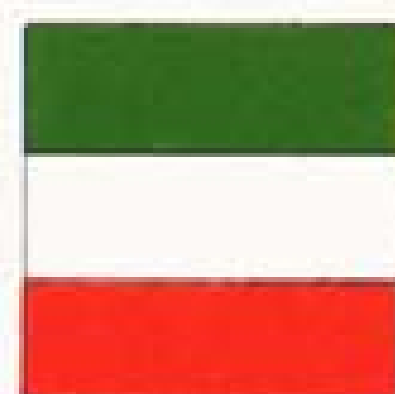
WINGS
HONDURAS



FIN FLASH



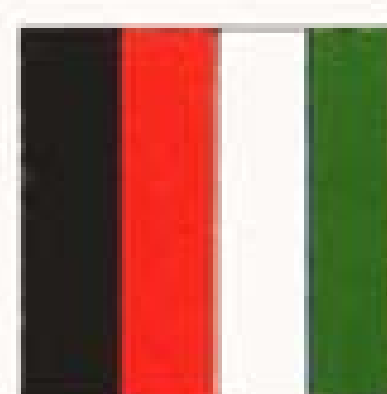
WINGS
HUNGARY



FIN FLASH



WINGS AND FUSELAGE
IRAN



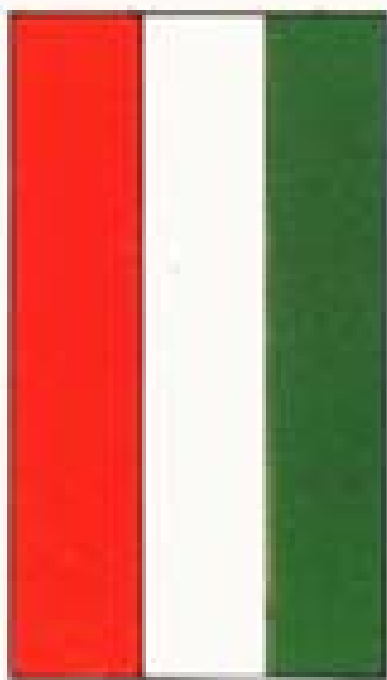
FIN FLASH



WINGS AND FUSELAGE
IRAQ



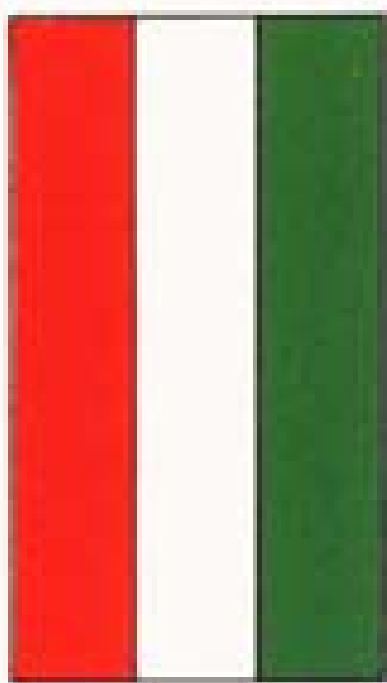
WINGS AND FUSELAGE
ISRAEL



RUDDER



WINGS AND FUSELAGE
ITALY

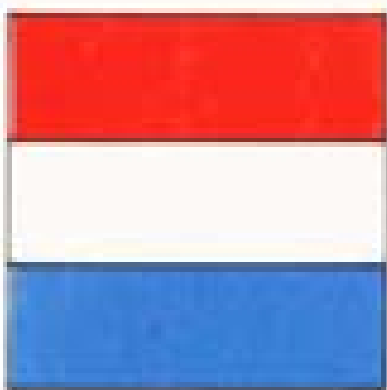


RUDDER

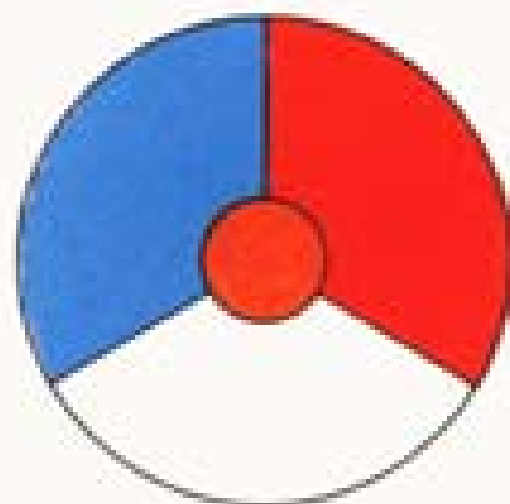


WINGS

MEXICO



FIN FLASH



WINGS

THE NETHERLANDS



RUDDER



WINGS

NICARAGUA



RUDDER



WINGS AND FUSELAGE

NORWAY

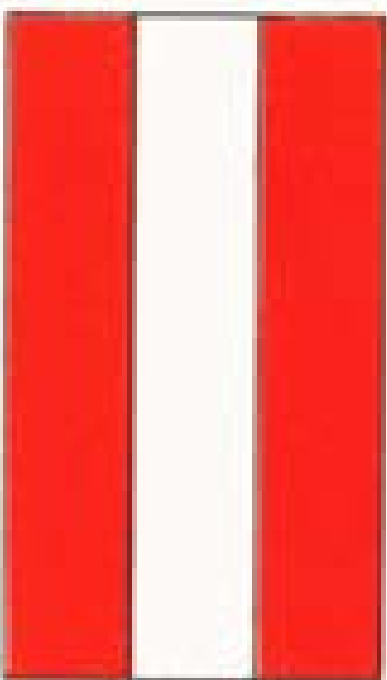


WINGS



FUSELAGE

PARAGUAY



RUDDER



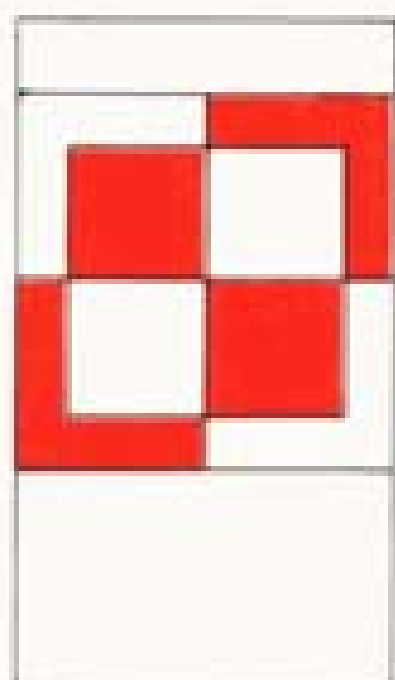
WINGS

PERU

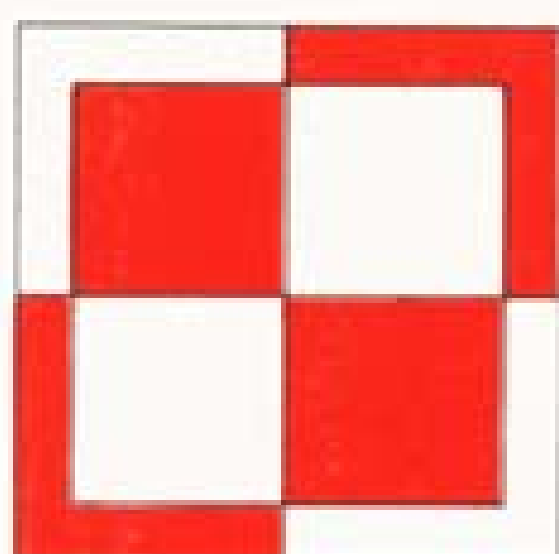
AIRCRAFT

RESTRICTED

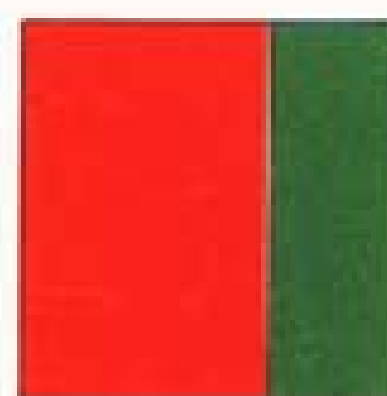
NATIONAL MILITARY MARKINGS



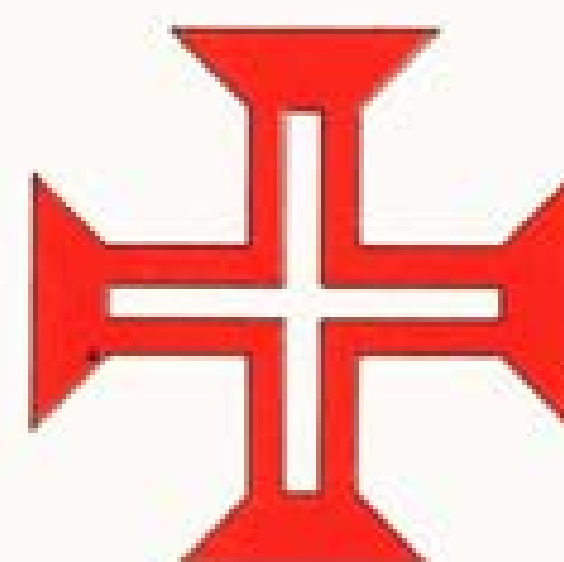
RUDDER



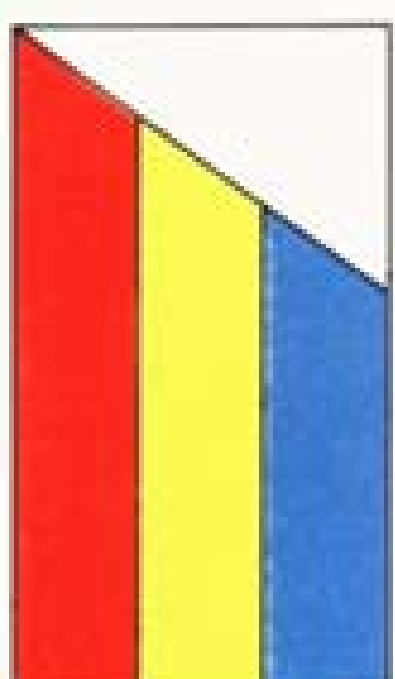
WINGS AND FUSELAGE
POLAND



FIN FLASH



WINGS
PORTUGAL



RUDDER



WINGS AND FUSELAGE
RUMANIA



WINGS, FUSELAGE AND RUDDER
U.S.S.R.



RUDDER



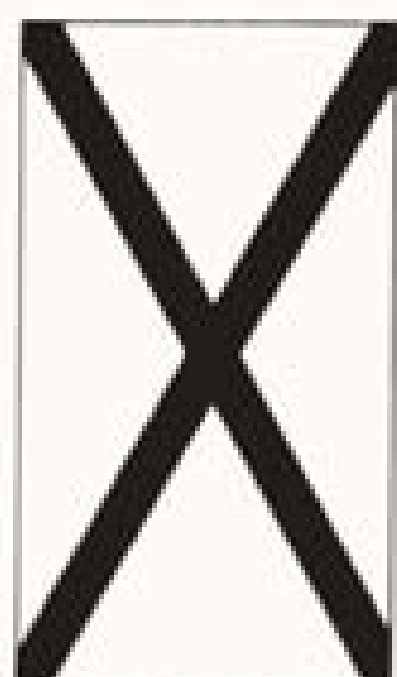
WINGS
SALVADOR



RUDDER



WINGS
SIAM



RUDDER



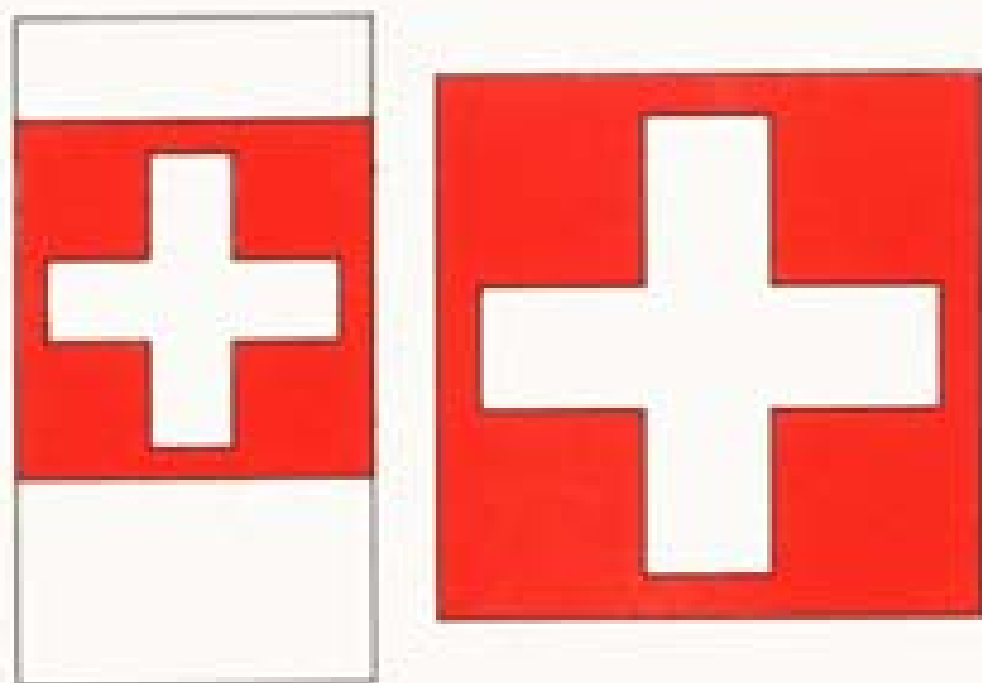
WINGS AND FUSELAGE
SPAIN



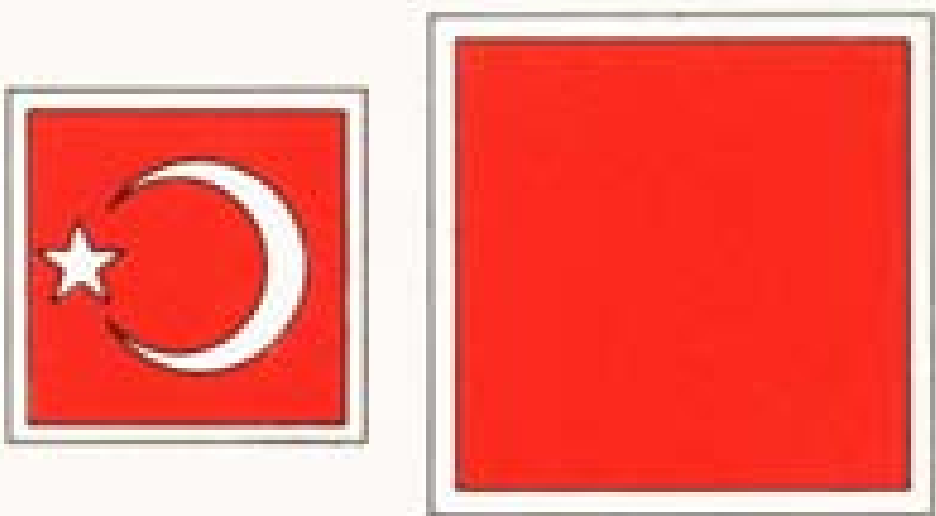
RUDDER



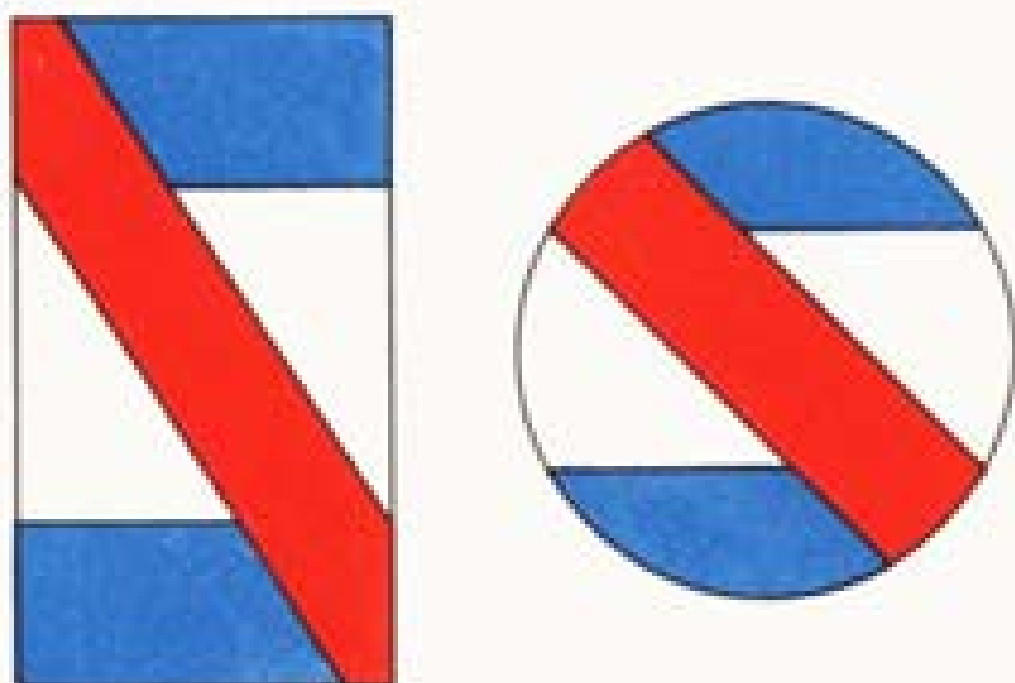
WINGS AND FUSELAGE
SWEDEN



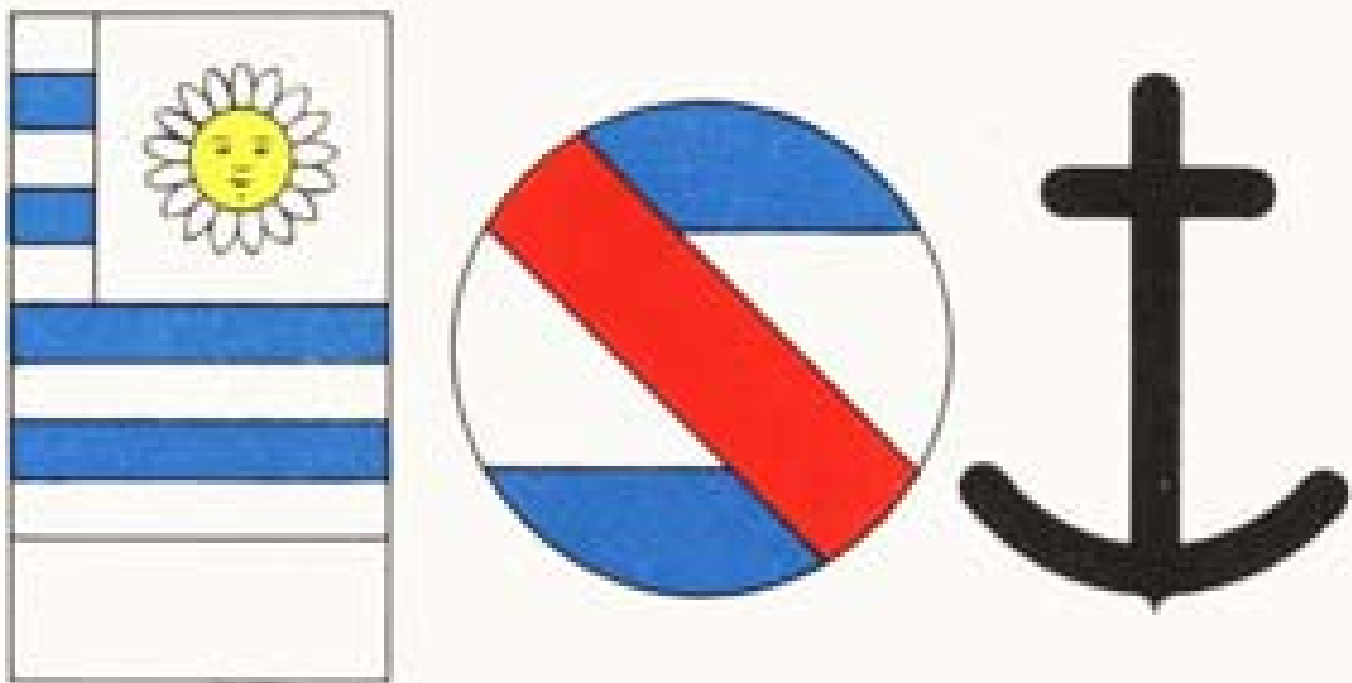
RUDDER WINGS
SWITZERLAND



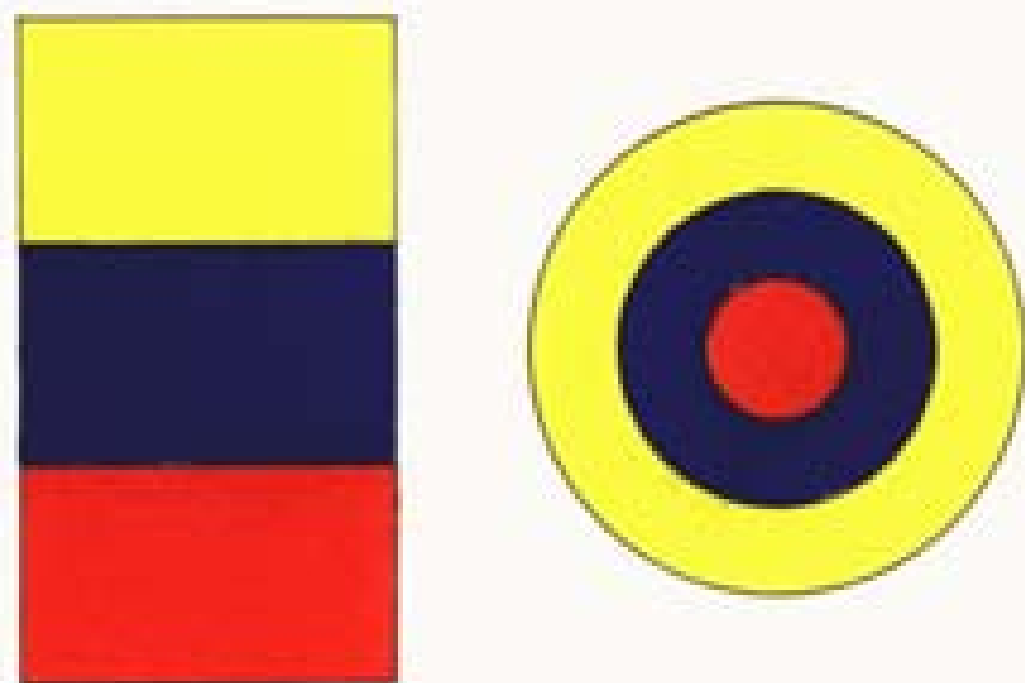
FIN FLASH WINGS AND FUSELAGE
TURKEY



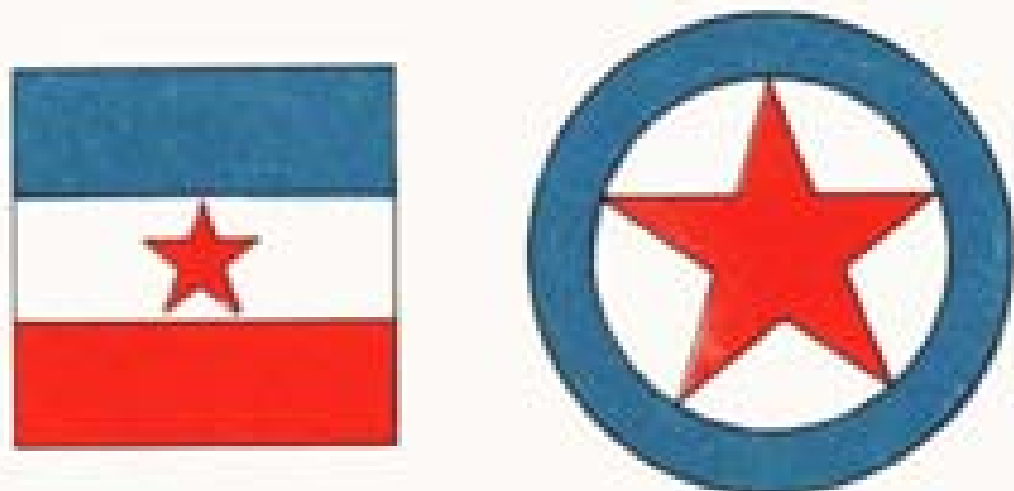
RUDDER WINGS
URUGUAY-ARMY



RUDDER WINGS
URUGUAY-NAVY



RUDDER WINGS
VENEZUELA



FIN FLASH WINGS AND FUSELAGE
YUGOSLAVIA

AIRCRAFT
ADDENDA

This Addenda contains photographs of U.S.A.F., U.S.N. and Foreign Aircraft in the experimental and testing stage.

Some of these aircraft are scheduled for production and are likely to become operational in the near future, while the remainder may serve only

as proving grounds for subsequent trends and developments.

In the course of time, as these aircraft become operational, additional supplements will be published and distributed for insertion in the manual.

U. S. A. AIRCRAFT



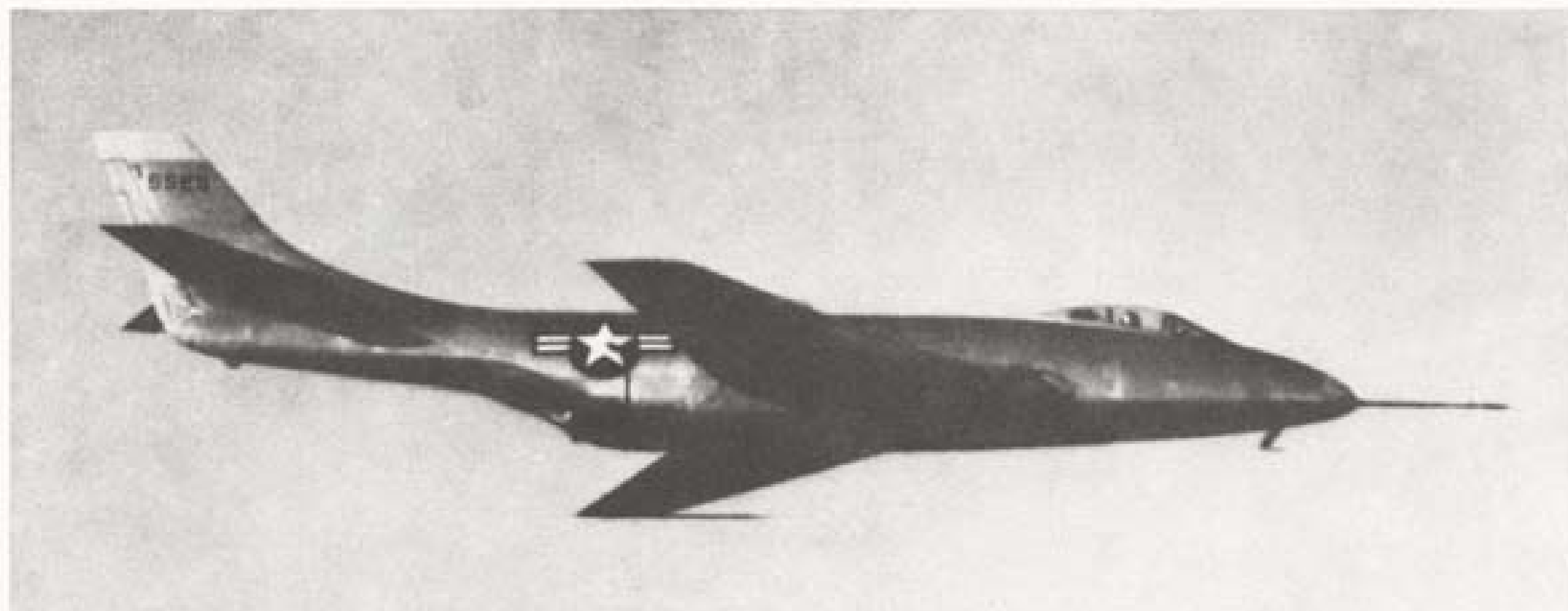
The CHANCE VOUGHT CUTLASS F7U is a tailless swept-wing carrier based single-seat jet fighter.



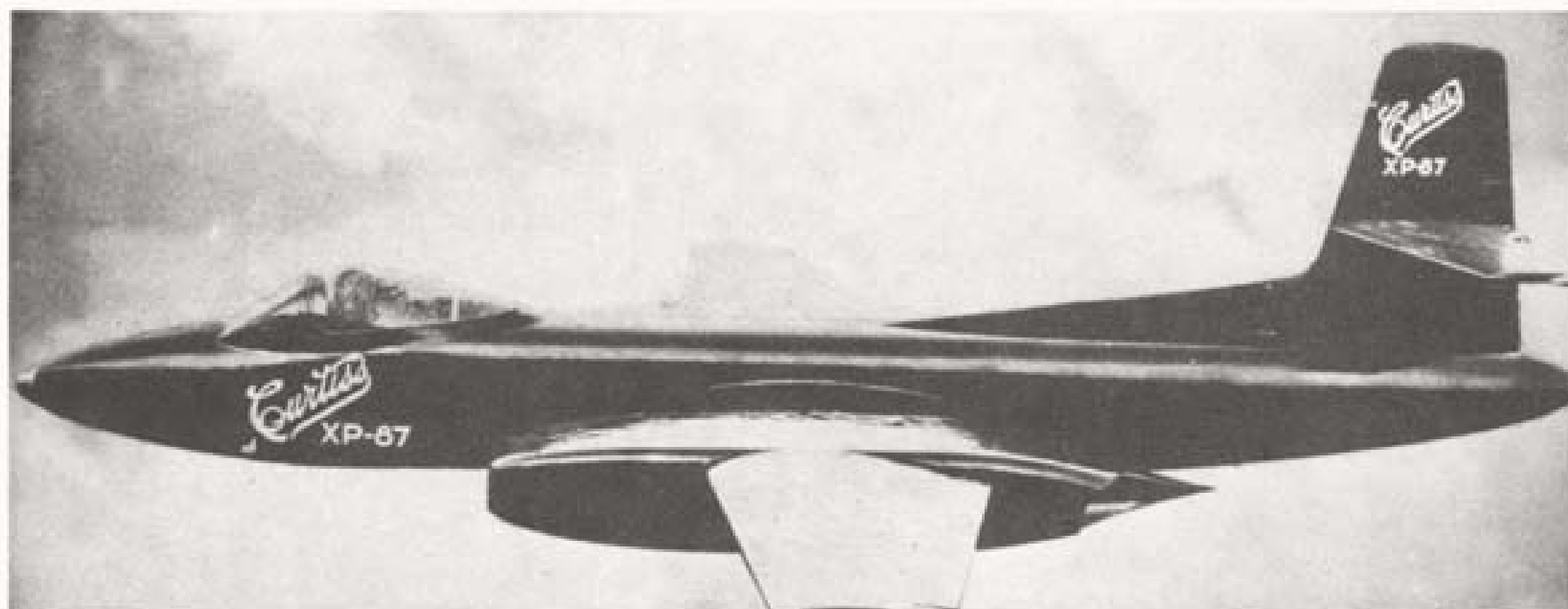
The NORTHROP SCORPION XF-89 is the Air Force's night and all-weather jet fighter.



The REPUBLIC XF-91, an experimental model, is a heavy jet-rocket interceptor with reverse tapered wings.



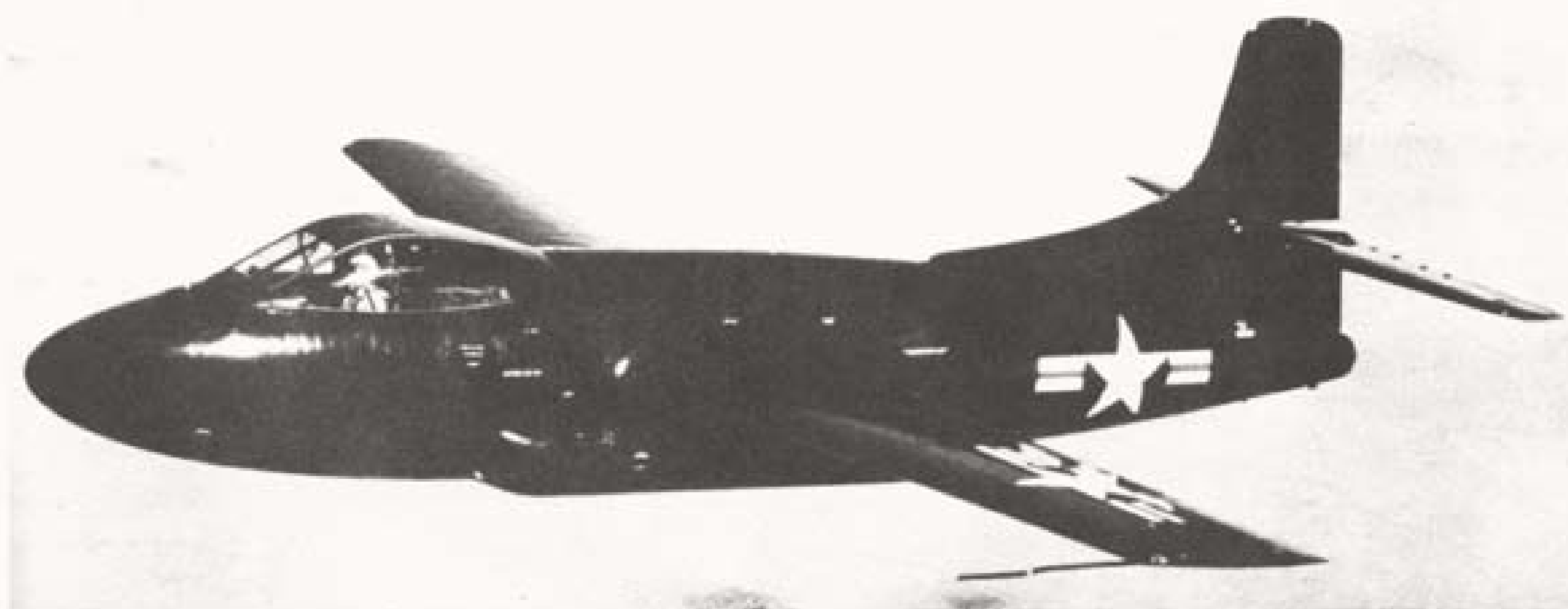
The MCDONNELL XF-88 is a penetration fighter, designed for long range escort tasks.



The CURTISS BLACKHAWK XF-87 is an experimental all-weather fighter.



The CHANCE VOUGHT PIRATE XF6U is a carrier based jet fighter with after-burners.



The DOUGLAS SKYKNIGHT XF3D is a new Navy experimental jet carrier fighter.



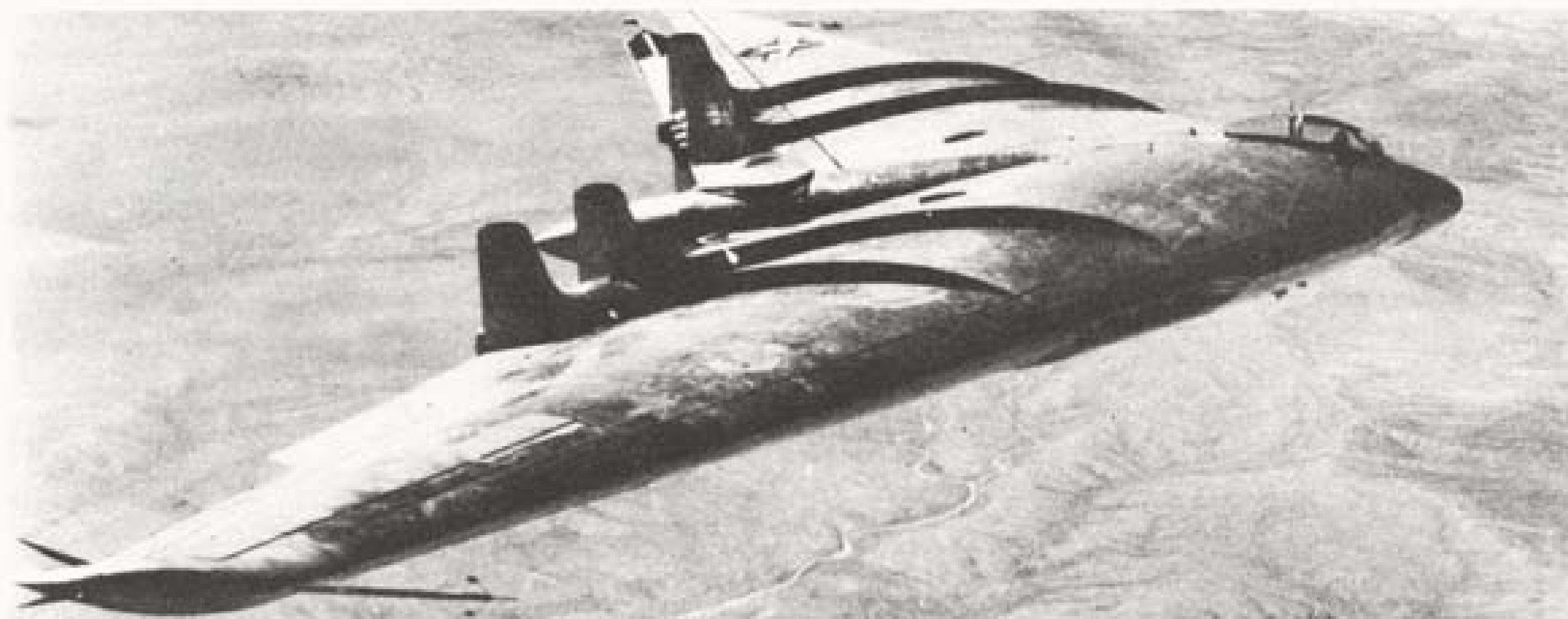
The MCDONNELL XF-85 is a parasite fighter.



The CONVAIR DELTA WING 7002 or XF-92.



The LOCKHEED XF-90 designed for the Air Force as a jet penetration fighter.



The NORTHROP WING YB-49 is a jet version of the YB-35 medium bomber.



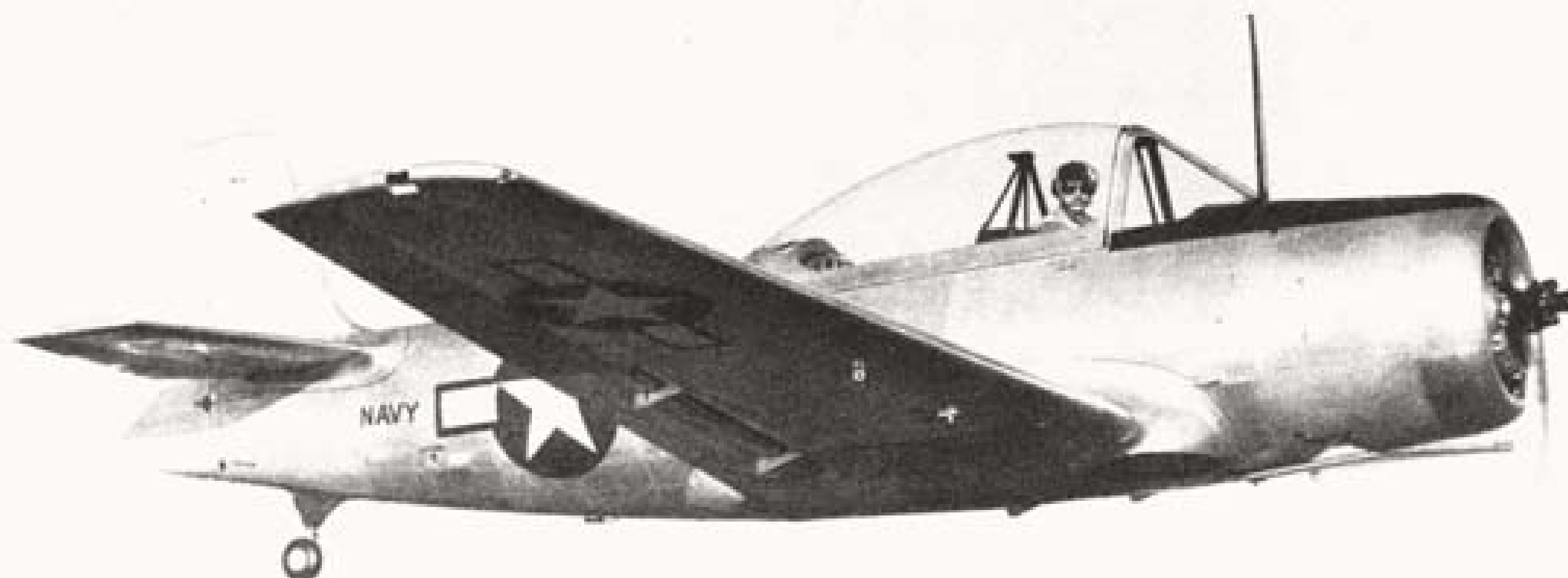
The GRUMMAN GUARDIAN XAF-1, a new Navy attack type, in one of her several forms.



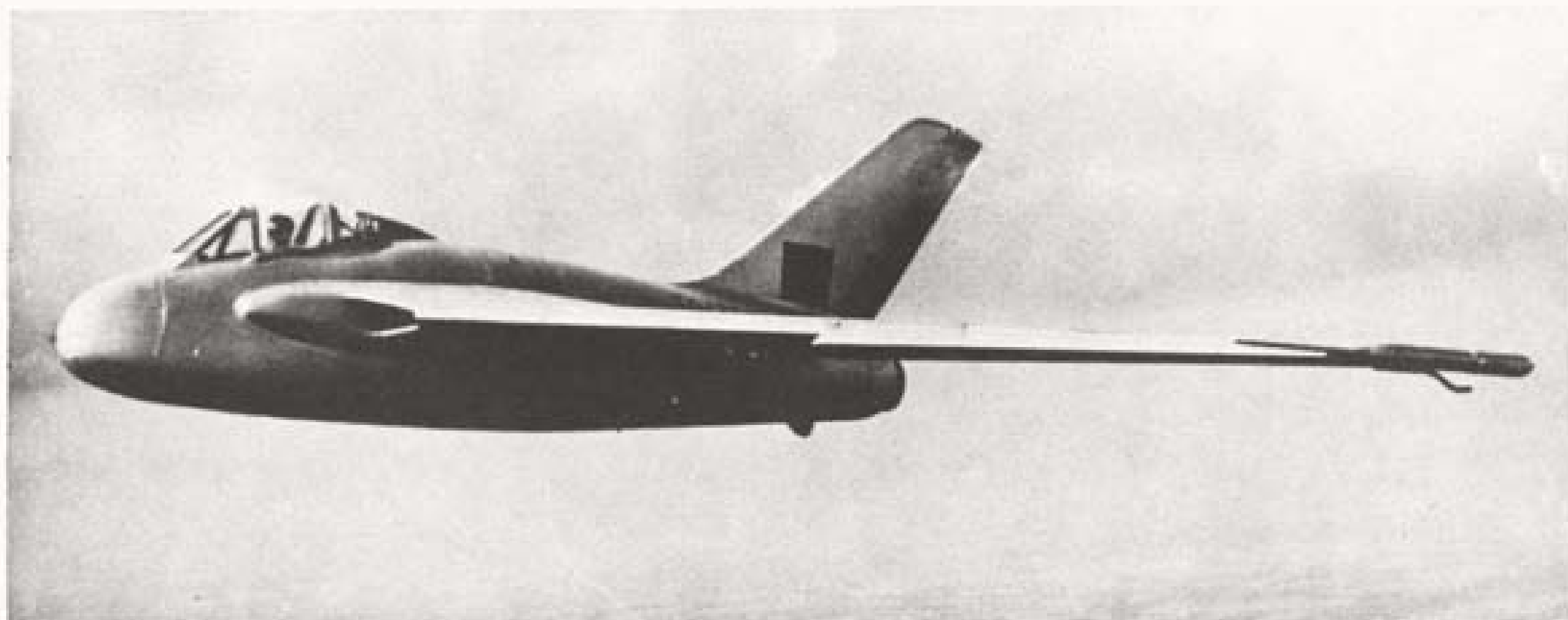
The CONVAIR XC-99, sister ship to the B-36, is the world's largest land plane.



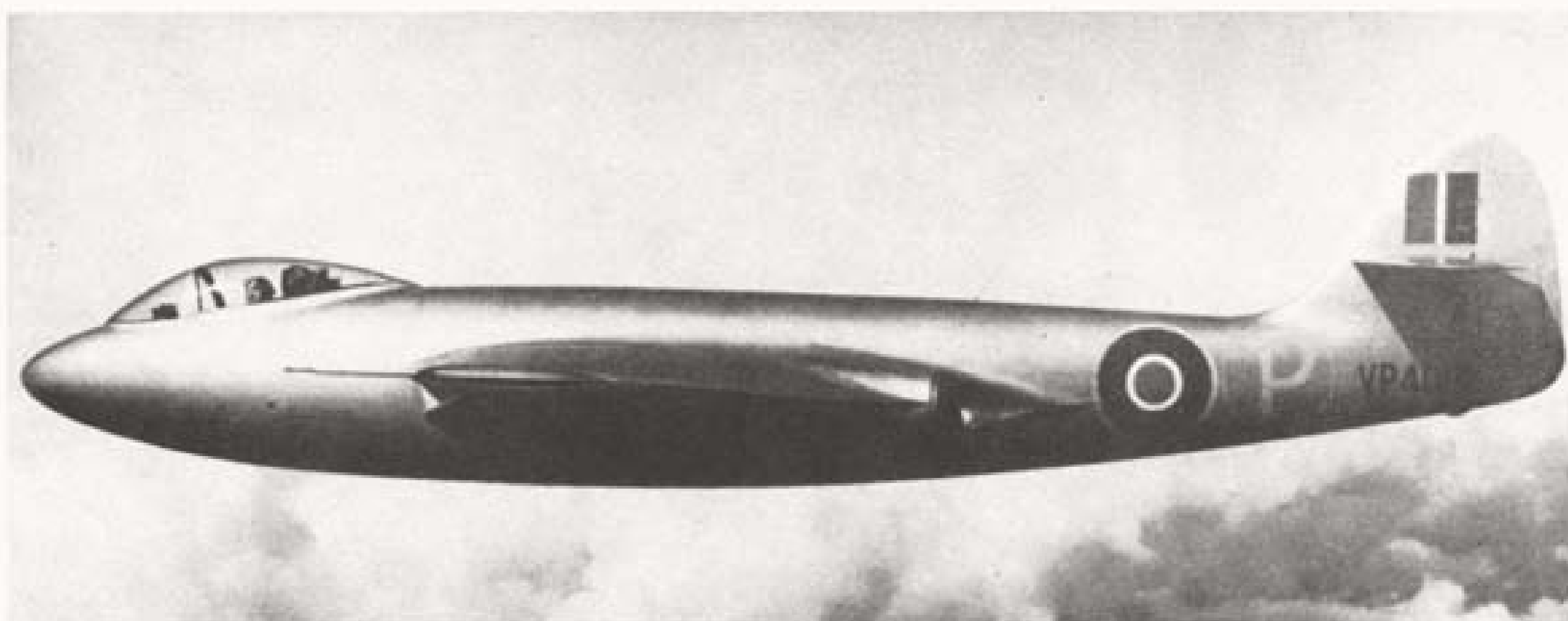
The NORTH AMERICAN XSN2J-1, an enlarged Texan, is an experimental intermediate trainer.



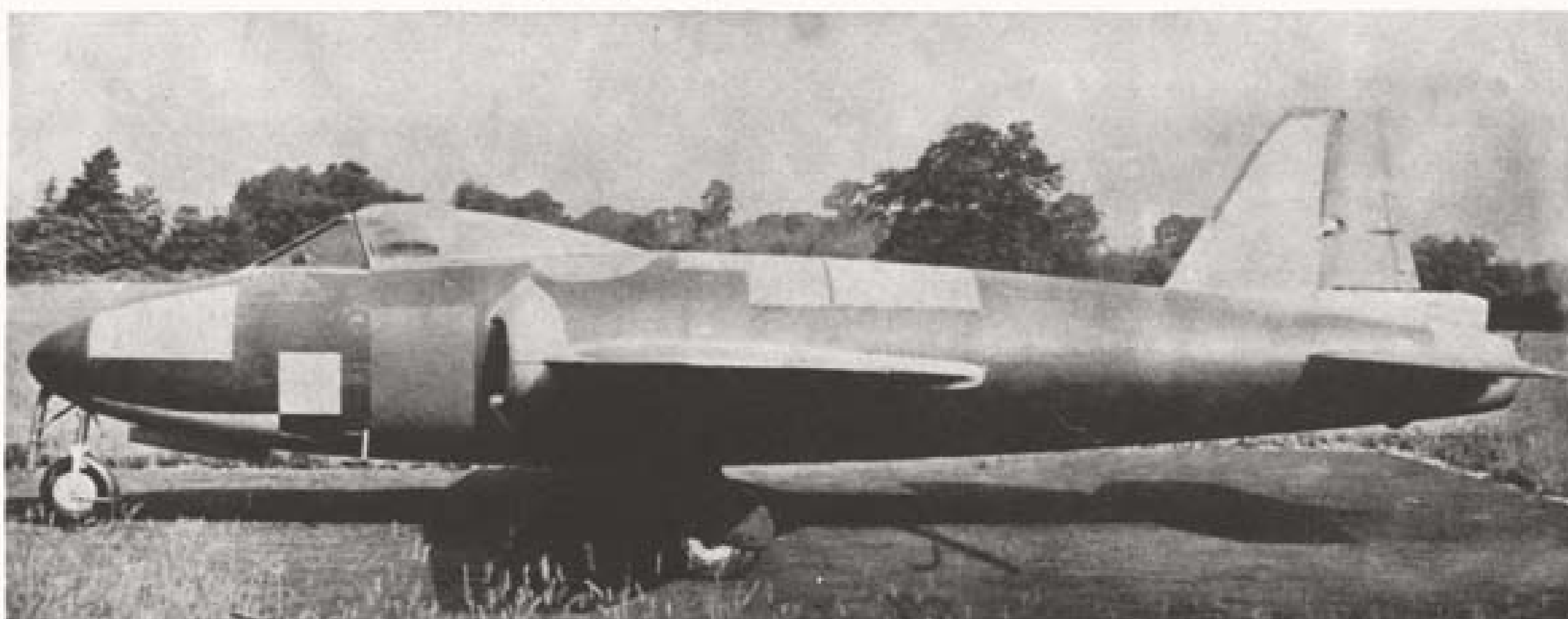
The FAIRCHILD T-31 or XNQ-1 is an experimental primary trainer.



The DE HAVILLAND 108 experimental tailless jet was built to provide aerodynamic data for the D.H. 106 Comet.



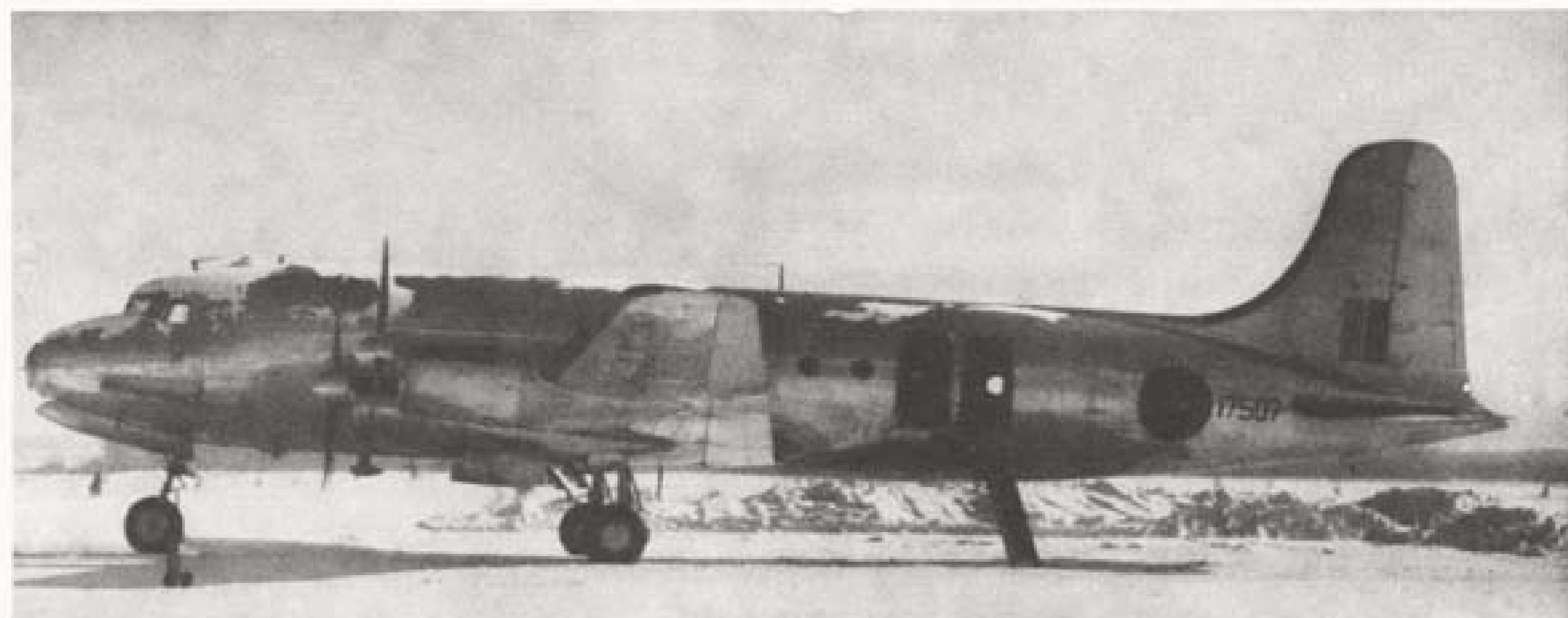
The HAWKER P.1040 (N.7/46) is a single-seat jet fighter; there is also a naval version.



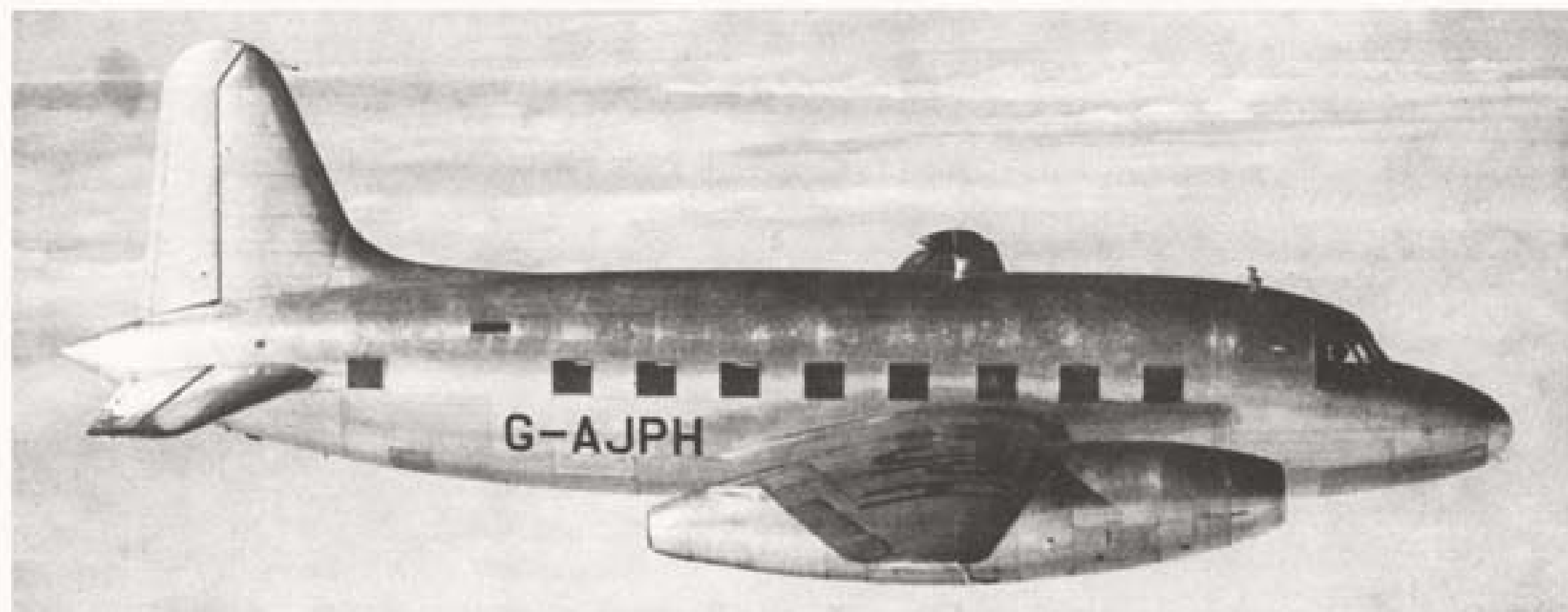
The GLOSTER E.1/44 prototype is a single-seat jet fighter with two engines.



The BLACKBURN WYVERN 1 is a single-seat Naval strike aircraft, the WYVERN 2 will be fitted with a turbo-prop engine.



The CANADAIR NORTH STAR DC-4M-2 with in-line engines is a Canadian version of the DC-4.



The VICKERS-ARMSTRONGS VIKING experimental jet airliner is the first all-jet civil transport to fly.



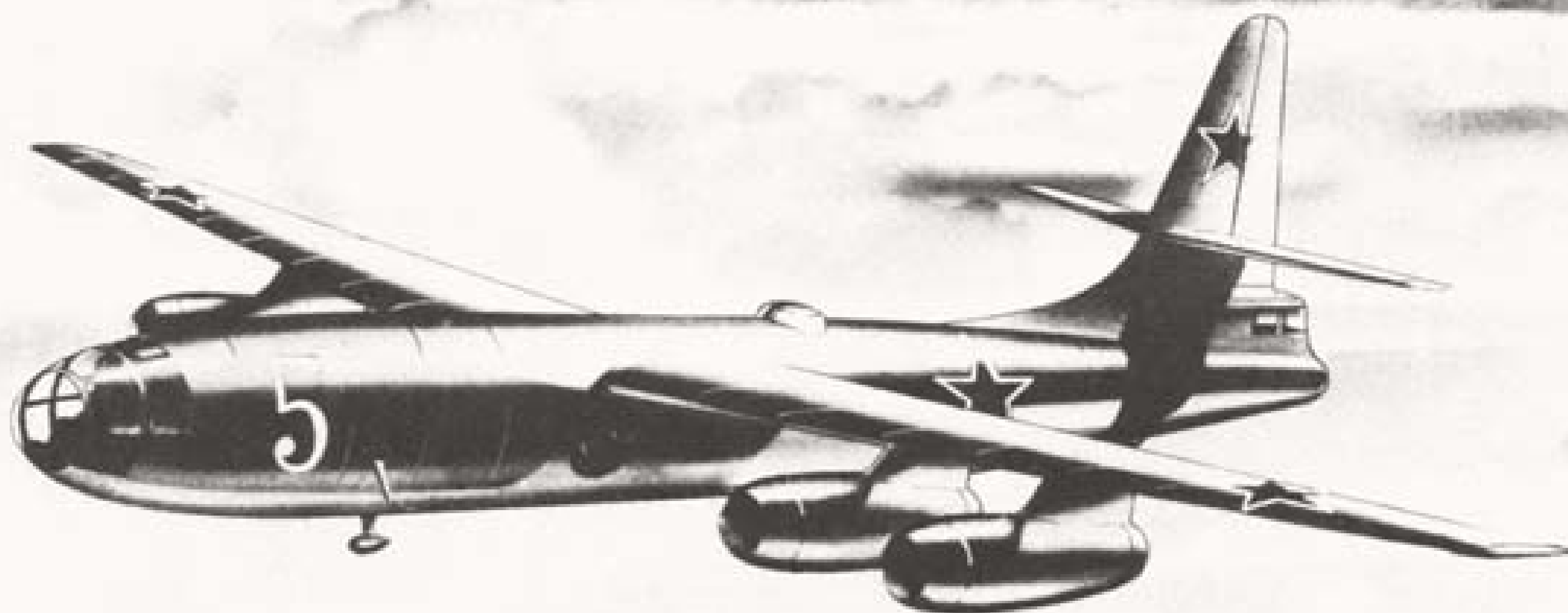
The VICKERS-ARMSTRONGS SEAGULL is a single-engine Naval Amphibian, general utility duties.



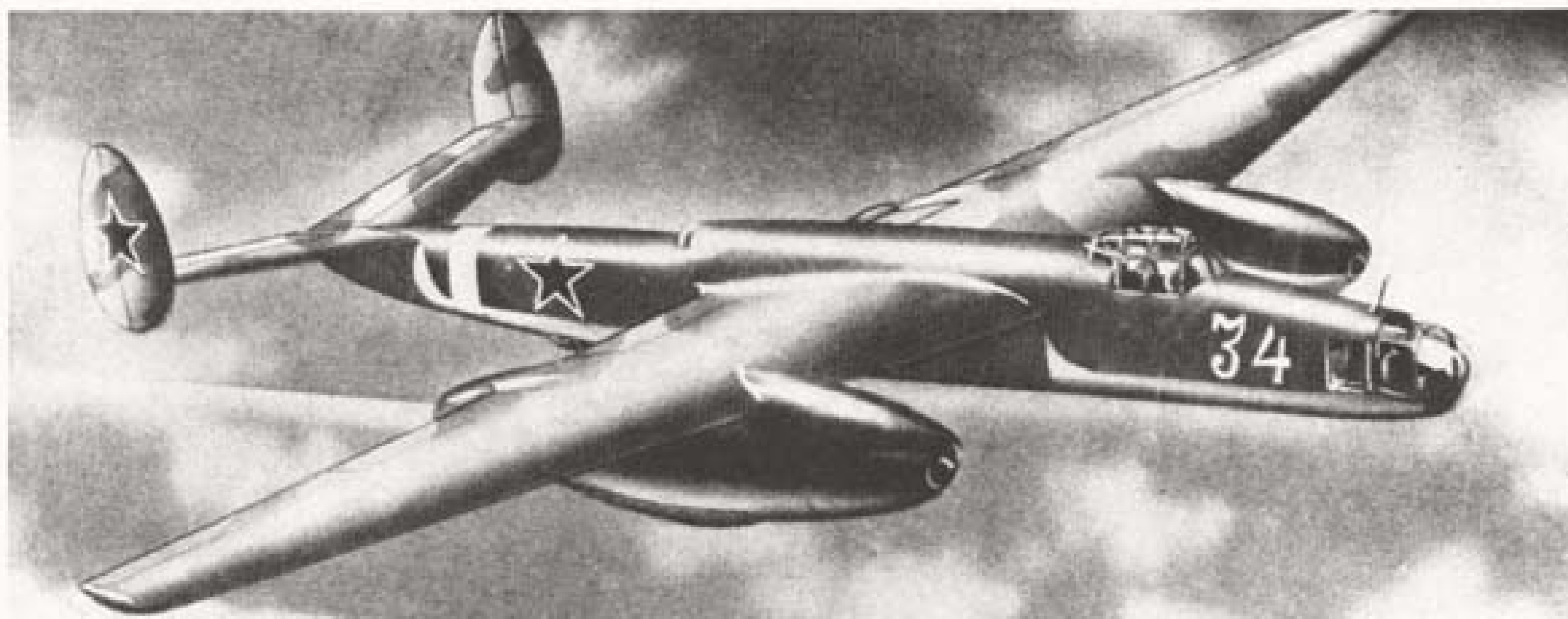
The DE HAVILLAND CHIPMUNK is a Canadian designed two place trainer, to be used in reserve training.



The MILES M.65 GEMINI was developed from the Messenger, carries 3 passengers and pilot.



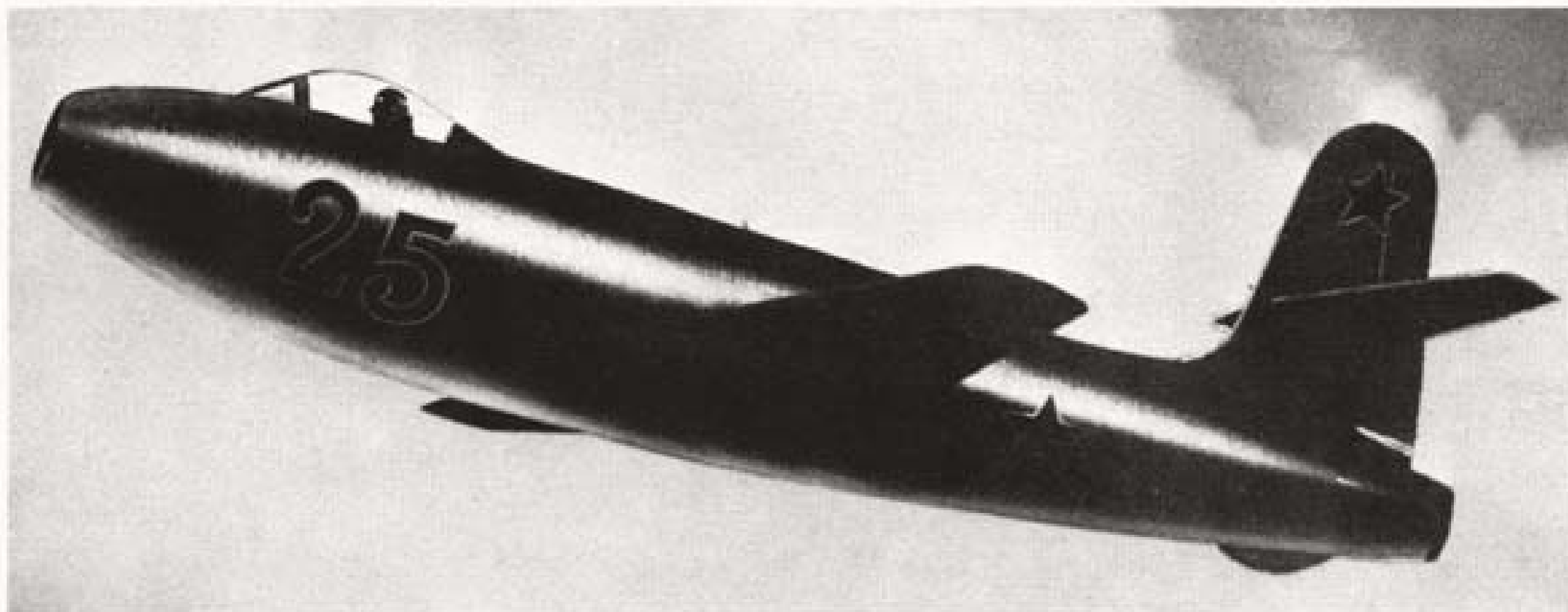
A drawing of the ILYUSHIN-(?) a four-jet bomber approximately the size of the U.S. B-17.



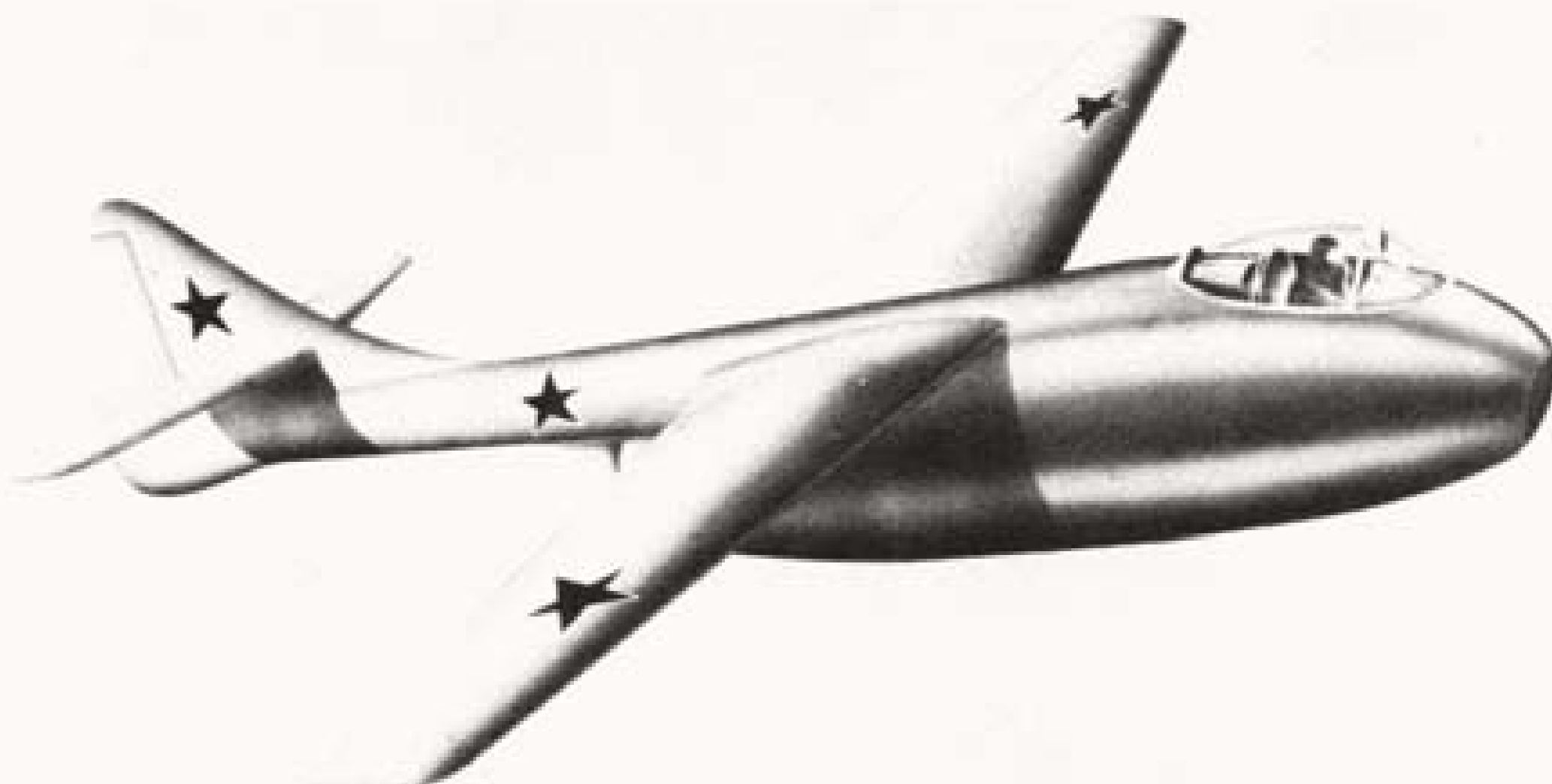
A drawing of the TUPELOV-(?), a twin-jet bomber which resembles the TU-2.



The Me-262 type with alterations is reported to be in use by the Soviet Air Force.



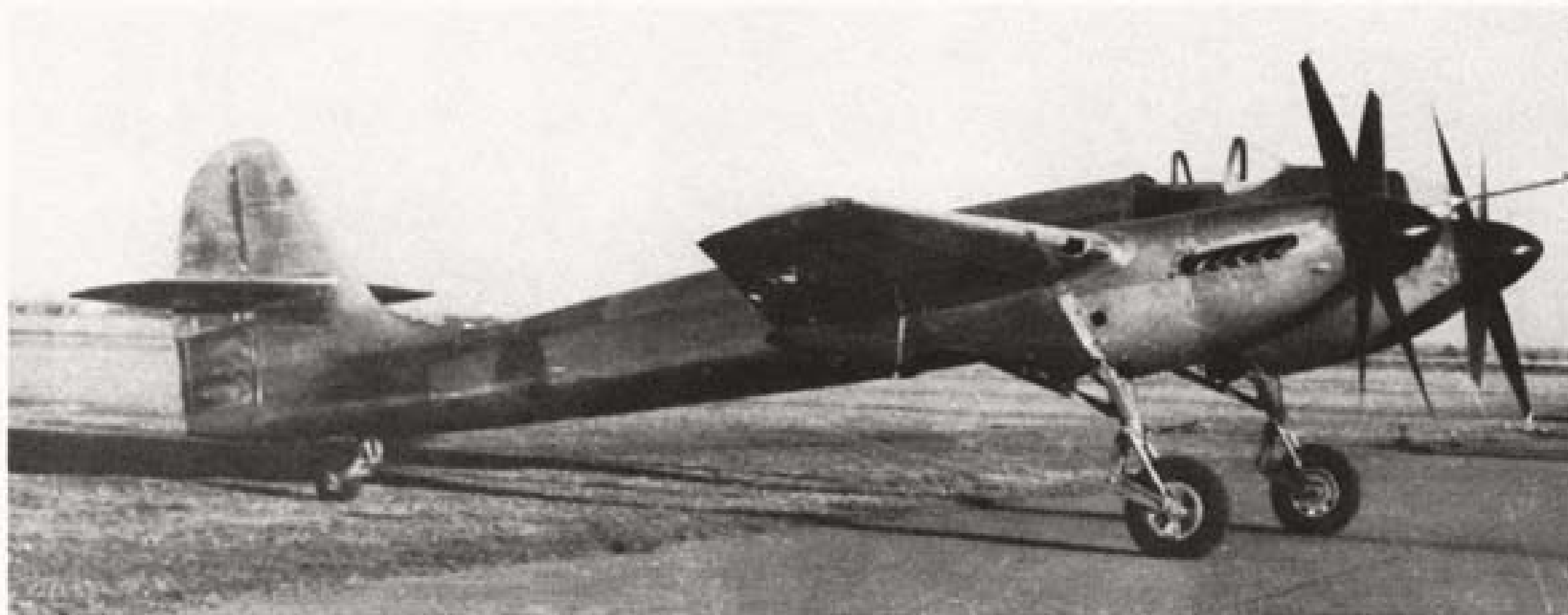
The F-84 type resembles the U.S. F-84 and is considered one of the better Soviet jet fighters.



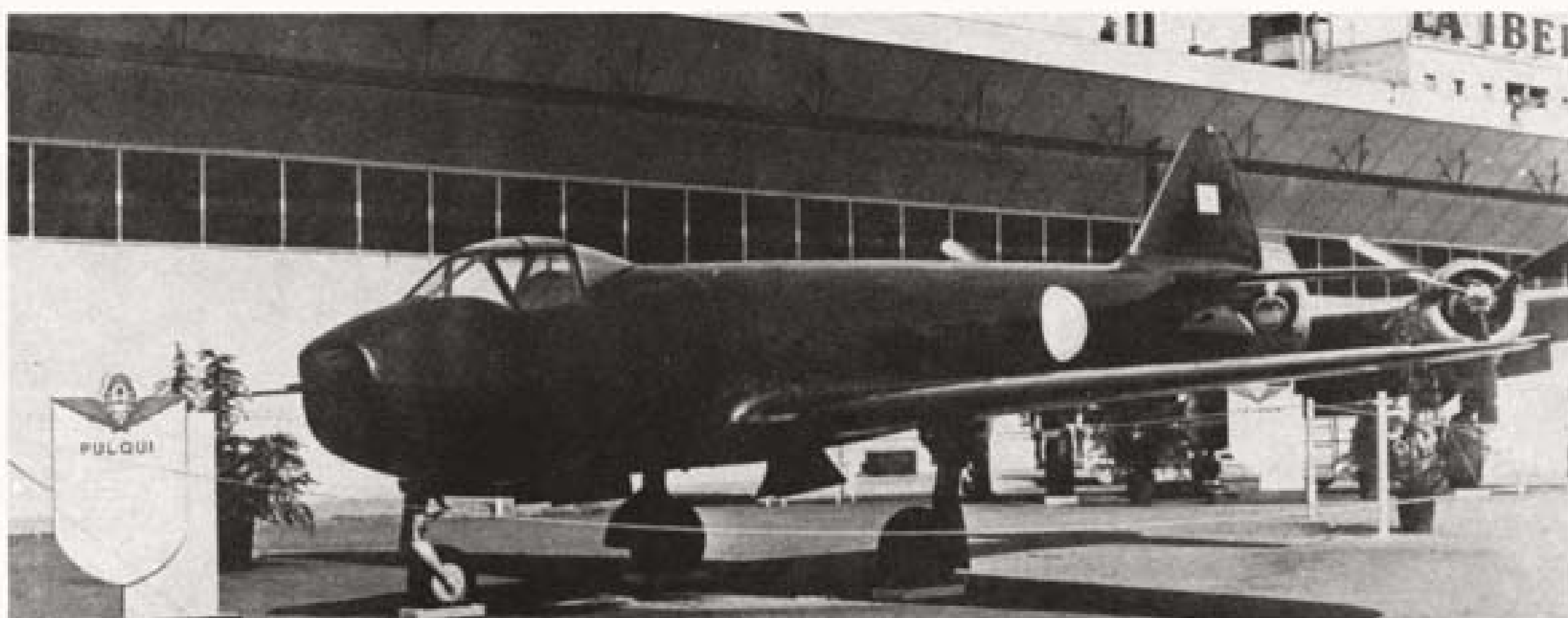
The MIG-11 is a single-seat high-wing jet fighter superficially resembling the MIG-9.



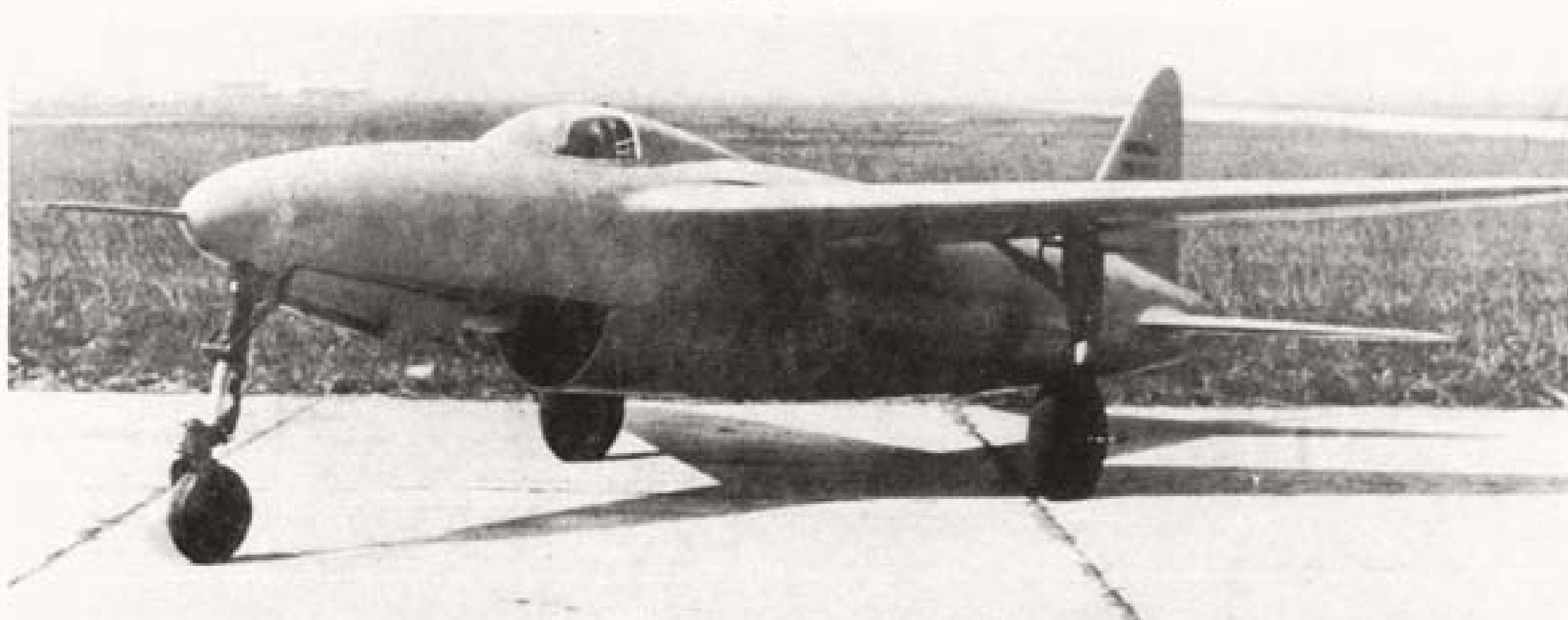
The YAK-16 is one of the latest Soviet transports and is used for feeder line duties.



The I. Ae. 30 NANCU is an Argentine constructed night fighter with two 1,800 Merlin engines.



The I. Ae. 27 PULQUI is a jet interceptor fighter, designed, constructed and flown in Argentina.



The FRENCH ARSENAL VG 70 is a single-seat jet-propelled research monoplane fitted with a Junkers Jumo.



The FRENCH SO 6020 ESPADON is an experimental jet fighter.

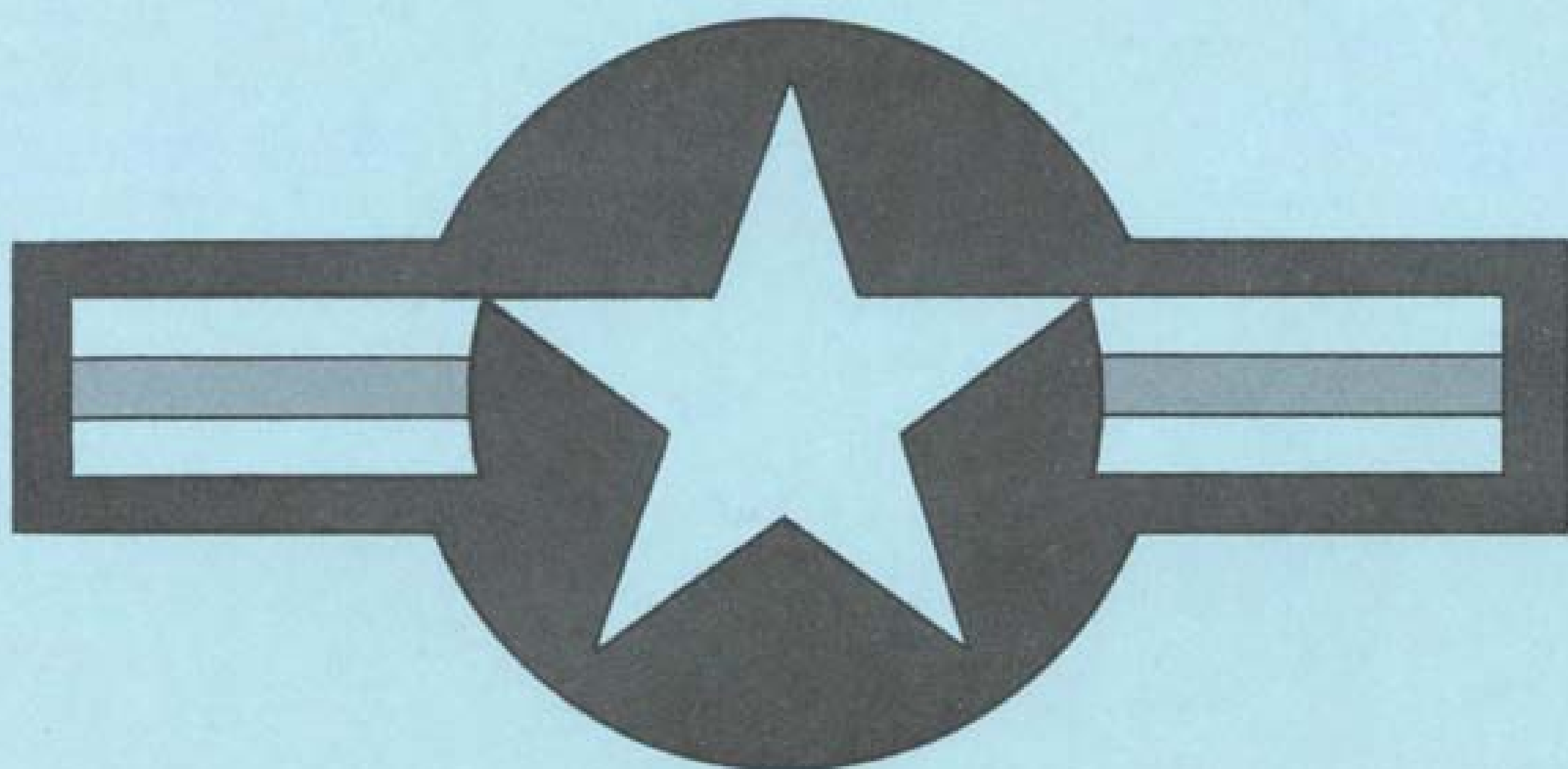


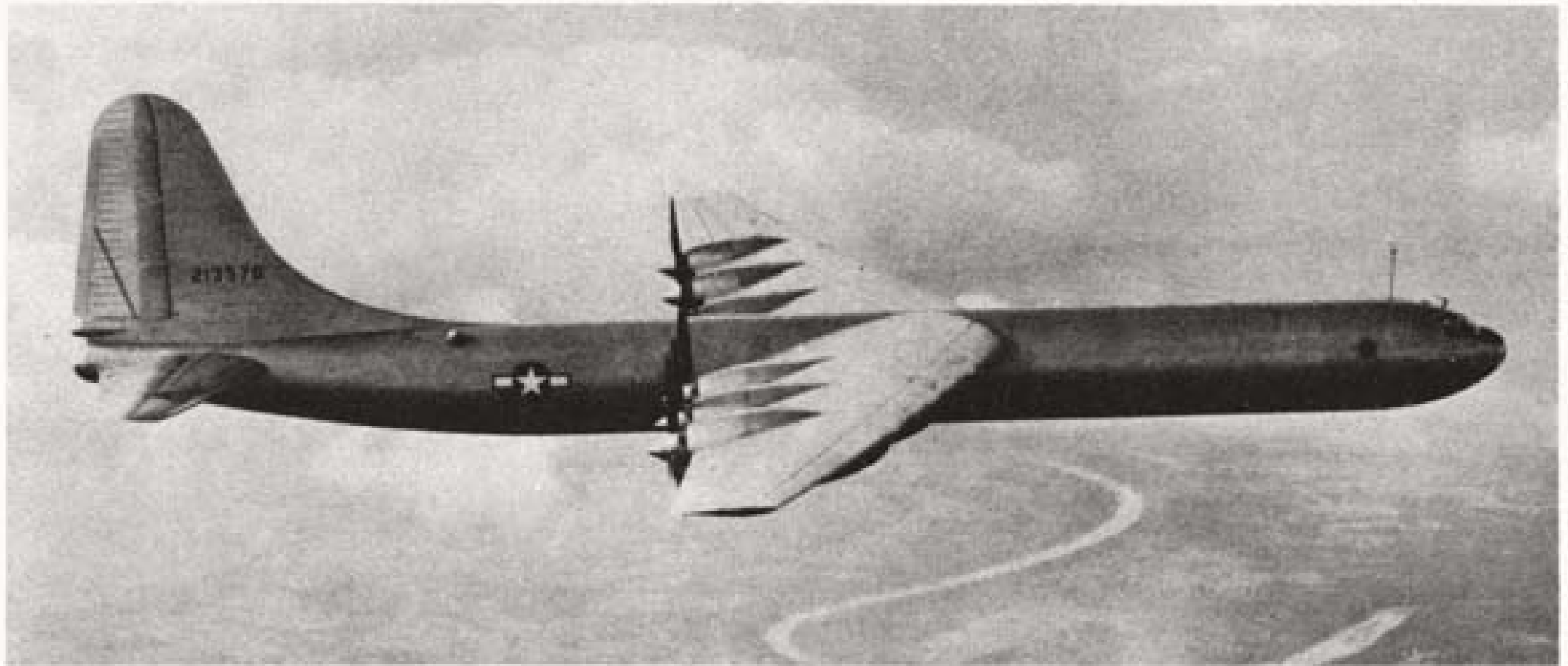
The FRENCH SNCASO SO 30R is considered to be France's outstanding post war model.



The ITALIAN'S first postwar transport, BREDA ZUPPATA 308, was designed for transatlantic runs.

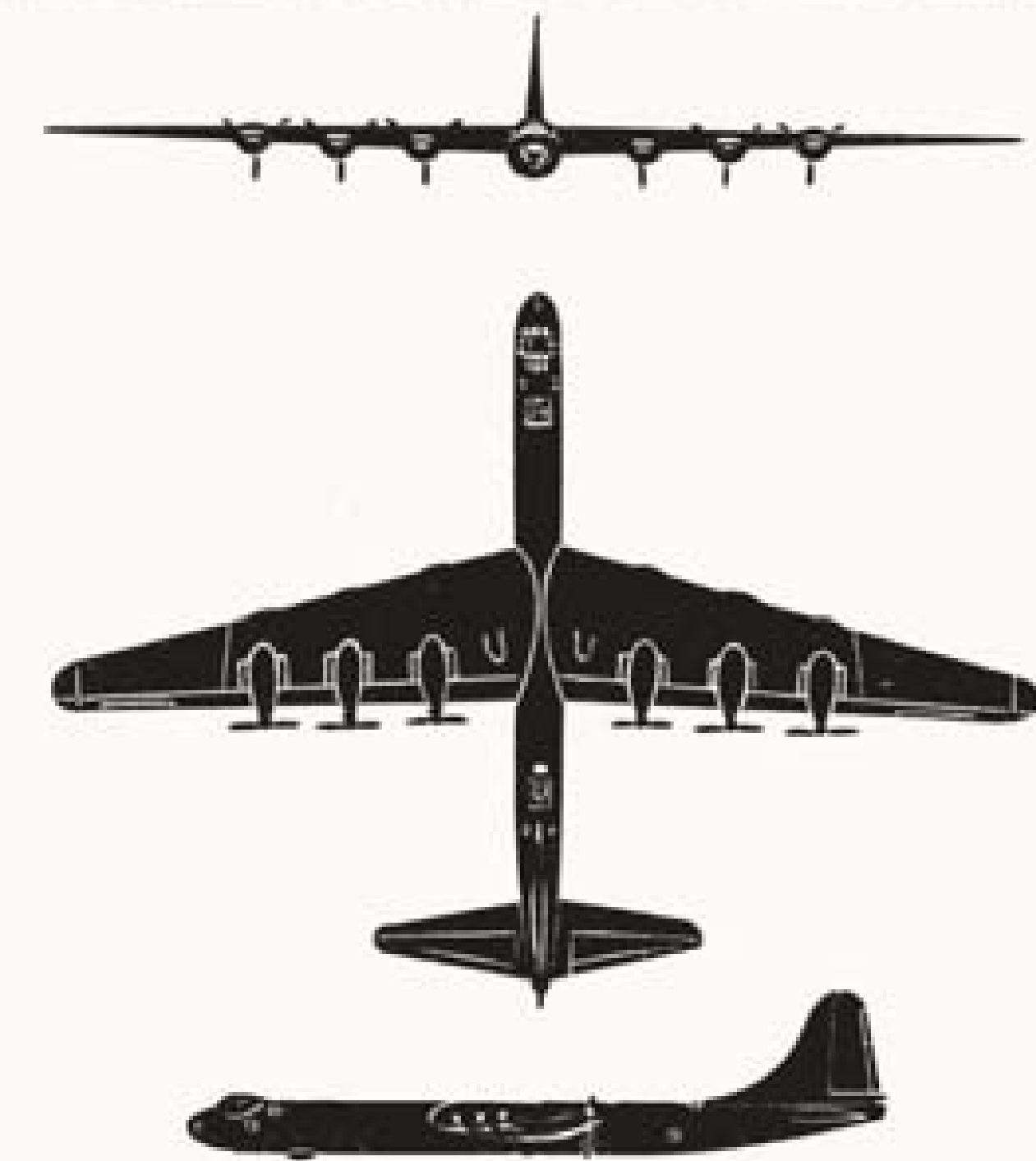
U. S. AIRCRAFT



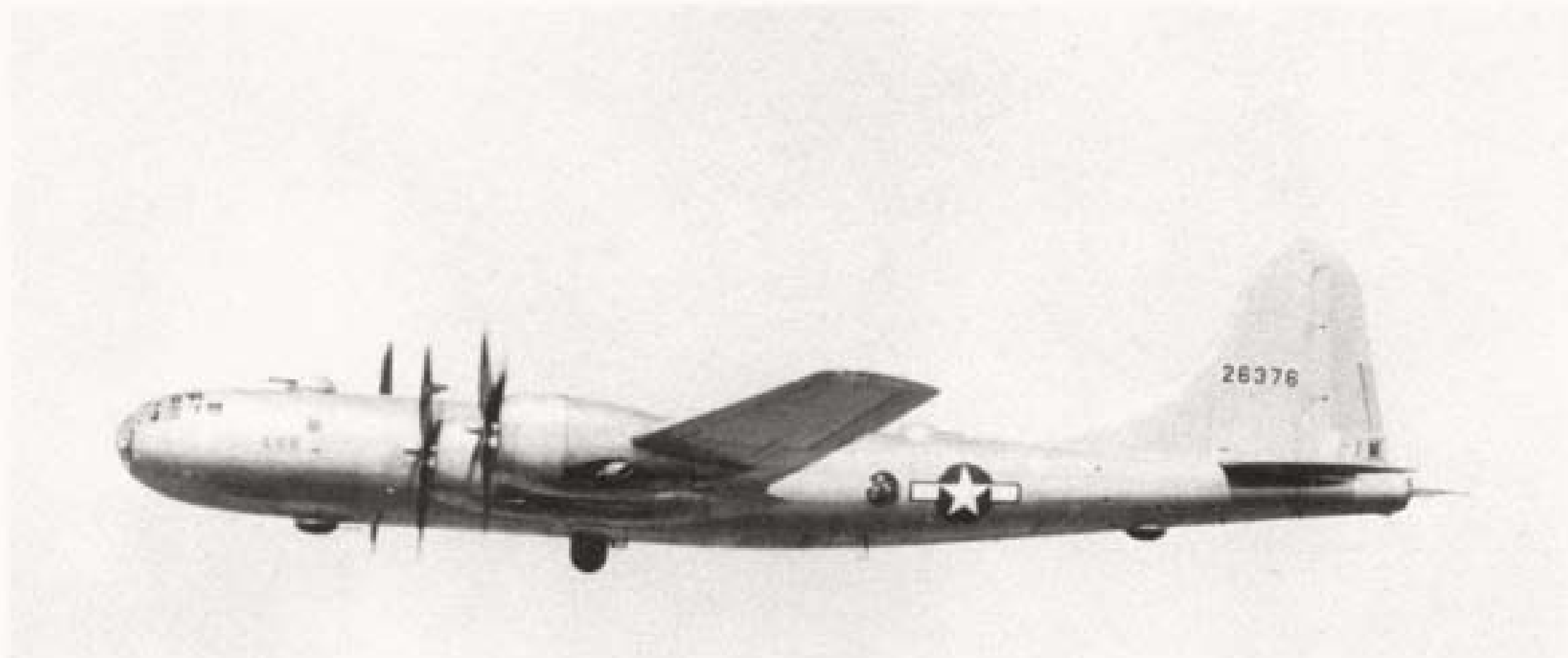


The B-36 is a long range, heavy bombardment airplane, powered by six pusher type radial engines mounted on the trailing edge of the wing. The wing is mounted slightly forward of the midpoint of the fuselage, has slight dihedral and considerable sweepback on the leading edge. A very large single fin and rudder is mounted at the end of the long round fuselage. The horizontal stabilizer is without dihedral. To date the B-36 is the heaviest and largest bomber developed for the Air Force. The crew compartments are pressurized and heated for high altitude flying. A prototype B-36D has been equipped with two pairs of jets placed outboard of the engines.

SPAN: 230'0". LENGTH: 162'6".
 ENGINE: R-4360/3,000 h. p.
 SPEED: 298 knots/35,000 ft.
 RANGE: 6,330 nautical miles/191 knots.
 ARMAMENT: 16 x 20 mm.







The Superfortress is a medium bombardment airplane with four radial engines. Engine nacelles extend well forward from the leading edge of the single wing. The wing has pronounced dihedral and sweepback and the trailing edge of the wing is practically straight. The fuselage is large and round, with gradual taper to the tail. A very large single fin extends well forward on the fuselage. The B-29 was used extensively in the Pacific theater during the latter stages of World War II, particularly in the bombing of Japan proper. This was the airplane used to drop the first atomic bomb. It has pressurized crew compartments for high altitude flying.

SPAN: 141'2". **LENGTH:** 99'0".
ENGINE: R-3350/2,200 h. p.
SPEED: 354 knots/34,400 ft.
RANGE: 3,960 nautical miles/208 knots.
ARMAMENT: 13 x .50 cal.



BOEING

RESTRICTED

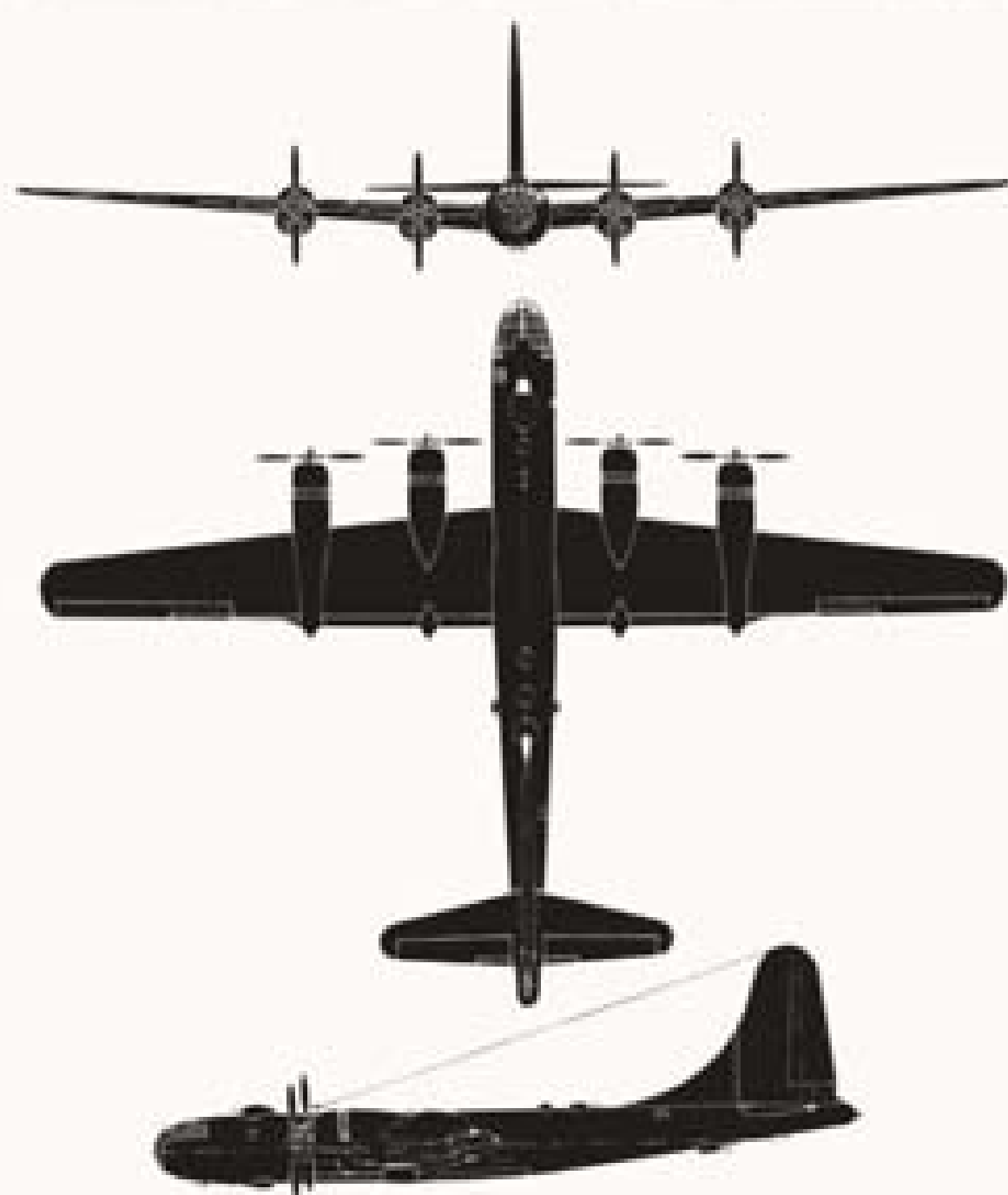
B-29 SUPERFORTRESS



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Superbomber B-50 is a medium bombardment airplane powered by four radial type engines mounted in nacelles which extend beyond the wings straight trailing edge. The wing has slight dihedral and pronounced sweepback on leading edge. Notable is the B-50's very high single fin and rudder which can be folded when hangar clearance is needed. The fuselage is round and tapers gradually and smoothly to the horizontal stabilizer. Superficially it is similar to the B-29. It has a higher fin and rudder than the B-29, and the engine nacelles are larger. Crew compartments are pressurized and heated for high altitude flying.

SPAN: 141'2".

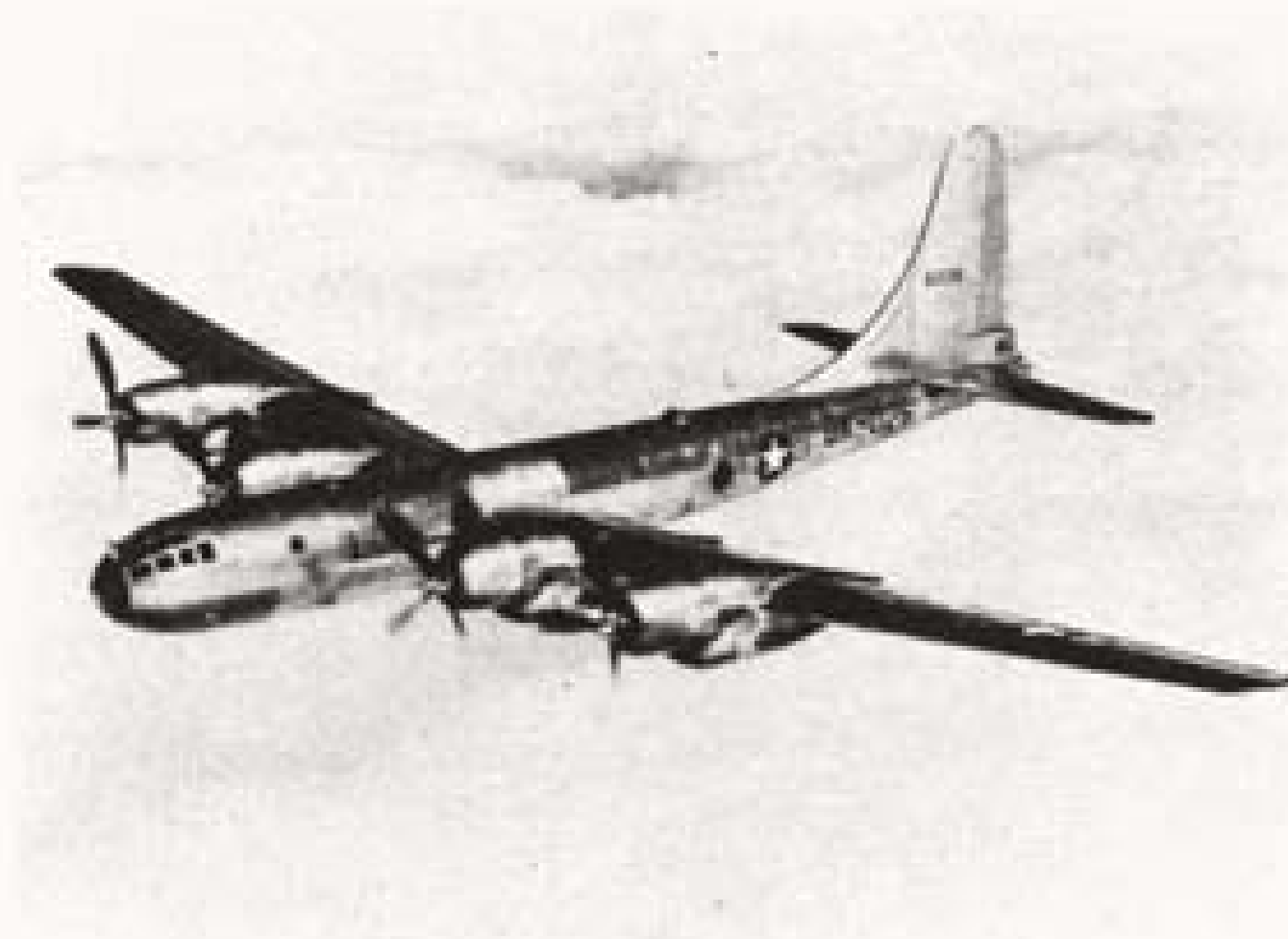
LENGTH: 99'0".

ENGINE: R-4360/3,500 h. p.

SPEED: 353 knots/30,000 ft.

RANGE: 4,140 nautical miles/227 knots.

ARMAMENT: 13 x .50 cal.



BOEING

RESTRICTED

B-50 SUPERBOMBER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Stratojet is a high-wing medium bomber powered by six jet engines slung beneath the wings. Two engines are mounted in a single nacelle on each side of the fuselage also a single engine nacelle is mounted near each wing tip. The wings and stabilizer are sharply sweptback giving an arrow-like appearance. The fuselage is long and narrow with a tapering high fin. The tail cone extends beyond the rudder. The B-47 has a retractable bicycle landing gear composed of two-wheel trucks with small wheels extending from the inboard nacelles for balance. There are JATO tube openings in the fuselage sides aft of the trailing edge of the wing.

SPAN: 116'0". **LENGTH:** 107'6".
ENGINE: G. E. TG-180 (USAF-J-35)/5,000-lb. thrust.
SPEED: 550 knots.
RANGE: 1,740 nautical miles/530 knots.
ARMAMENT: Remotely controlled in tail.



BOEING

RESTRICTED

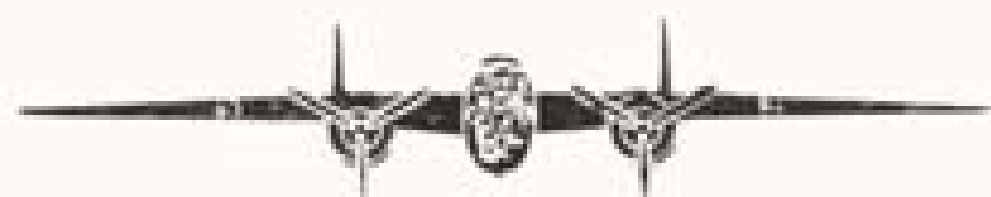
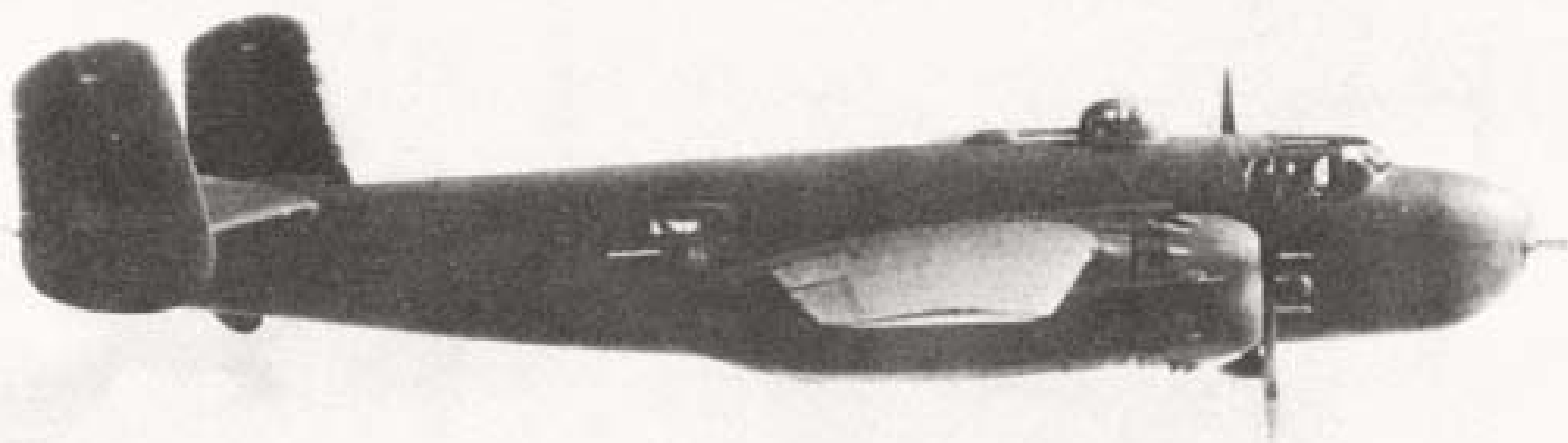
B-47 STRATOJET



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 39P-1200



The Mitchell has two radial engines underslung below the wings with nacelles extending just beyond the wing's trailing edge. High outboard twin fins and rudders are sloped like a lopsided rectangle. The gull wing effect is due to positive dihedral on inboard panel only. The wings are tapered on both edges with more pronounced taper on the trailing edge. A rather long transparent nose is set well forward of the wing. The B-25 was used extensively in World War II, particularly in the Pacific theater. It is well remembered as the aircraft used by General Doolittle to bomb Japan from an aircraft carrier. Now used as a multi-engine trainer with interchangeable noses.

SPAN: 67'7".

LENGTH: 53'6".

ENGINE: R-2600/1,700 h. p.

SPEED: 252 knots/12,600 ft.

RANGE: 1,130 nautical miles/168 knots.

ARMAMENT: 12 x .50 cal./4 turrets.



NORTH AMERICAN

RESTRICTED

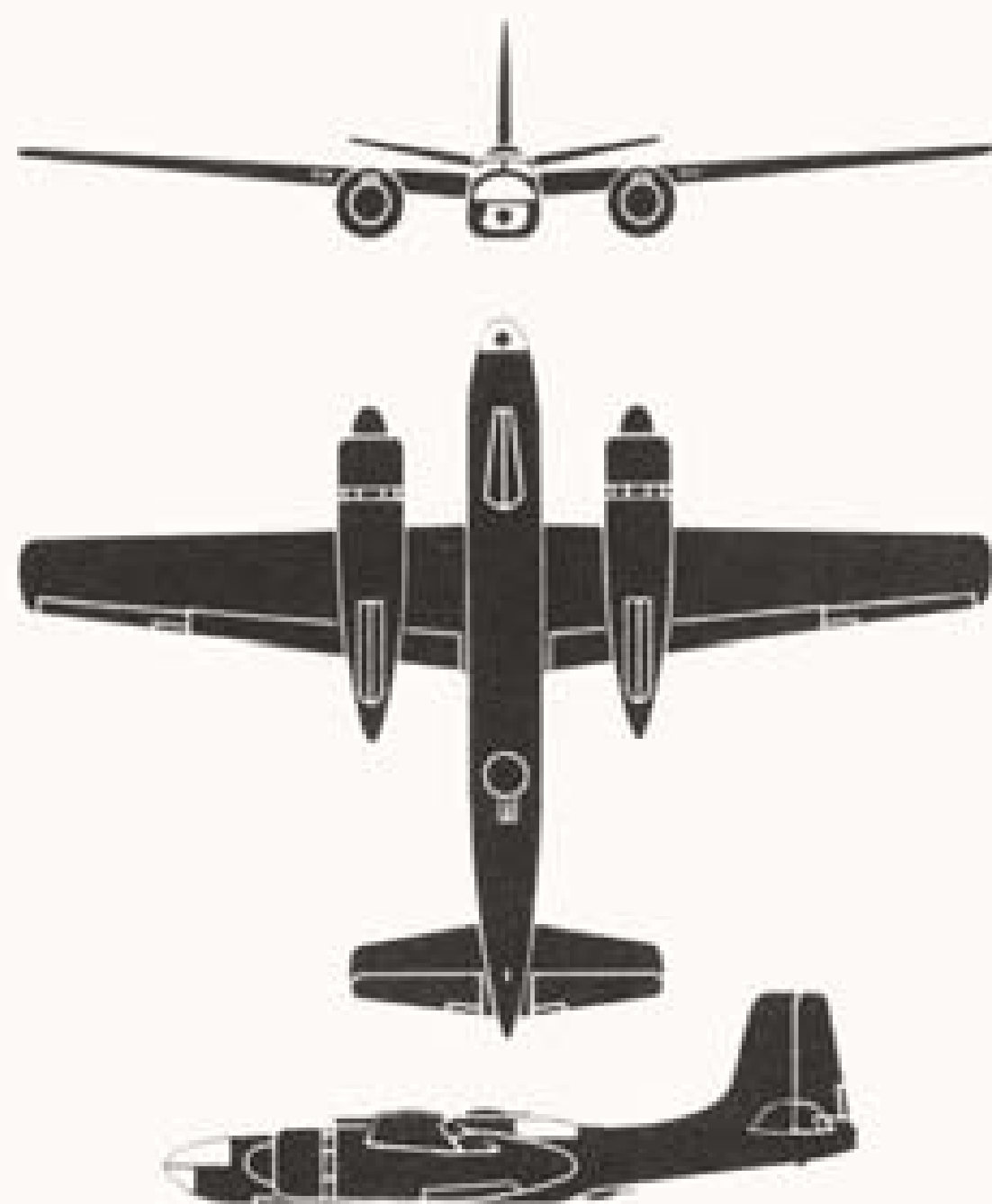
B-25 MITCHELL



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P-1200**



The Invader B-26 is a mid-wing light bomber fitted with twin radial engines protruding well beyond the trailing edge of the wings. The wings are long and narrow tapering to blunt tips with slight dihedral evident. The fuselage is straight and narrow and has a step-up aft. A large fin and rudder is set on the tapering tail. The stabilizer has dihedral. The B-26 was developed from the Havoc A-20 and is quite versatile. It can be fitted with a bombing nose or an all purpose attack nose. These noses are interchangeable. On June 26, 1946 an experimental version, the XA-26F, established a speed record of 413 mph over a 621 mile course.

SPAN: 70'0". LENGTH: 51'2".
 ENGINE: R-2800/2,000 h. p.
 SPEED: 250 knots/5,000 ft.
 RANGE: 1,490 nautical miles/185 knots.
 ARMAMENT: 11 x .50 cal.



DOUGLAS

RESTRICTED

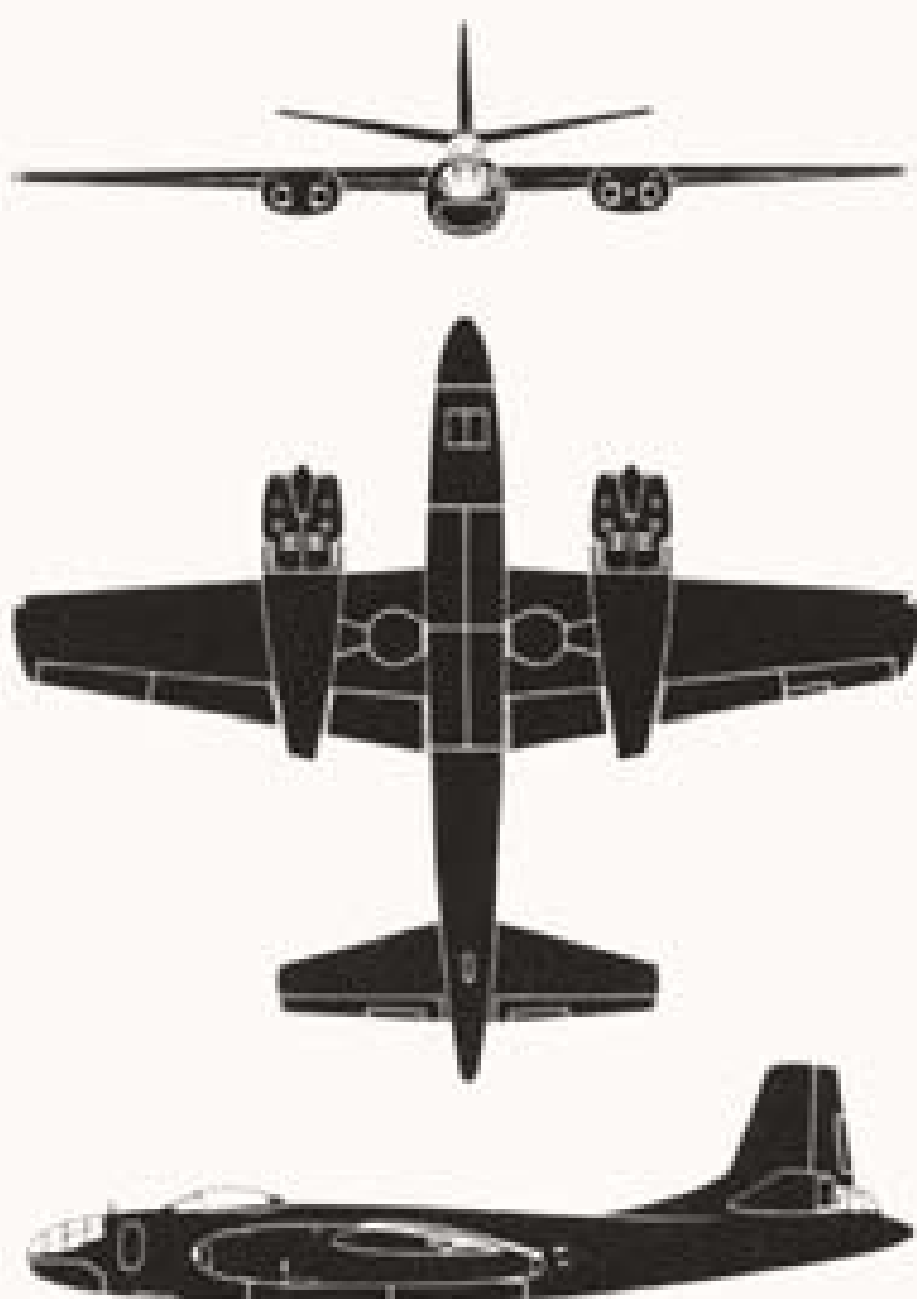
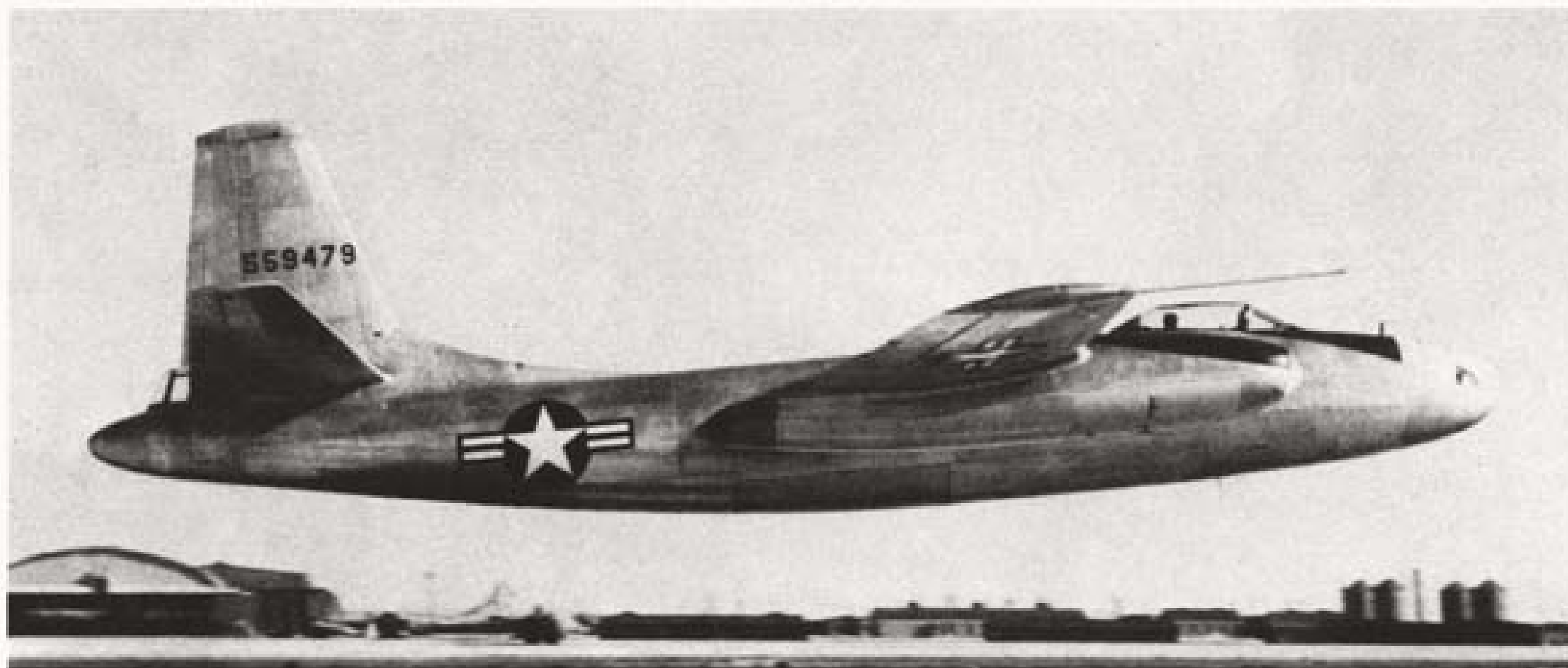
B-26 INVADER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Tornado is a medium four-engine jet propelled bomber, shoulder-wing, monoplane, with two engines mounted in each nacelle and double air intake on each wing. The top half of the nose is divided plexiglass with a single plexiglass canopy atop forward fuselage. The rudder is squared and there is a divided plexiglass dome at its base. On level and just forward of the dome is a stabilizer with pronounced dihedral. The B-45 is the first jet bomber produced in quantity for the Air Force. All models can accommodate JATO installations which are droppable after take off. Due to the high operating speed the B-45 is equipped with radar navigation and bombing systems.

SPAN: 89'0". LENGTH: 75'4".
 ENGINE: J47-GE-1, 3/5,000-lb. thrust.
 SPEED: 495 knots/sea level.
 RANGE: 1,520 nautical miles/393 knots.
 ARMAMENT: 2 x .50 cal.

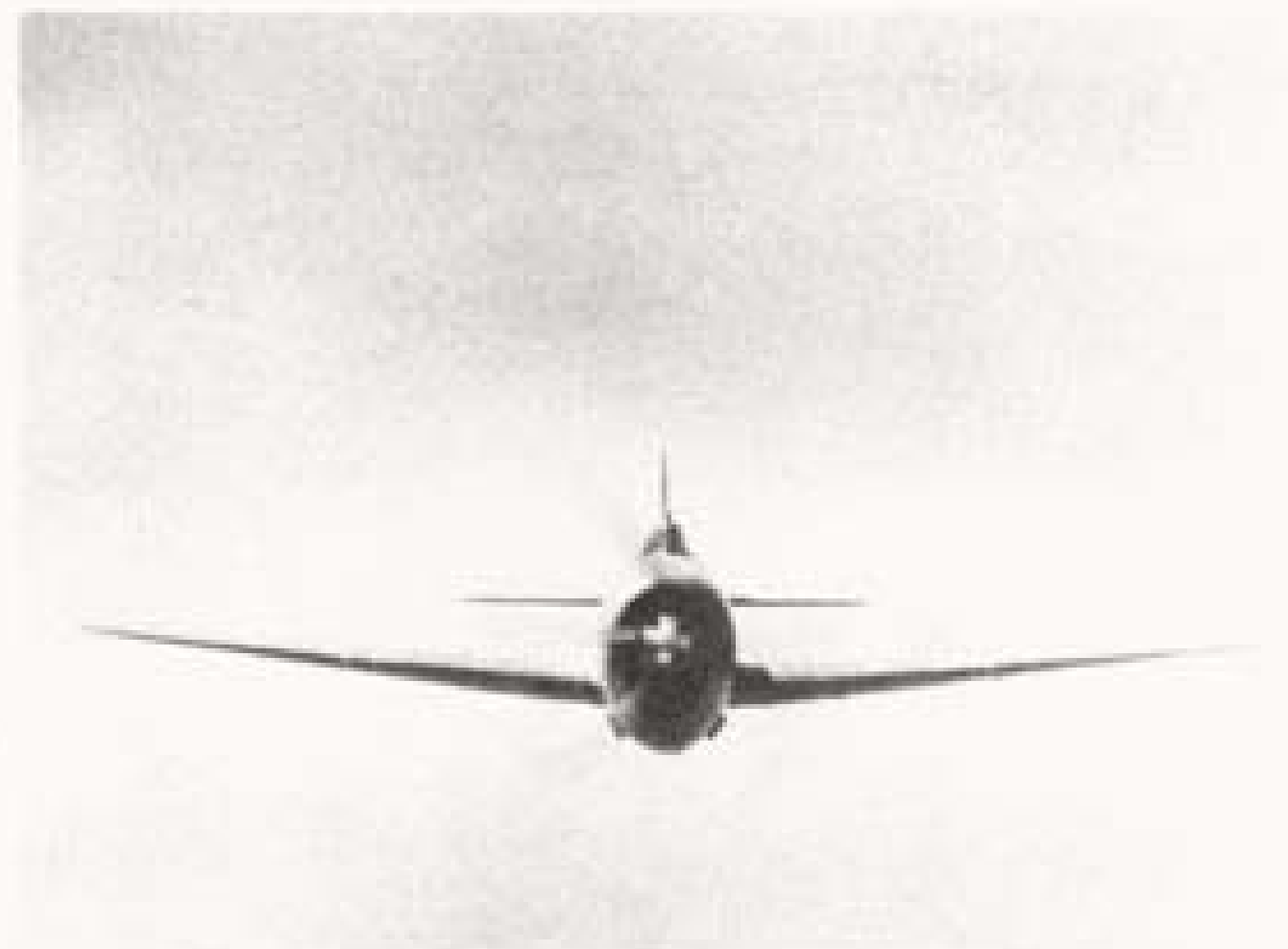






The Thunderbolt is a low mid-wing monoplane with single radial engine. The wing has a slightly tapered leading edge and curved trailing edge with blunt tips (earlier models had rounded tips) and full dihedral from roots. An oval shaped engine cowl with propeller hub set above center is faired into a rather thick fuselage with a sharp ridge down its sloping back. There is a single fin and rudder with pronounced taper on leading edge and curved trailing edge. The Thunderbolt was designed as a high altitude fighter in 1941, and was one of the largest and fastest single engine fighters of the USAF when America entered World War II.

SPAN: 42'6". LENGTH: 36'1".
ENGINE: R-2800/2,100 h. p.
SPEED: 390 knots/35,000 ft.
RANGE: 2,020 nautical miles/244 knots.
ARMAMENT: 8 x .50 cal.



REPUBLIC

RESTRICTED

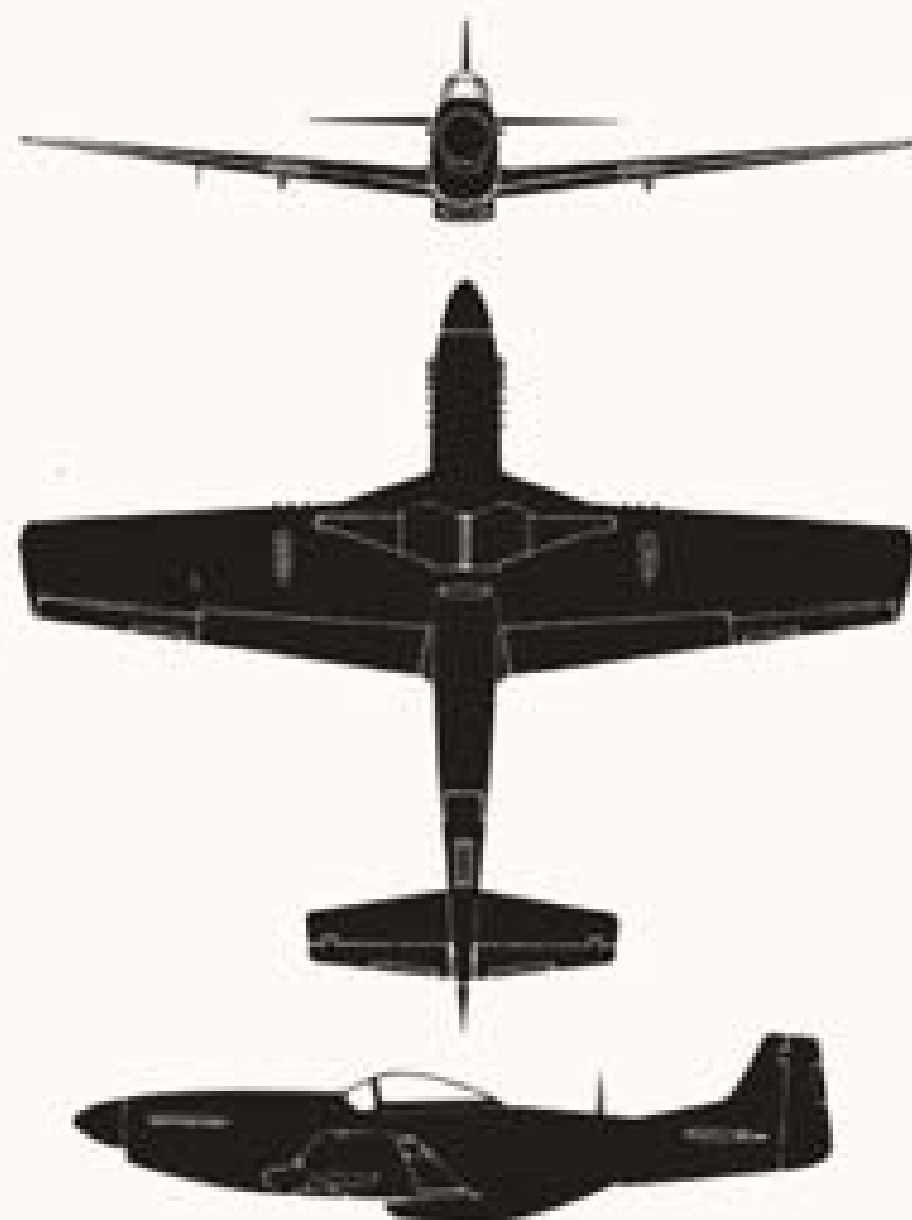
F-47 THUNDERBOLT



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P-1200**



The Mustang is a low-wing monoplane powered by a single liquid-cooled engine. The radiator air scoop is a channel-section structure attaching under and forming the lower portion of the main fuselage. The wings have evenly tapered leading and trailing edges with square tips and full dihedral from the roots. The single fin and rudder is sharply tapered on the leading edge, with a square top, and slightly tapered trailing edge. The prototype model of the F-51 was designed, built and flown (October 1940) in 100 days and put into production before the end of 1940. It was valuable for reconnaissance and long range escort-fighter missions.

SPAN: 37'0".

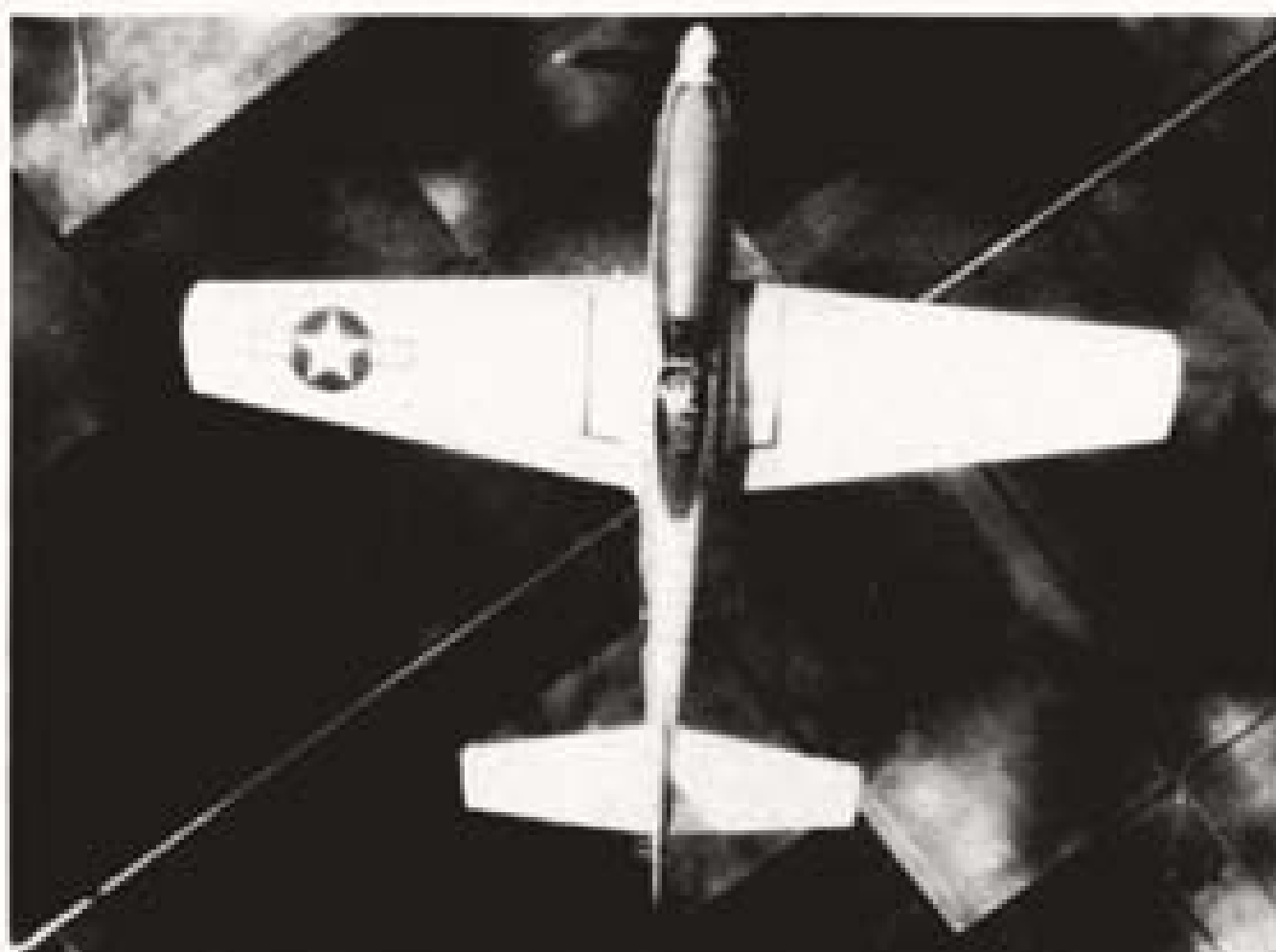
LENGTH: 33'4".

ENGINE: V-1650/1,495 h. p.

SPEED: 425 knots/22,700 ft.

RANGE: 1,720 nautical miles/236 knots.

ARMAMENT: 6 x .50 cal.



NORTH AMERICAN

RESTRICTED

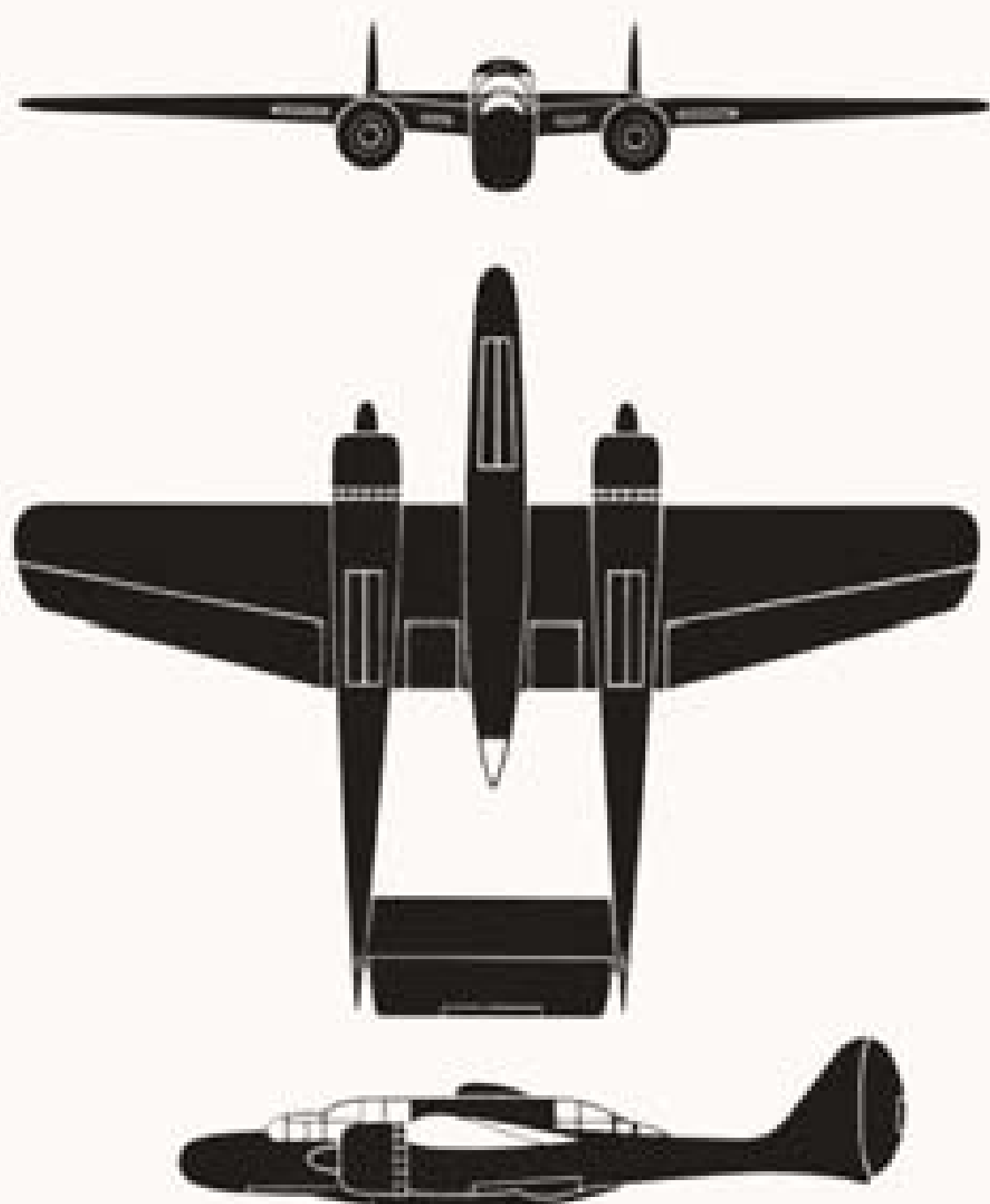
F-51 MUSTANG



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 38P-1200**



The Black Widow is a twin-engine shoulder-wing night fighter. The engines form forward parts of twin-booms. A large central crew nacelle extends forward beyond the engines and terminates well aft of the wing. The leading edge of the wing is straight with tapering trailing edges outboard of the booms. The wing tips are blunt. A rectangular stabilizer is mounted high between the booms. The fins and rudders are faired into the booms. The crew nacelle has two distinct steps on top both forward and aft. A crew of three is carried. The F-61 was the first U.S. Aircraft to be specifically designed as a night fighter.

SPAN: 66'0".

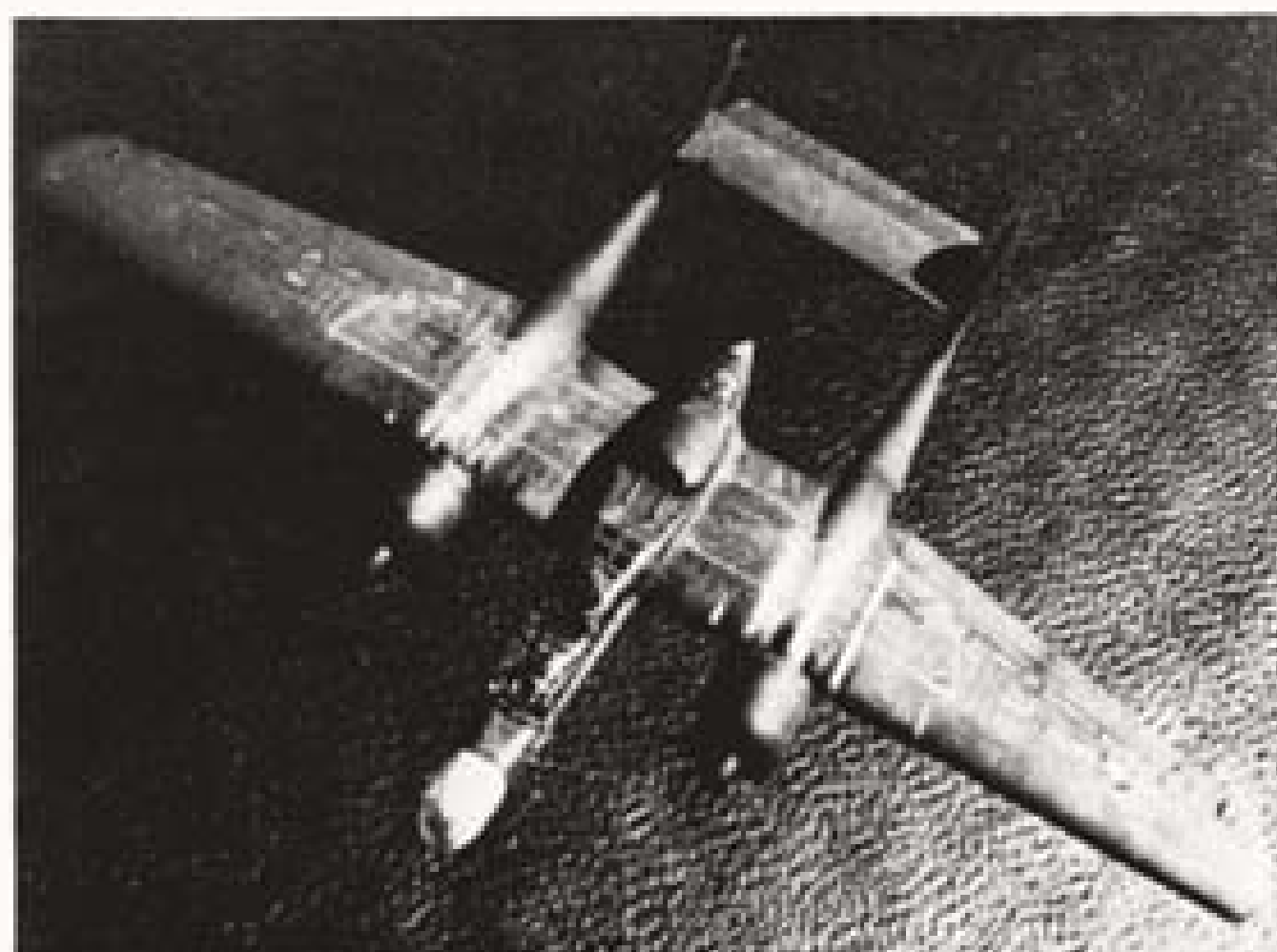
LENGTH: 49'6".

ENGINE: R-2800/2,100 h. p.

SPEED: 320 knots/17,000 ft.

RANGE: 870 nautical miles/185 knots.

ARMAMENT: 4 x 20 mm.; 4 x .50 cal.



NORTHROP

RESTRICTED

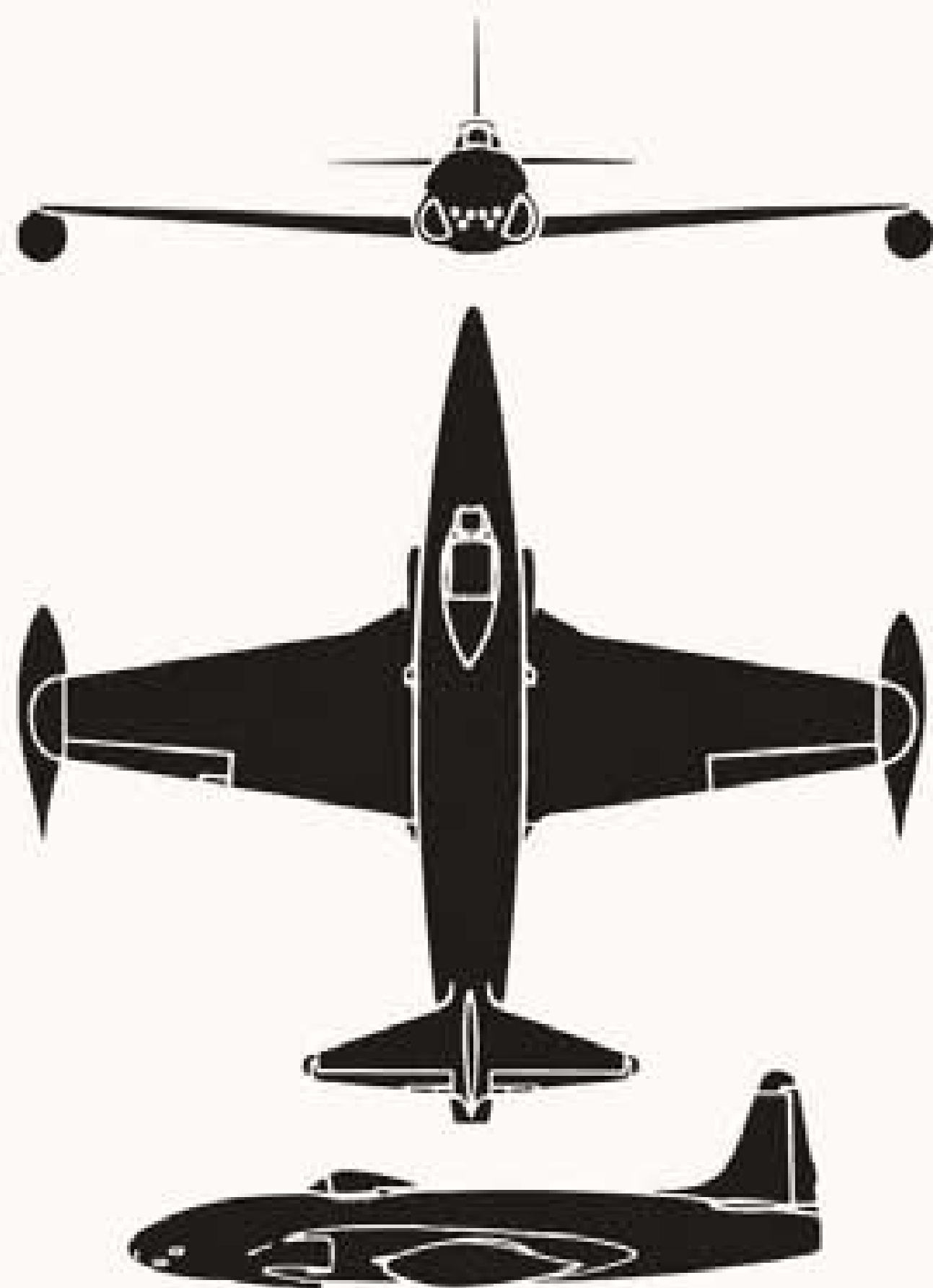
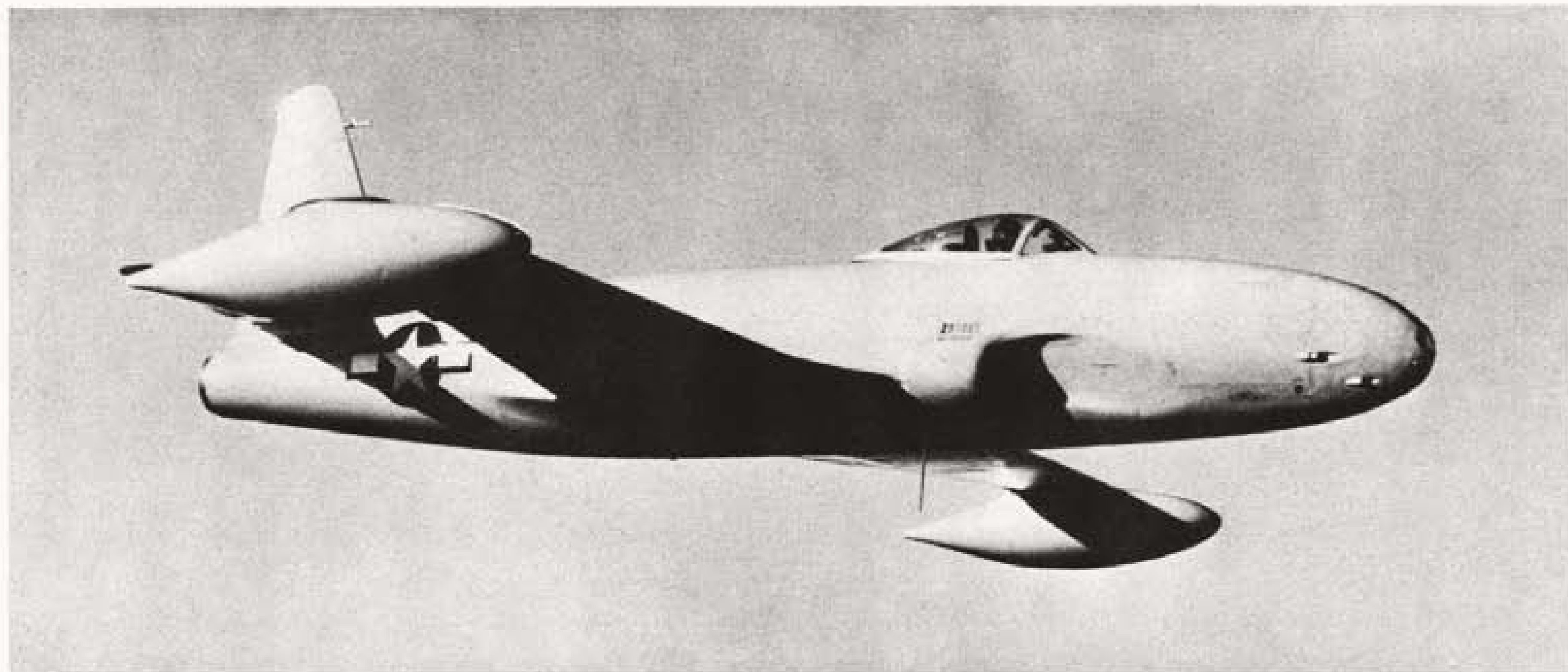
F-61 BLACK WIDOW



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P-1200**



The Shooting Star is a low-wing monoplane powered by a single turbo-jet engine. Wings are of equal taper with slight dihedral. Air intake scoops show prominently on each side of the fuselage just forward of the wing's leading edge and bubble canopy. An all-metal fin and stabilizer are integral with the rear section of the fuselage. A single fin and rudder with sharply tapered leading edge and slightly tapered trailing edge is rounded on top. Drop tanks are carried on the wing tips. The F-80 originally was built to fill the AF request for a single jet fighter designed around the British de Havilland jet unit. The color of the airplane is light gray instead of the usual silver.

SPAN: 38'11". LENGTH: 34'6".

ENGINE: J33-A-23/4,250-lb. thrust.

SPEED: 512 knots/10,000 ft.

RANGE: 1,260 nautical miles/393 knots.

ARMAMENT: 6 x .50 cal.



LOCKHEED

RESTRICTED

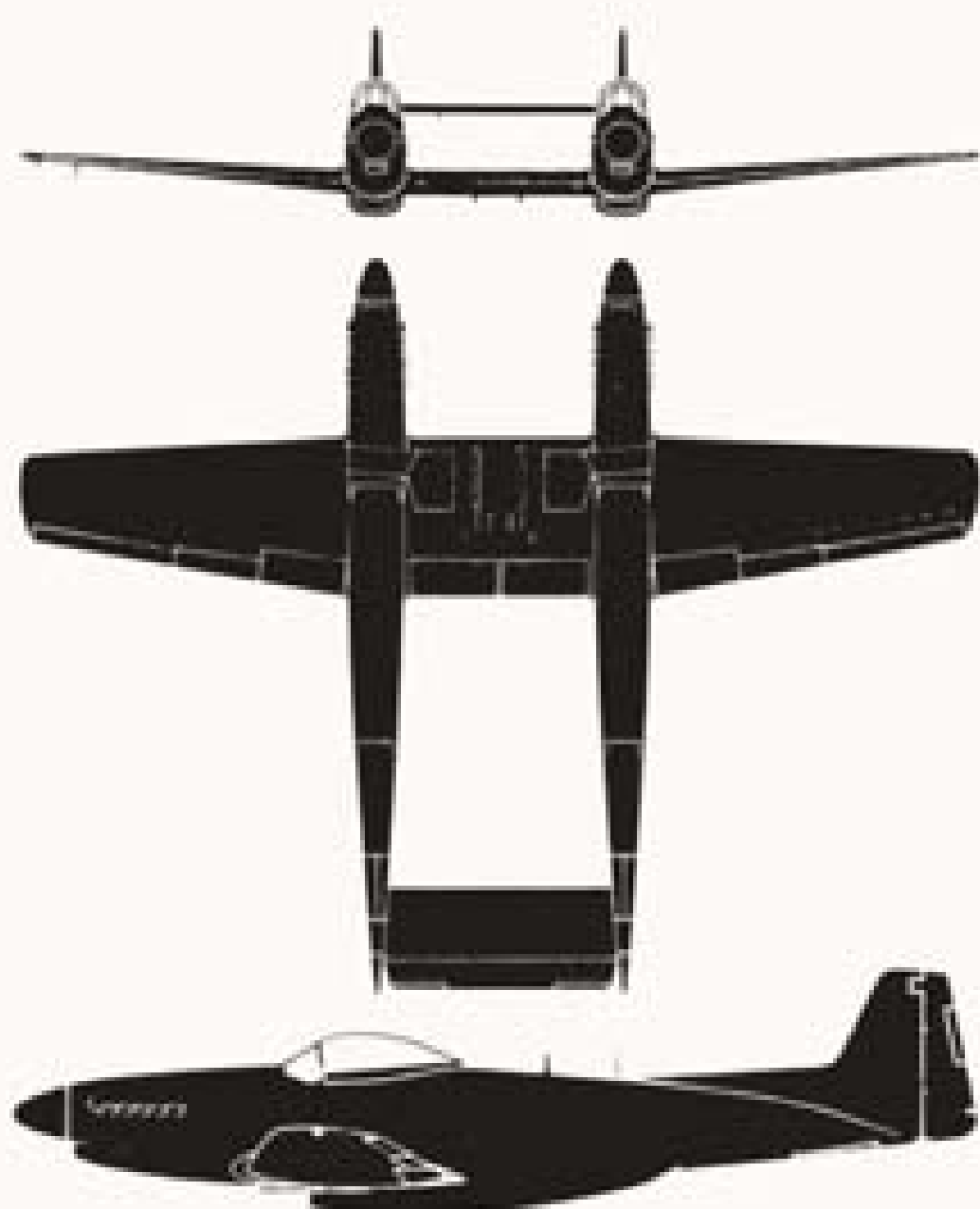
F-80 SHOOTING STAR



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Twin-Mustang is a low-wing monoplane with twin-engines and twin-fuselages. The fuselages are joined together by a constant-chord center section and rectangular stabilizer. The center section of the wing has a rather straight leading and trailing edge. Outer sections of the wing have evenly tapered leading and trailing edges and square tips. A single fin and rudder at the extremity of each fuselage has sharply tapered leading edge, square top, and slightly tapered trailing edge. High speed and large fuel capacity of the F-82 makes the airplane valuable for night interception and long-range reconnaissance missions.

SPAN: 51'6".

LENGTH: 39'0".

ENGINE: V-1710/1,600 h. p.

SPEED: 405 knots/16,400 ft.

RANGE: 2,230 nautical miles/262 knots.

ARMAMENT: 6 x .50 cal.



NORTH AMERICAN

RESTRICTED

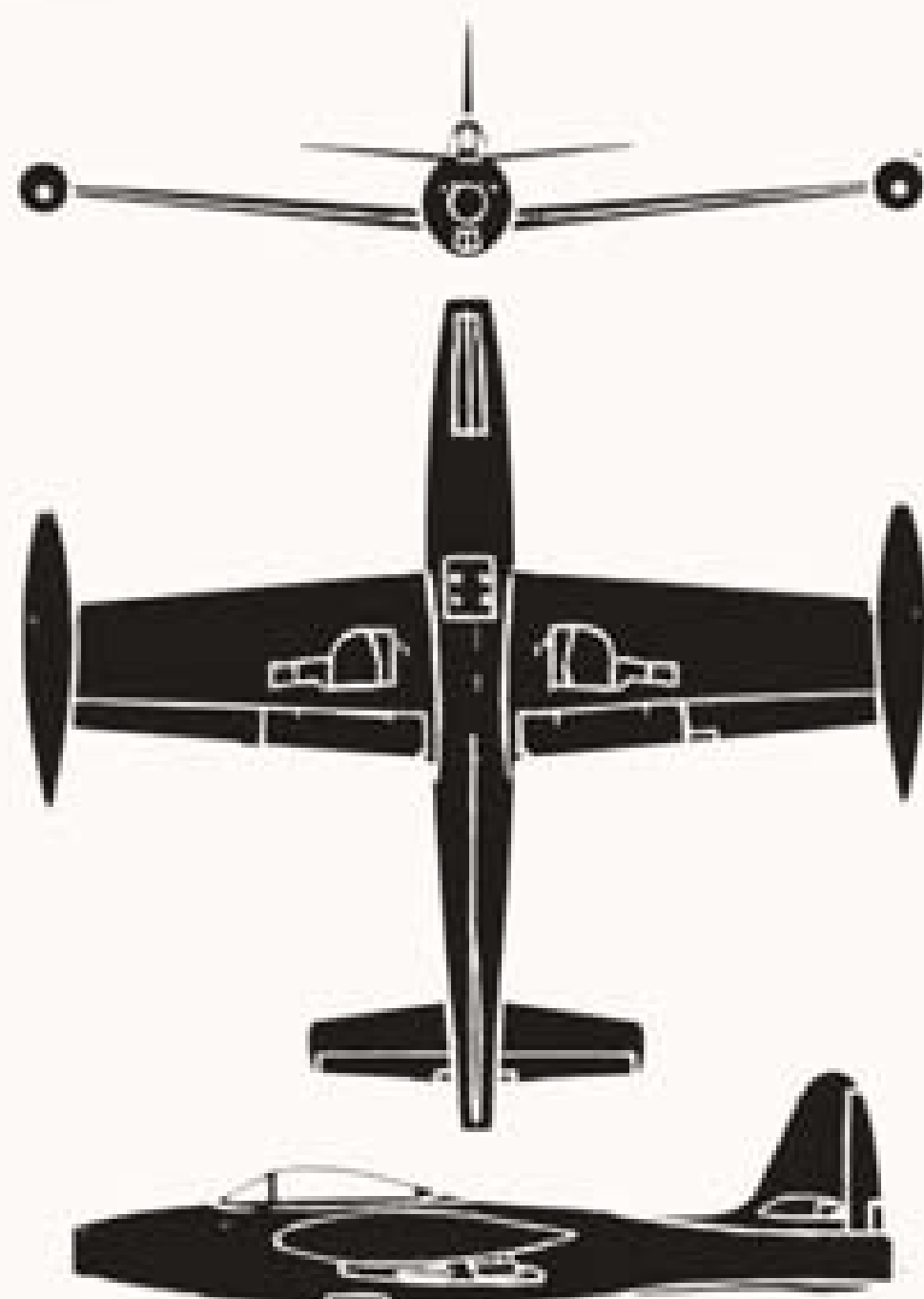
F-82 TWIN-MUSTANG



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Thunderjet is a low-mid-wing monoplane powered by a single turbo-jet engine mounted in a round fuselage with the air intake in the nose. The pilot's cockpit is located ahead of the wing's leading edge. Drop tanks are fitted to the wing tips. A single fin and rudder is rounded at top with a jet outlet in the tail extending slightly beyond the rudder's trailing edge. The original conception for the F-84 was a redesign of the F-47 fitted with a jet engine. In September 1946, a prototype XF-84 set an American speed record (611 mph). Retractable rocket mounts disappear into the wings after the rockets are fired. It is equipped with jettisonable pilot's seat.

SPAN: 36'5".

LENGTH: 37'2".

ENGINE: J35-A-15/4,000-lb. thrust.

SPEED: 521 knots/sea level.

RANGE: 1,360 nautical miles/395 knots.

ARMAMENT: 6 x .50 cal.



REPUBLIC

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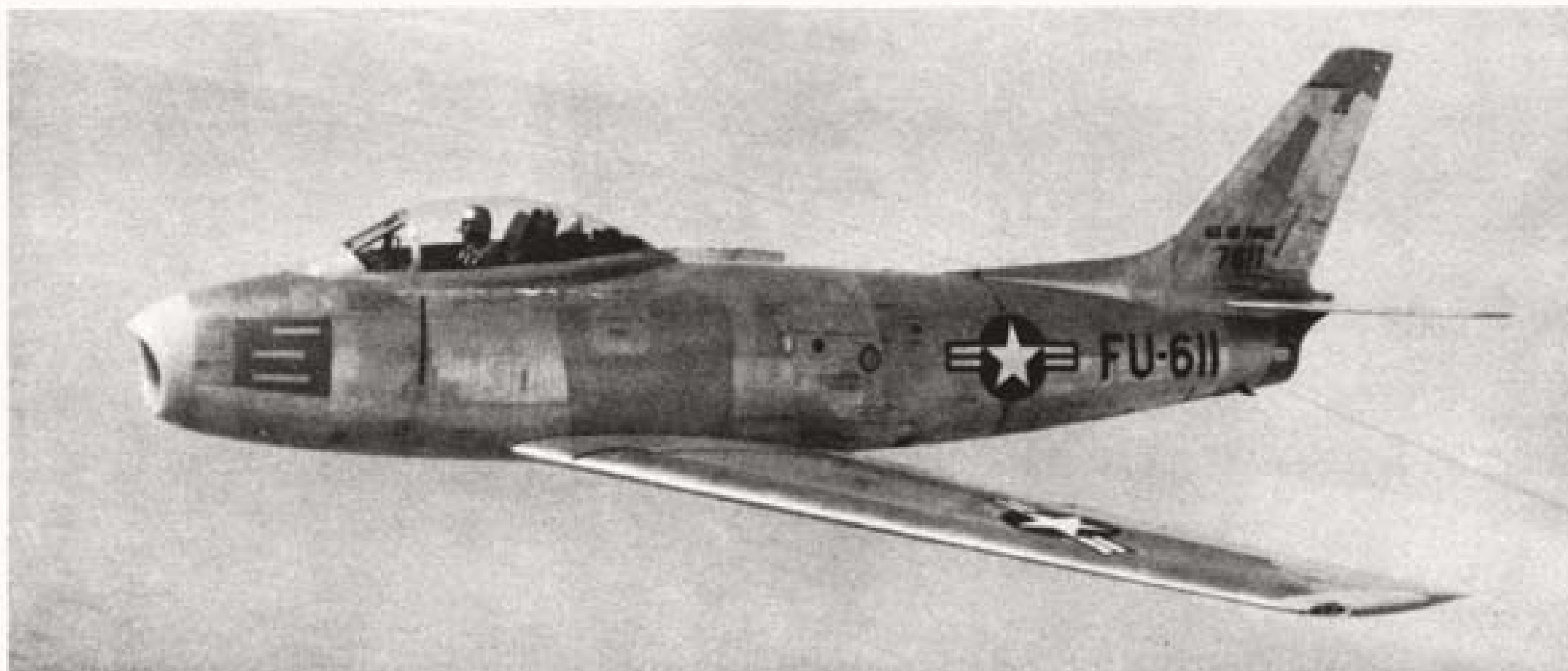
F-84 THUNDERJET



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Sabre is a low-wing fighter powered by a single turbo-jet engine mounted in an oval fuselage with the air intake in the nose. The pilot's cockpit is located forward of the arrow-like wings. The fuselage is round on top and sides with a rather flat bottom. A high vertical stabilizer tapers sharply from the rear of the fuselage and a tapering sweptback horizontal stabilizer with dihedral completes the empennage. Designed primarily as a high altitude fighter, the F-86 was the first supersonic combat aircraft to go into quantity production. It established an official world speed record of 669.8 mph on 15 September 1948 at Muroc, Calif.

SPAN: 37'1".

LENGTH: 37'6".

ENGINE: J47-GE-1, 3/5,000-lb. thrust.

SPEED: More than 560 knots.

RANGE:

ARMAMENT:



NORTH AMERICAN

RESTRICTED

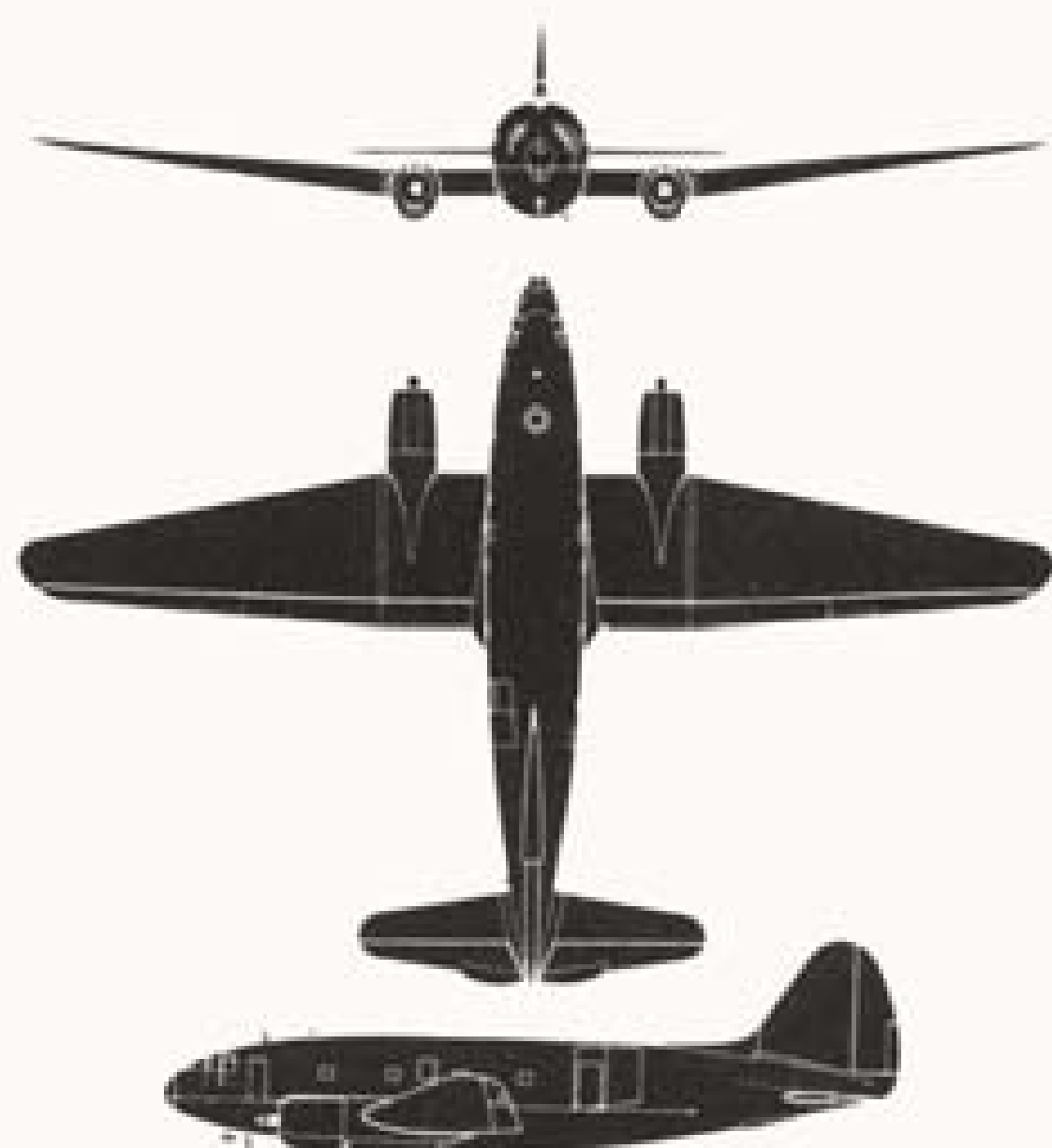
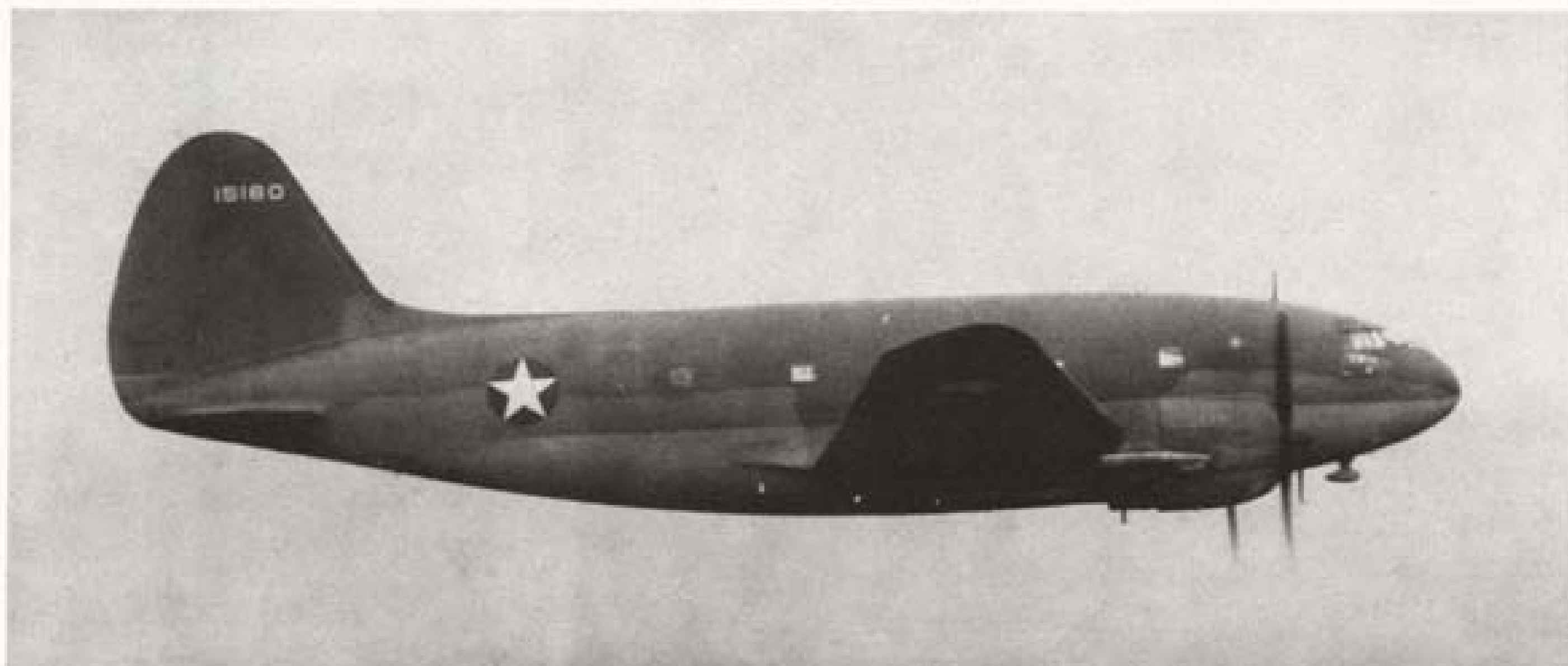
F-86 SABER



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P-1200**



The Commando is a low-wing monoplane powered by two radial engines. The center section of the wing is rectangular while the outer wing sections have sharply tapered leading edges and slightly tapered trailing edges with distinct dihedral. The engine cowls are round with a propeller hub set in the middle of each cowl. There is no canopy extension above the top of the round fuselage. A high fin and rudder tapers sharply on the leading edge and has a curved trailing edge and round top. The C-46 was originally designed as a commercial airliner. Aside from carrying cargo, it has been used for glider towing and as an ambulance and paratroop carrier.

SPAN: 108'0". **LENGTH:** 76'4".

ENGINE: R-2800/2,000 h. p.

SPEED: 235 knots/13,300 ft.

RANGE: 1,880 nautical miles/151 knots.

ARMAMENT: None.



CURTISS-WRIGHT

RESTRICTED

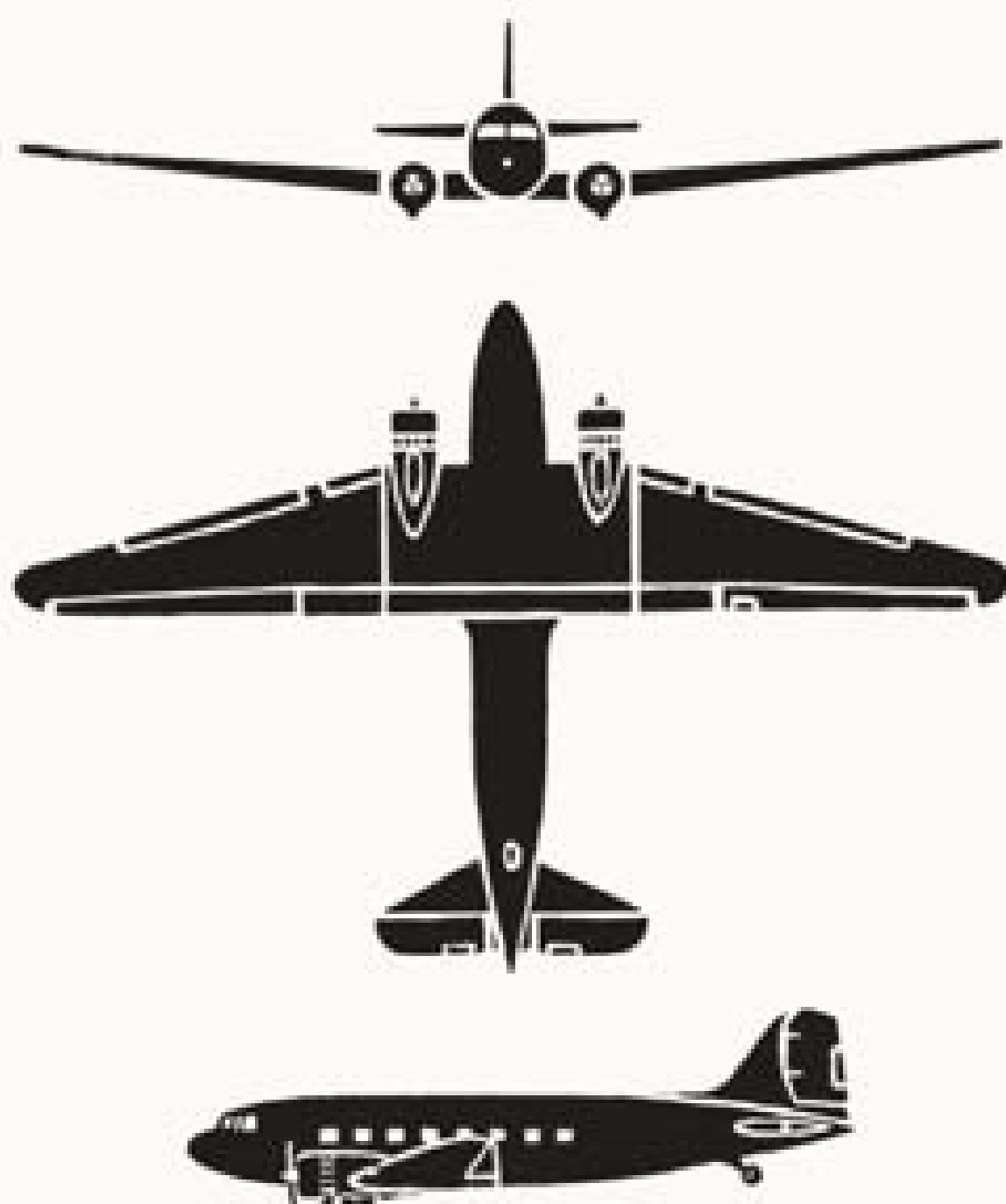
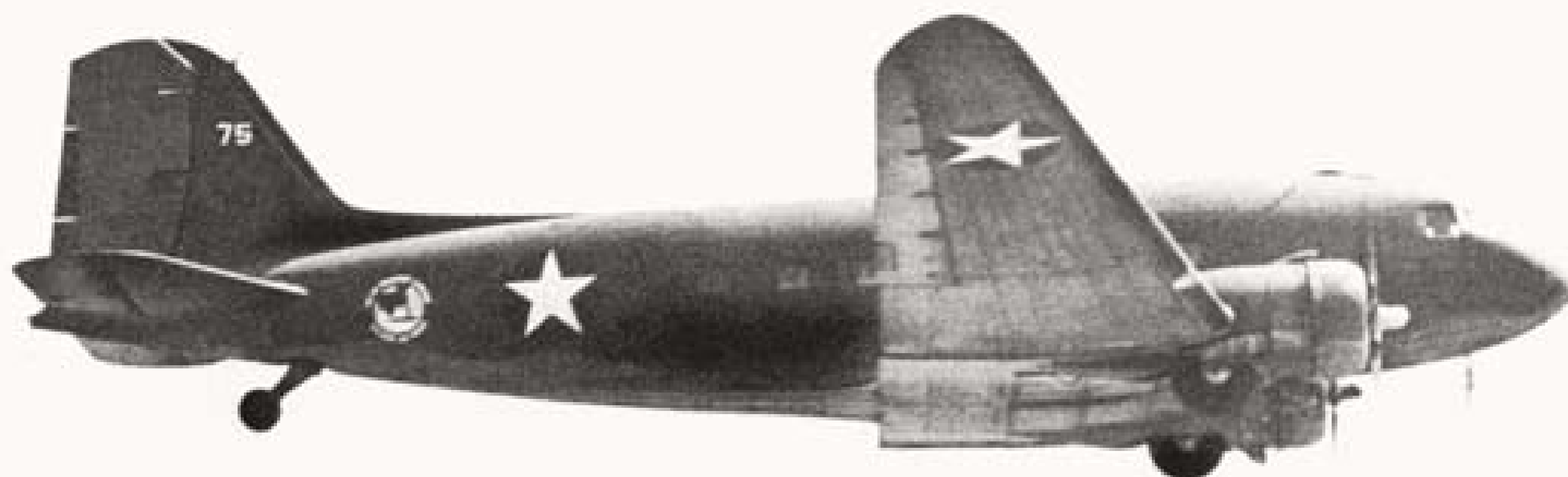
C-46 COMMANDO



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P-1200**



The Skytrain is a twin-engine low-wing monoplane. The center section of wing has no dihedral. The outer section of leading edge has sharp taper while the trailing edge is straight and the tips are sharply rounded. There is noticeable dihedral in the outer wing section. The tail fin is faired forward for about one-third the length of the fuselage. The horizontal stabilizer is sharply tapered at the leading edge. The C-47 is a military version of the Douglas DC-3, one of the best known and most widely used commercial aircraft in the world. In the Navy it is designated the R4D while in England it is called the "Dakota".

SPAN: 95'0".

LENGTH: 63'9".

ENGINE: R-1830/1,200 h. p.

SPEED: 195 knots/6,250 ft.

RANGE: 1,370 nautical miles/146 knots.

ARMAMENT: None.



DOUGLAS

RESTRICTED

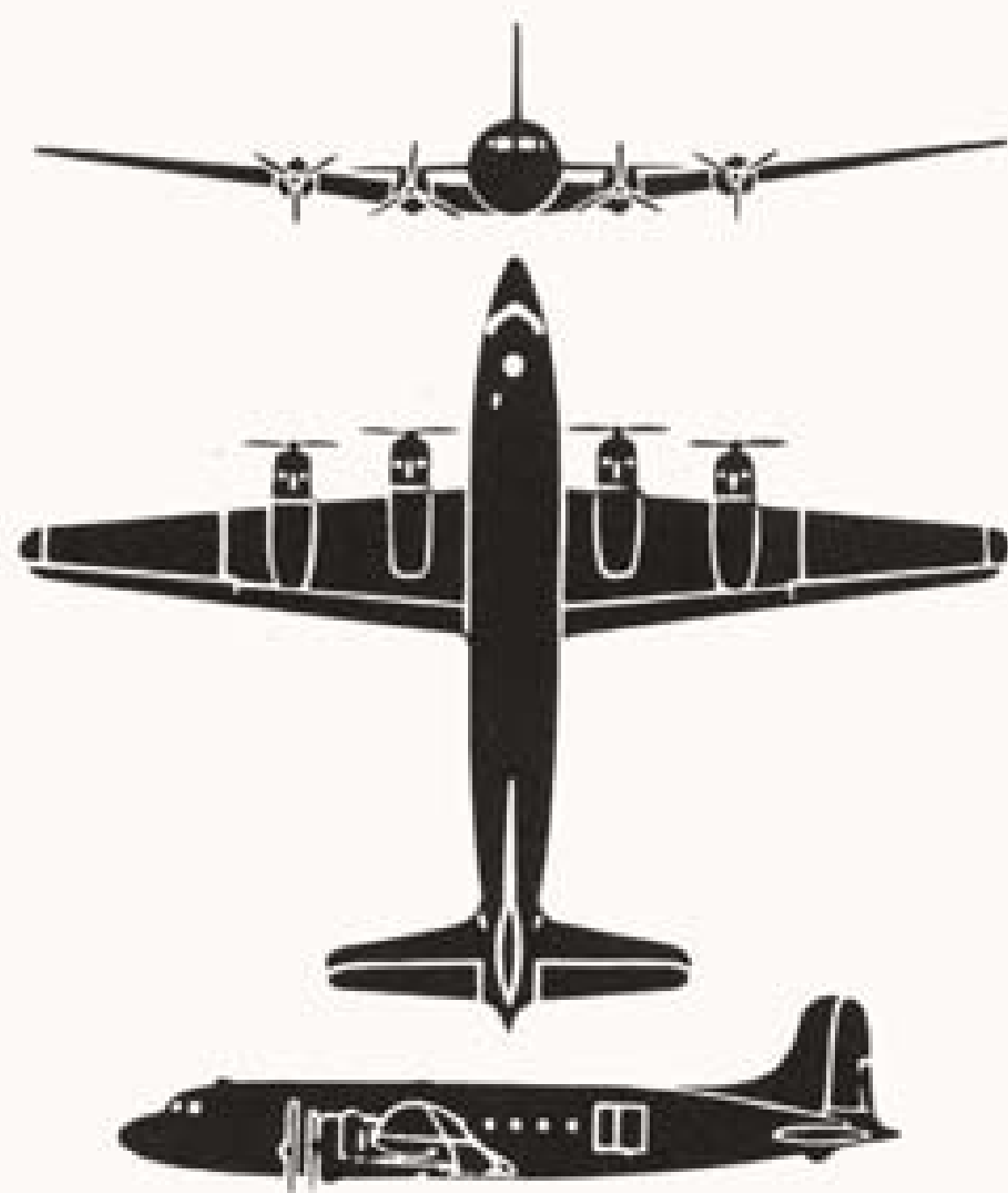
C-47 SKYTRAIN



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P-1200**



The Skymaster is a low-wing monoplane powered by four radial engines. The wings have dihedral from the roots with evenly tapered leading and trailing edges. The inboard engine nacelles are aligned slightly forward of the outboard engine nacelles. The rudder tapers evenly on the leading and trailing edges and has a rounded top. A pointed tail cone extends beyond the rudder at the end of the fuselage. The C-54 "Skymaster" carries a crew of five and has provisions for 49 troops or 36 litters. Its commercial designation is DC-4 and the Navy designation is R5D. This airplane is bearing the brunt of the burden of the "Berlin Airlift".

SPAN: 117'6".

LENGTH: 93'5".

ENGINE: R-2000/1,450 h. p.

SPEED: 259 knots/19,800 ft.

RANGE: 1,650 nautical miles/190 knots.

ARMAMENT: None.



DOUGLAS

RESTRICTED

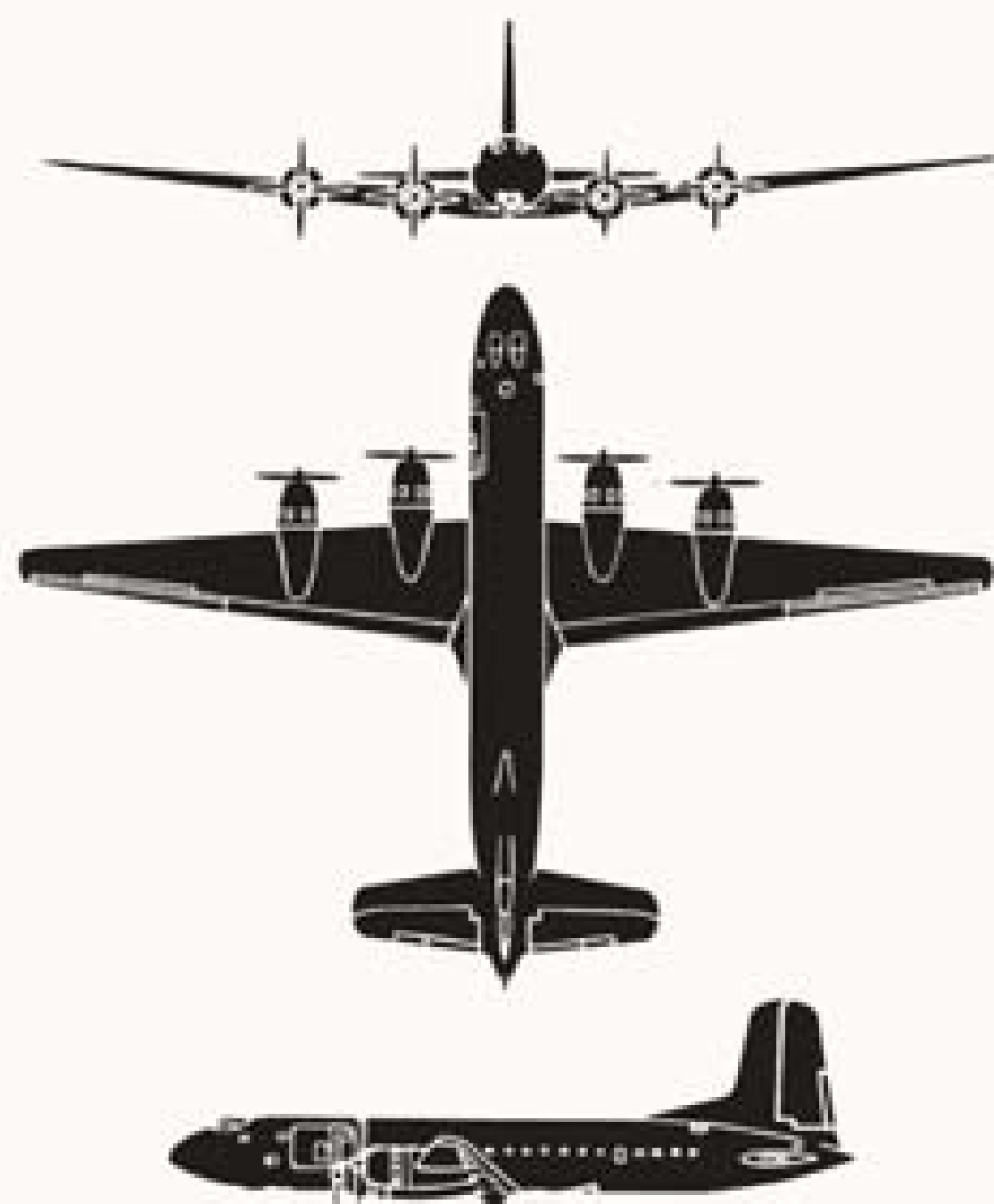
C-54 SKYMASTER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 39P-1200



The Globemaster is a low-wing transport monoplane powered by four radial engines. The wings have evenly tapered leading and trailing edges with rounded tips and dihedral from the roots. The inboard engine nacelles are slightly forward of the outboard nacelles. The fuselage is long with a cockpit canopy placed high on the nose and a pointed tail cone extending beyond the rudder. A high fin and rudder tapers evenly on the leading and trailing edges and has a round top. The C-74 was designed for long range, combat transport missions. The prototype XC-74 made its first flight in September 1945. A crew of 13 is carried.

SPAN: 173'4".

LENGTH: 123'4".

ENGINE: R-4360/3,000 h. p.

SPEED: 260 knots/15,000 ft.

RANGE: 3,300 nautical miles/174 knots.

ARMAMENT: None.



DOUGLAS

RESTRICTED

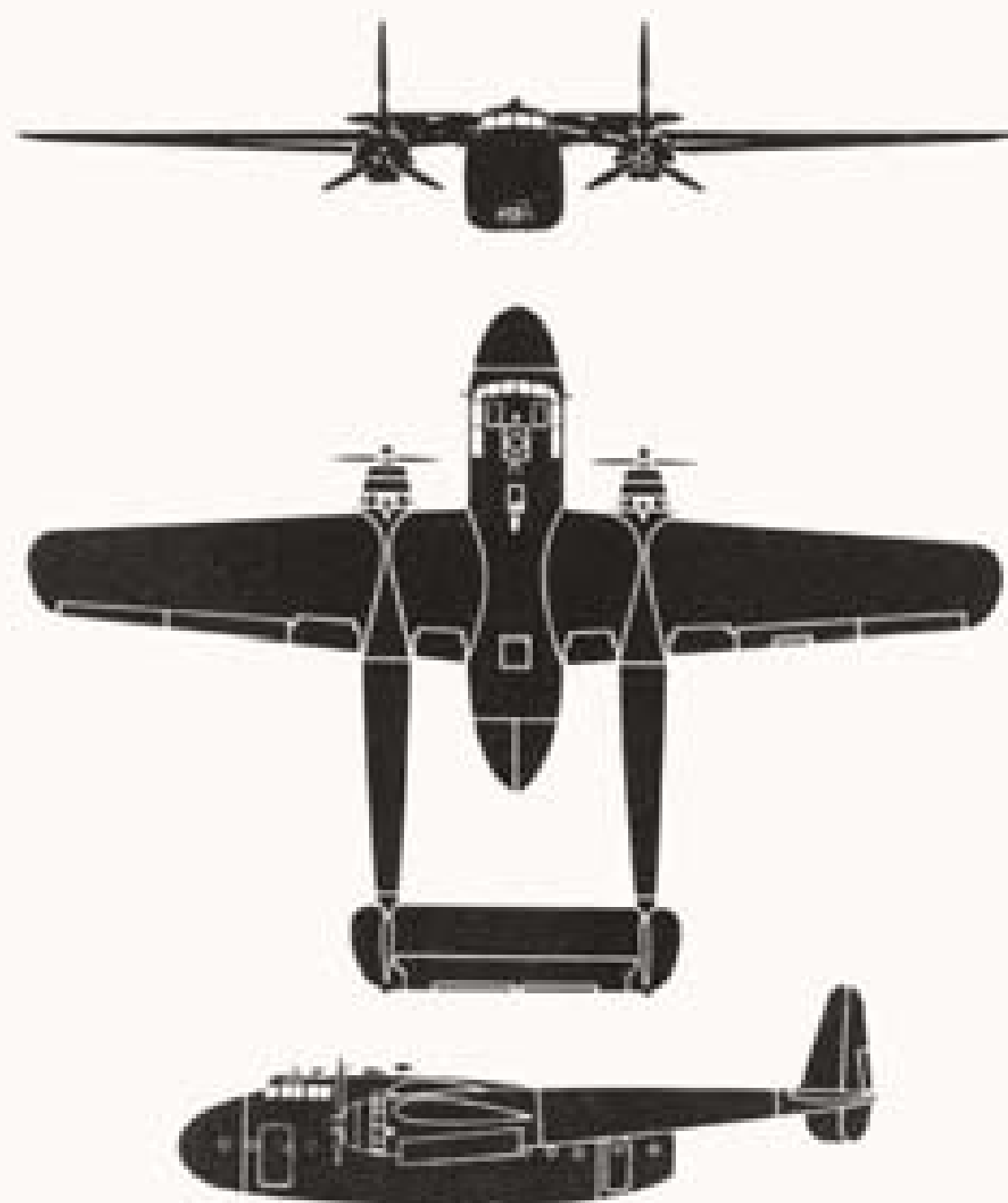
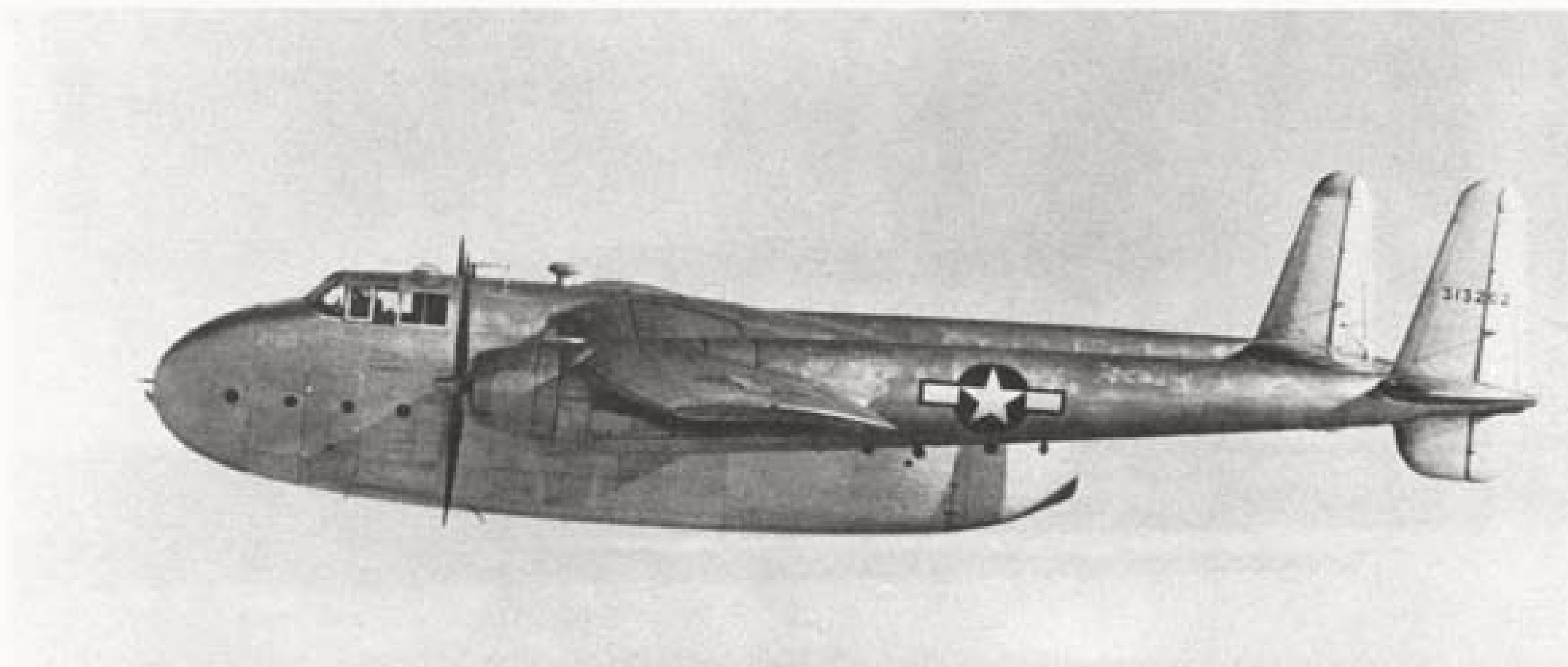
C-74 GLOBEMASTER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV J2P.1200



The Packet C-82 is a twin-engine high-wing monoplane. The fuselage is suspended from the wing and has a squat box-like appearance. The engine nacelles are extended into twin-tail-booms. A tail plane joins the boom with a vertical stabilizer at the end of each boom. The fuselage extends almost equally fore and aft of the wing. The C-82 "Packet" is more popularly known as the "Flying Boxcar." Primary use is for cargo and troop transport being extensively used for paratroop operations at the present time. The rear doors of the fuselage open the full width of the fuselage to permit easy loading and unloading.

SPAN: 106'6".

LENGTH: 77'1".

ENGINE: R-2800/2,100 h. p.

SPEED: 221 knots/17,500 ft.

RANGE: 1,750 nautical miles/137 knots.

ARMAMENT: None.



FAIRCHILD

RESTRICTED

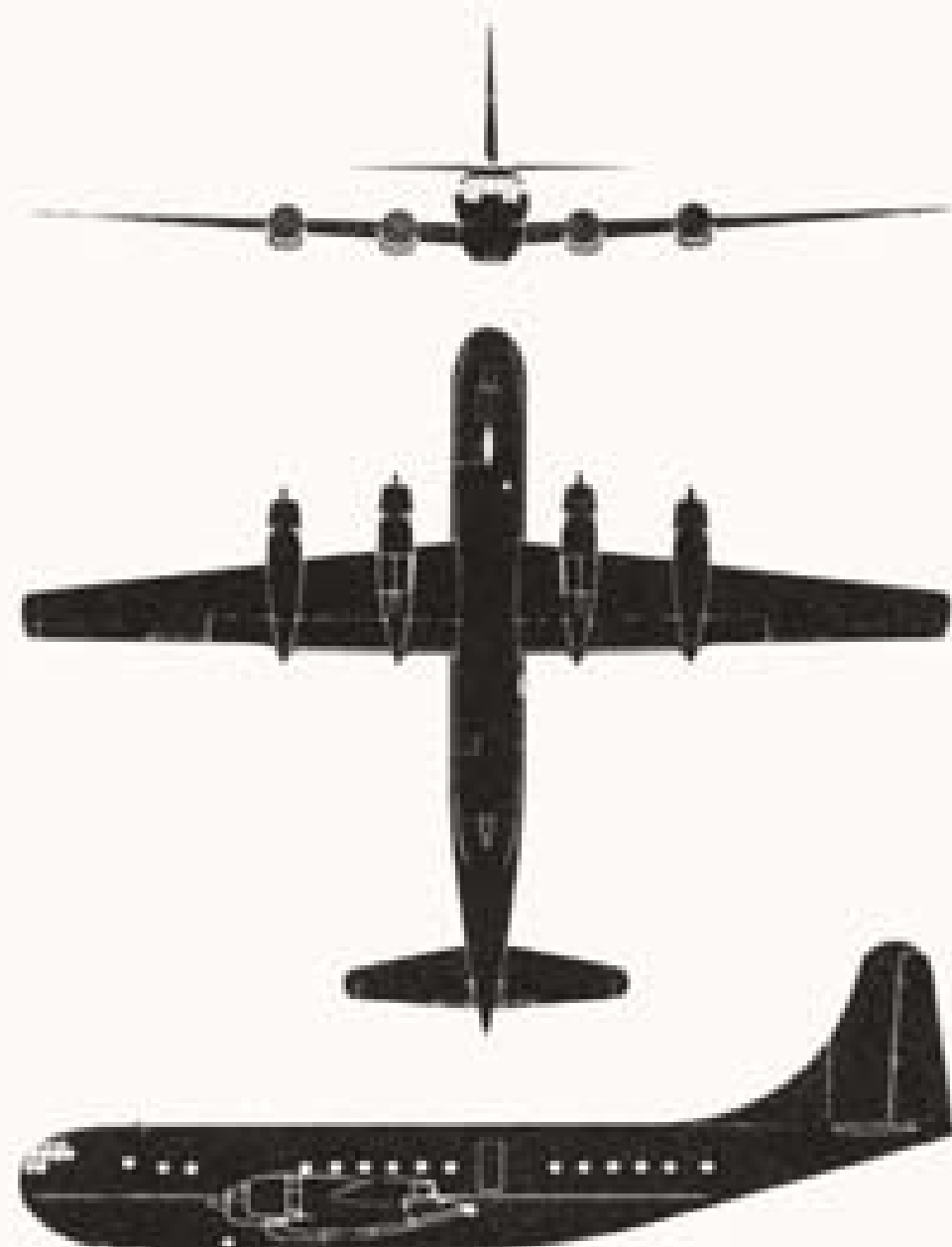
C-82 PACKET



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Stratofreighter is a mid-wing heavy transport powered by four radial engines. The leading edge of the wing is sweptback, the trailing edge is straight and there is pronounced dihedral. The engine nacelles extend well forward of the leading edge with its inboard engines set slightly forward of the outboard engines. Inboard engine nacelles extend beyond the trailing edge. The fuselage is long and deep and resembles a figure 8 from the front. Pronounced taper from under the front of the fuselage terminates in a tail cone which extends beyond the large single rudder. The C-97 is a double-decked, high altitude cargo-personnel aircraft.

SPAN: 141'4". LENGTH: 110'4".
 ENGINE: R-4360/3,500 h. p.
 SPEED: 342 knots/28,400 ft.
 RANGE: 1,640 nautical miles/222 knots.
 ARMAMENT: None.



BOEING

RESTRICTED

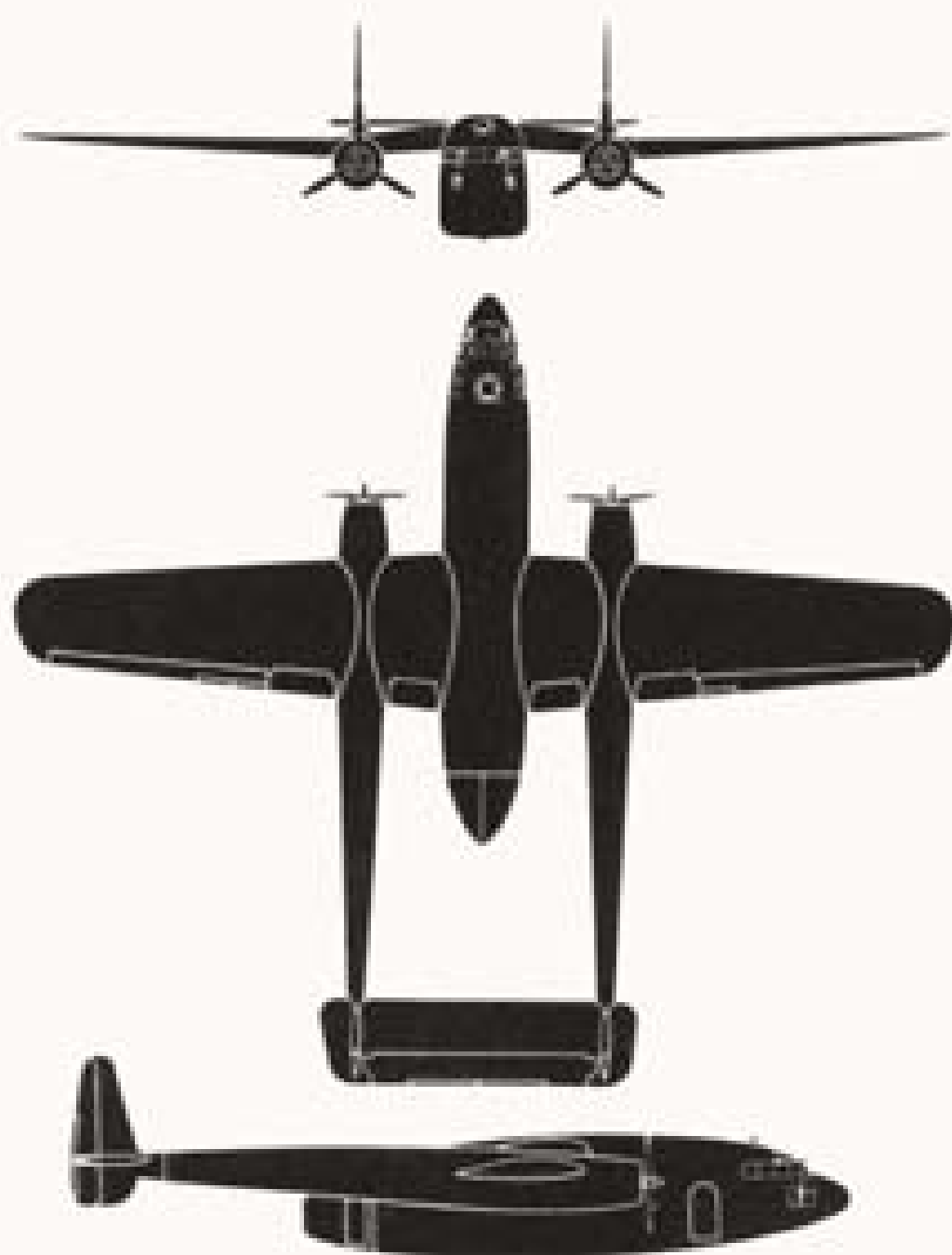
C-97 STRATO-FREIGHTER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 38P-1800



The Packet C-119 is a twin-engine high-wing monoplane. The fuselage is suspended from the wing and has a squat box-like appearance. The engine nacelles are extended into twin-tail-booms ending in twin-fins and rudders. Due to an extended fuselage beyond the leading edge of the wing, the airplane has a nose heavy appearance. This is an improved version of the C-82, "Flying Boxcar". The principal change being the relocation of the flight deck for improved vision. The primary use is for cargo and troop transport. The C-119 is also used in casualty evacuation. The doors in the rear of the fuselage open the full width of the fuselage to facilitate loading.

SPAN: 109'4". **LENGTH:** 85'10".
ENGINE: R-4360/3,000 h. p.
SPEED: 239 knots/18,009 ft.
RANGE: 1,720 nautical miles/152 knots.
ARMAMENT: None.



FAIRCHILD

RESTRICTED

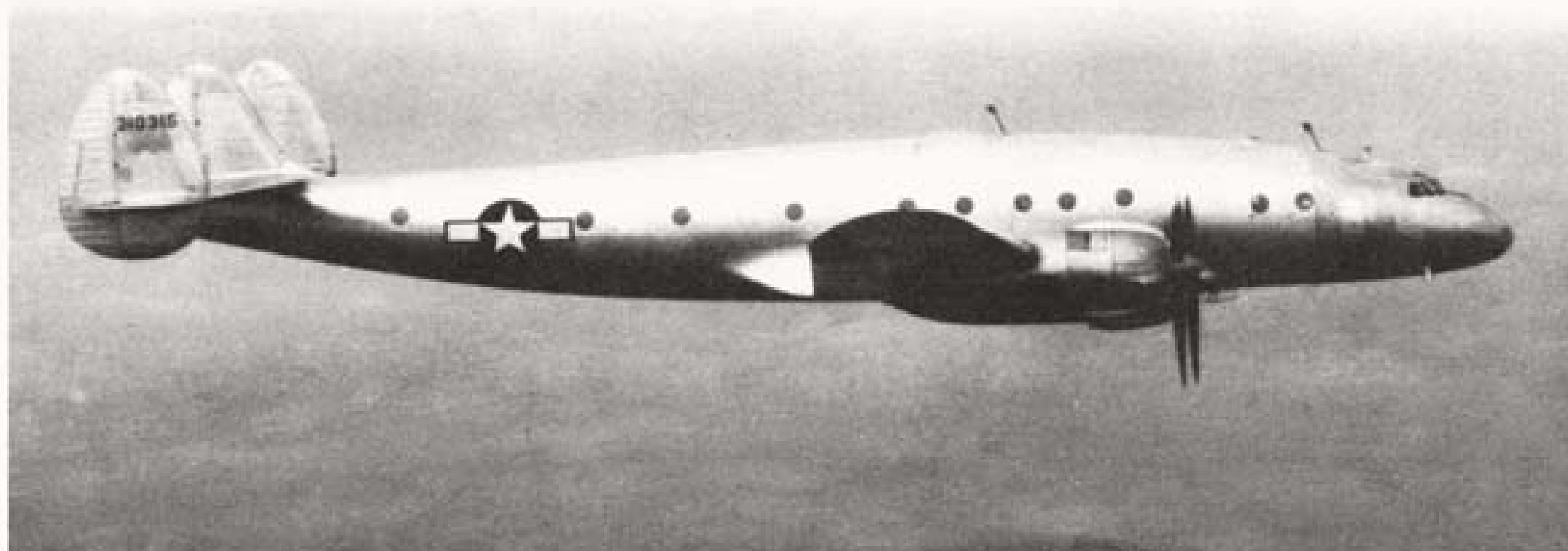
C-119 PACKET



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Constellation is a low-wing monoplane with four underslung radial engines. The wings have pronounced sweepback and dihedral with slightly tapered trailing edges. The empennage incorporates three fins and three rudders with the horizontal stabilizer extending beyond the outboard fins and rudders. A silhouette of the fuselage resembles the cross section of an airfoil. The C-121 is an improved version of the original C-69 which was developed during World War II. The commercial counterpart is the Model 749. It carries 44 to 64 passengers and a crew of 9. As a cargo carrier, it contains 2,844 cubic feet of cargo space.

SPAN: 123'0".

LENGTH: 95'4".

ENGINE: R-3350/2,200 h. p.

SPEED: 330 knots/15,700 ft.

RANGE: 1,605 nautical miles/189 knots.

ARMAMENT: None.



LOCKHEED

RESTRICTED

C-121 CONSTELLATION



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1000



The L-13 is a high-wing liaison monoplane powered by a single radial engine. The wings are braced to lower fuselage longerons by single steel tube struts on each side and can be folded for storage. The outer sections of the wings have a sharp taper on the trailing edge and a slightly swept-back leading edge with square tips. Tailplane is mounted halfway up the fin and is braced to the fuselage on each side. The fin and rudder, evenly tapered on leading and trailing edges, has a square top. Designed as a general liaison, observation, photographic, and ambulance aircraft with steep take-off and landing angles.

SPAN: 40'6".

LENGTH: 31'10".

ENGINE: O-425/250 h. p.

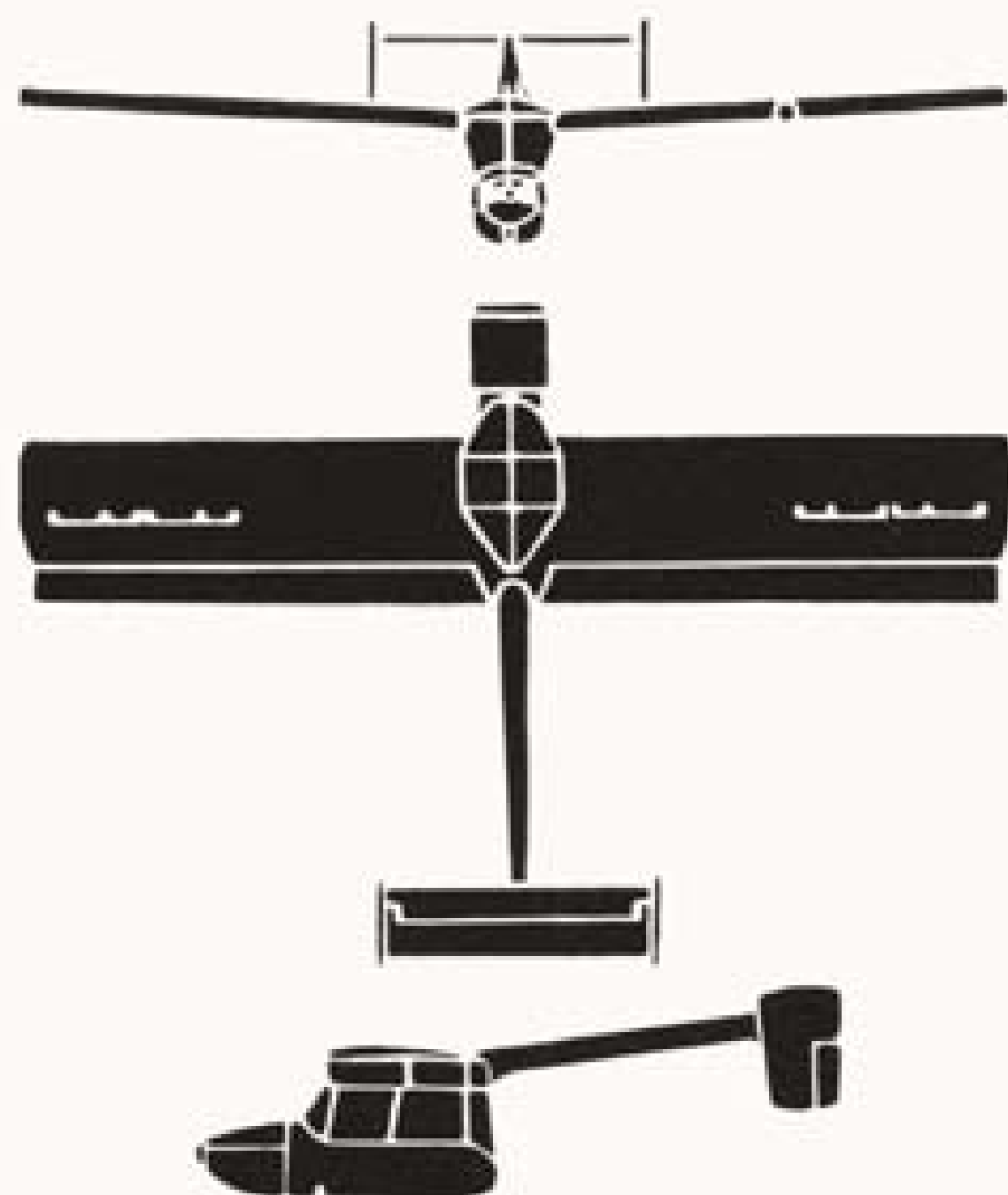
SPEED: 102 knots/sea level.

RANGE: 333 nautical miles/75 knots.

ARMAMENT: None.







The L-15A is a high-wing light two-seat monoplane of unconventional design. The fuselage is short and terminates just aft of the trailing edge of the wing. The crew of two have excellent visibility in all directions and the rear seat can face either forward or aft. The wing has dihedral from the center section and has attached a single tubular tail boom. At the after end of the boom there is a single horizontal tail with underslung fins attached to the blunt tips. The fuselage has a fixed tricycle landing gear. However, skis, floats or an attachment for the installation of the Brodie gear to permit hooking on or taking off from a cable may be fitted.

SPAN: 40'0".

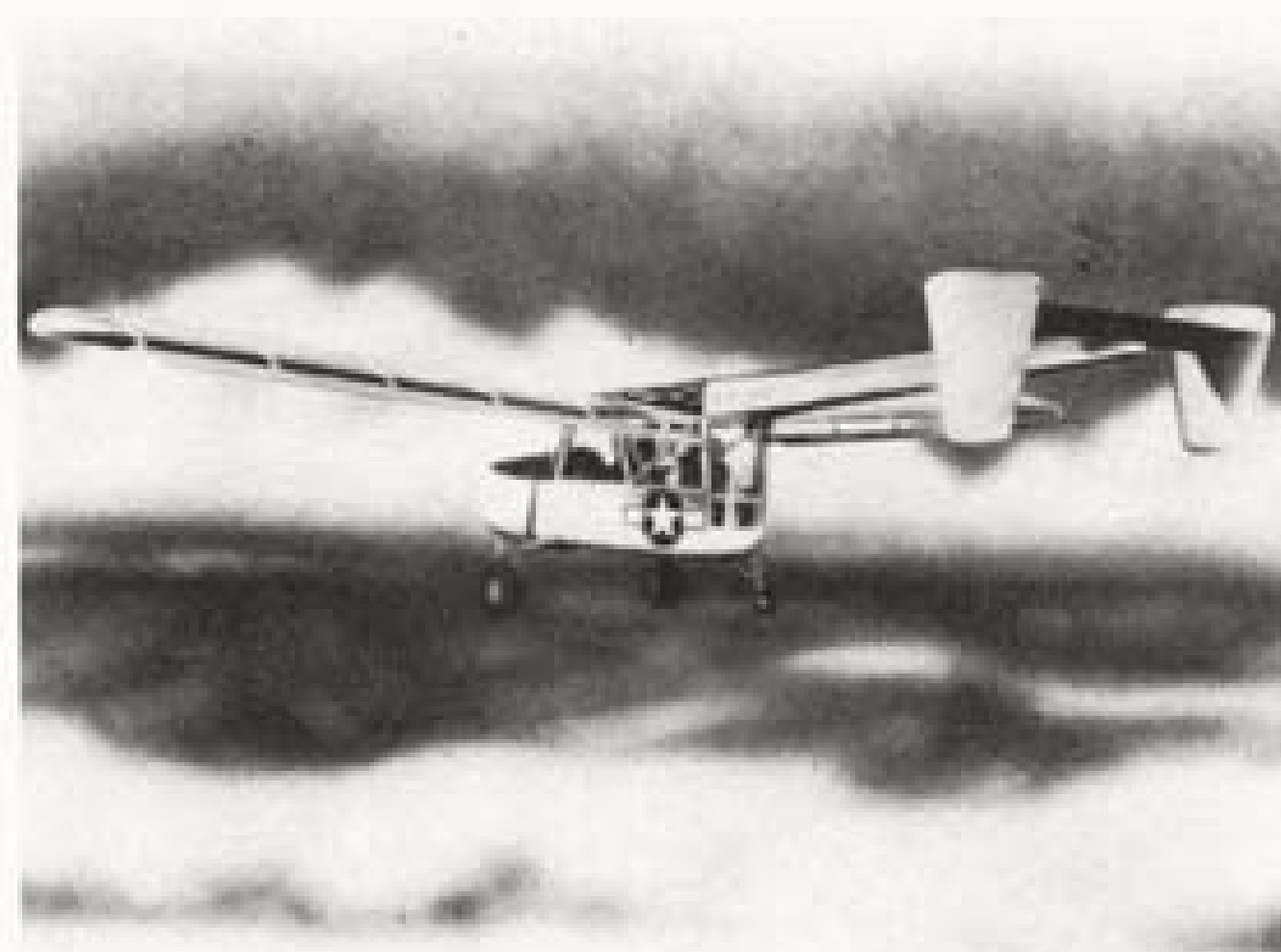
LENGTH: 26'1".

ENGINE: 130 h. p. Franklin.

SPEED: 100 knots/sea level.

RANGE: 435 nautical miles/85 knots.

ARMAMENT: None.



BOEING

RESTRICTED

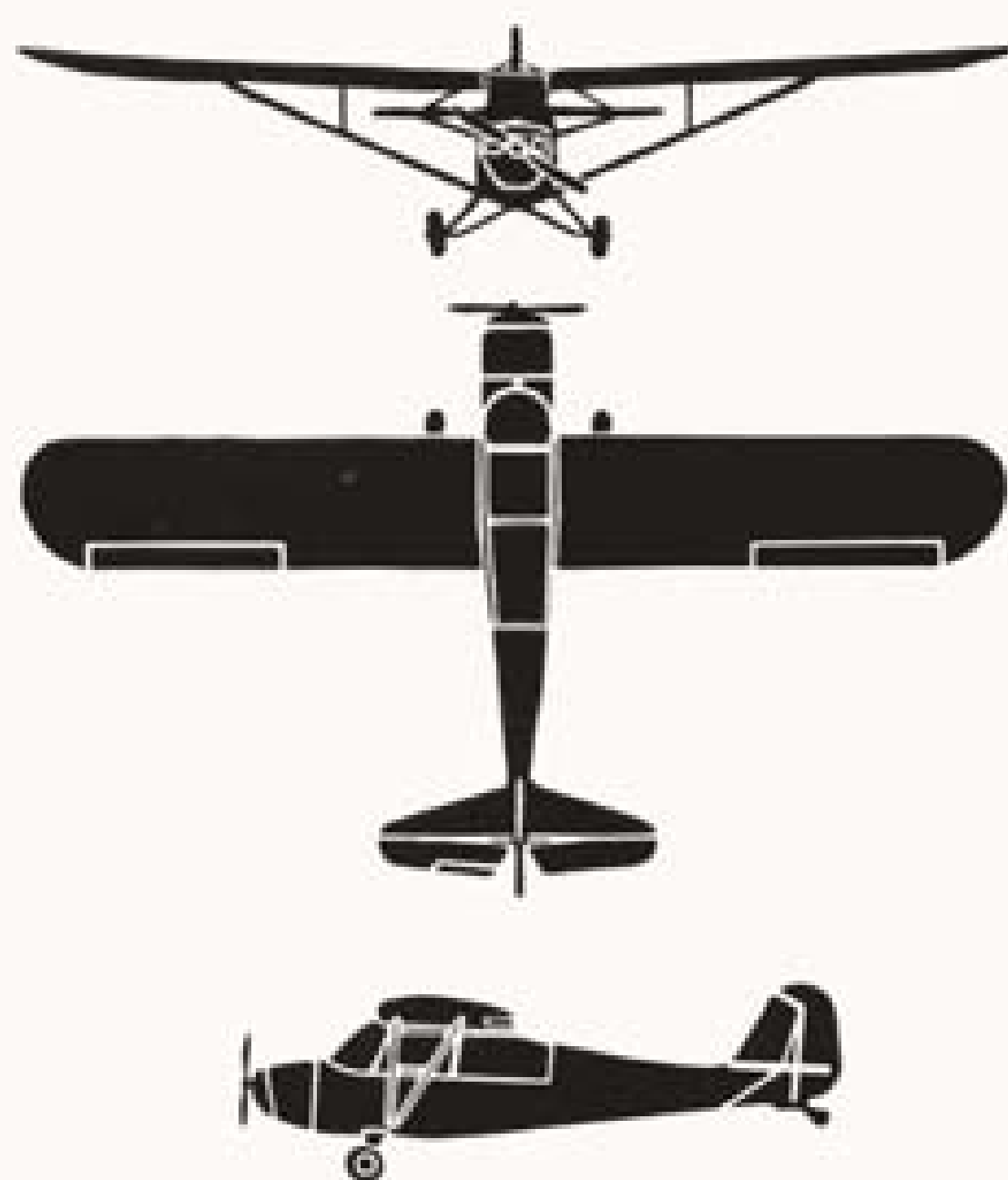
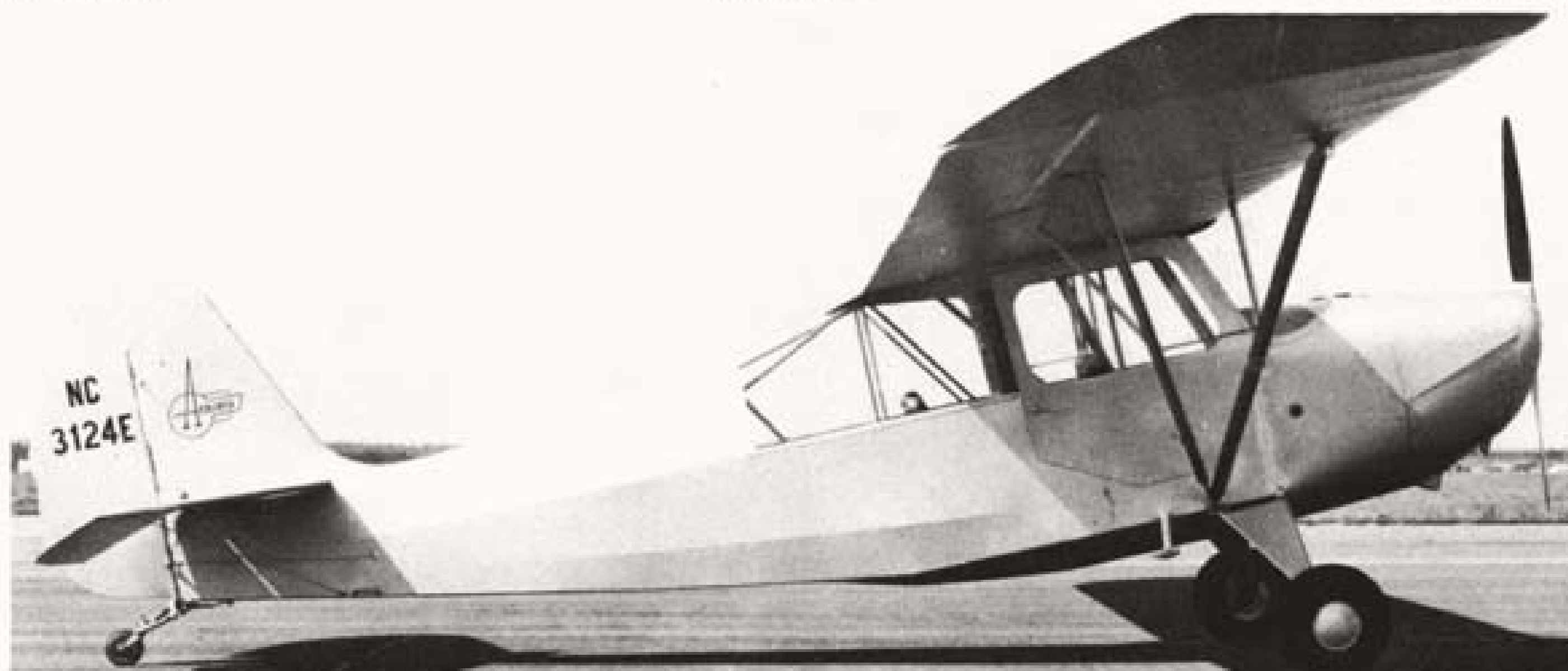
L-15A



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 38P-1900



The Champion is a high-wing liaison airplane powered by a single radial engine. The propeller hub is set high on an engine cowl. The wings have slight dihedral and the leading and trailing edges of the wings are straight with rounded tips. A single fin and rudder has a curved leading edge, a rounded top, and a rather straight trailing edge. This Aeronca built airplane is capable of operating from small sod or turf runways and can land and take off from small landing fields. The L-16 performs the following liaison aircraft functions: short range observation, light cargo, courier service, and air evacuation. Used primarily by Army Ground Forces.

SPAN: 35'2". **LENGTH:** 21'5".
ENGINE: O-190-1 (C-85-8FJ)/85 h. p.
SPEED: 83 knots/sea level.
RANGE: 145 nautical miles/61 knots.
ARMAMENT: None.



AERONCA

RESTRICTED

L-16 CHAMPION



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Navion is a four-passenger, low-wing liaison airplane powered by a single radial engine. The fuselage, from engine to rear of cockpit canopy, resembles a streamlined automobile. The engine cowl is round with a propeller hub set near the top of the cowl. The wings have distinct dihedral with rather straight leading edge and evenly tapered trailing edge with square wing tips. A single fin and rudder has a sharply tapered leading edge with a square top and slightly tapered trailing edge. The L-17 has a steerable nose wheel, hydraulically actuated landing gear and wing flaps, and variable-pitch propeller.

SPAN: 33'5".

LENGTH: 27'4".

ENGINE: 0-470-7/267 h. p.

SPEED: 135 knots/sea level.

RANGE: 539 nautical miles/knots.

ARMAMENT: None.



RYAN

RESTRICTED

L-17 NAVION



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Privateer, similar to the PB4Y-1 except for the single fin and rudder and longer fuselage, is one of the Navy's standard patrol planes. The wing is long, slender and mounted high and far back on the fuselage. The fin and rudder is very tall and fairs into the dorsal side of the fuselage. The "tear-drop" side blisters are very apparent from the plan view. The fuselage is of a "boxcar" shape with turrets in both the nose and tail. The PB4Y-2 has a shorter take-off distance than its predecessor, the PB4Y-1, requiring only 2,550 feet as compared to 5,400 feet required for the older type. The PB4Y-2 is longer by 6 feet and higher by 12 feet.

SPAN: 110'0". **LENGTH:** 74'7".
ENGINE: R-1830/1,350 h. p.
SPEED: 206 knots/13,750 ft.
RANGE: 2,700 nautical miles/121 knots.
ARMAMENT: 12 x .50 cal.



CONVAIR

RESTRICTED

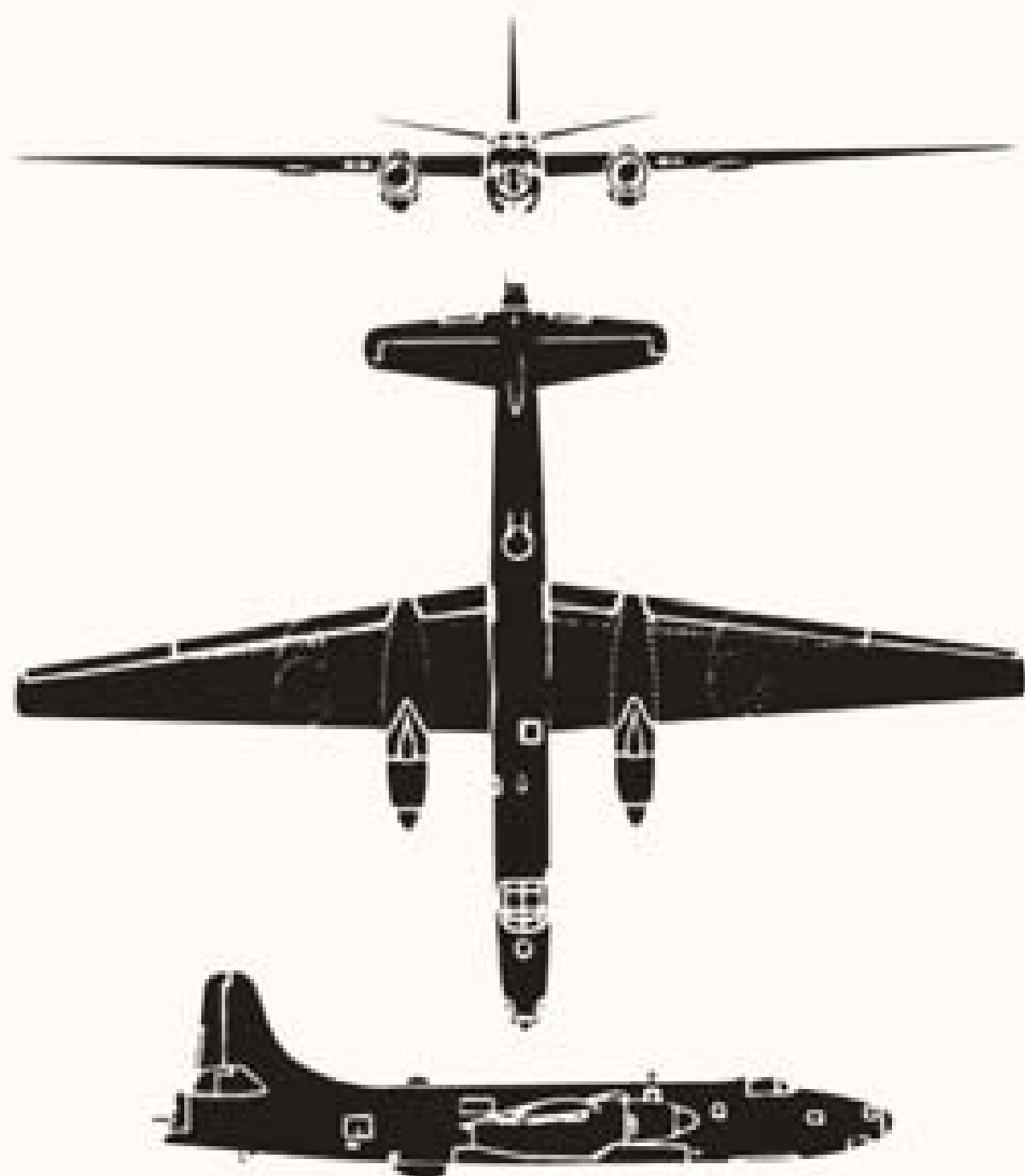
PB4Y-2 PRIVATEER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Mercator is a mid-wing long range high altitude patrol and search plane; designated the P4M. It is powered by two radial reciprocating engines and two jet engines. The jets are housed in the nacelles directly below the reciprocating engines. The long rather narrow tapering wing is located midway along the fuselage and the undercarriage retracts into the wings outboard of the engines. A nose wheel is situated below the pilot's cockpit. A high vertical fin fairs smoothly into the fuselage and there is a tail gunner position just aft of the rudder. The stabilizer has even taper with rounded tips and considerable dihedral.

SPAN: 113'10". **LENGTH:** 86'3".
ENGINE: R-4360/2,650 h. p.; J33-A-10,
2,300-lb. thrust.
SPEED: 356 knots/20,000 ft.
RANGE: 2,730 nautical miles/154 knots.
ARMAMENT: 4 x 20 mm.; 2 x .50 cal.



MARTIN

RESTRICTED

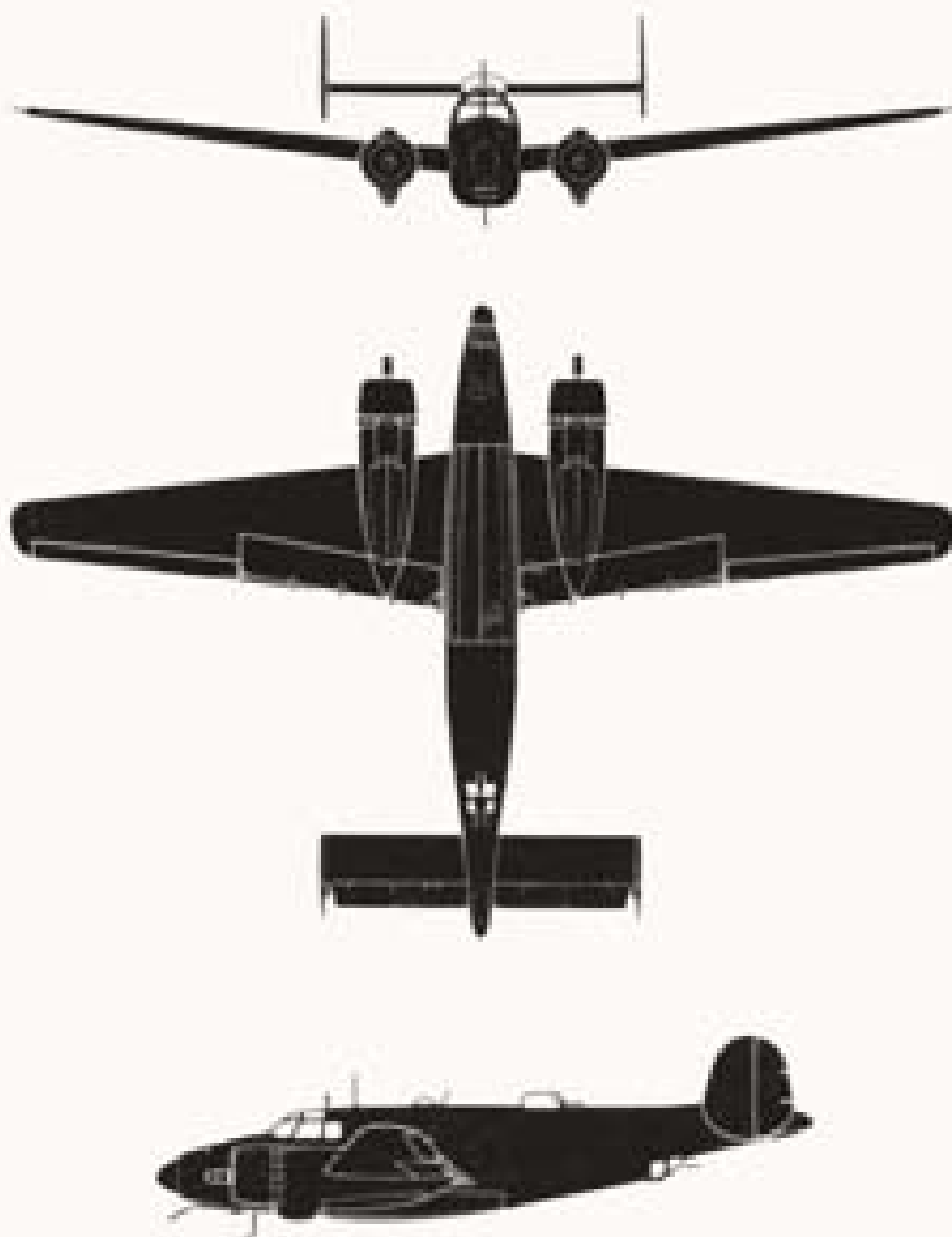
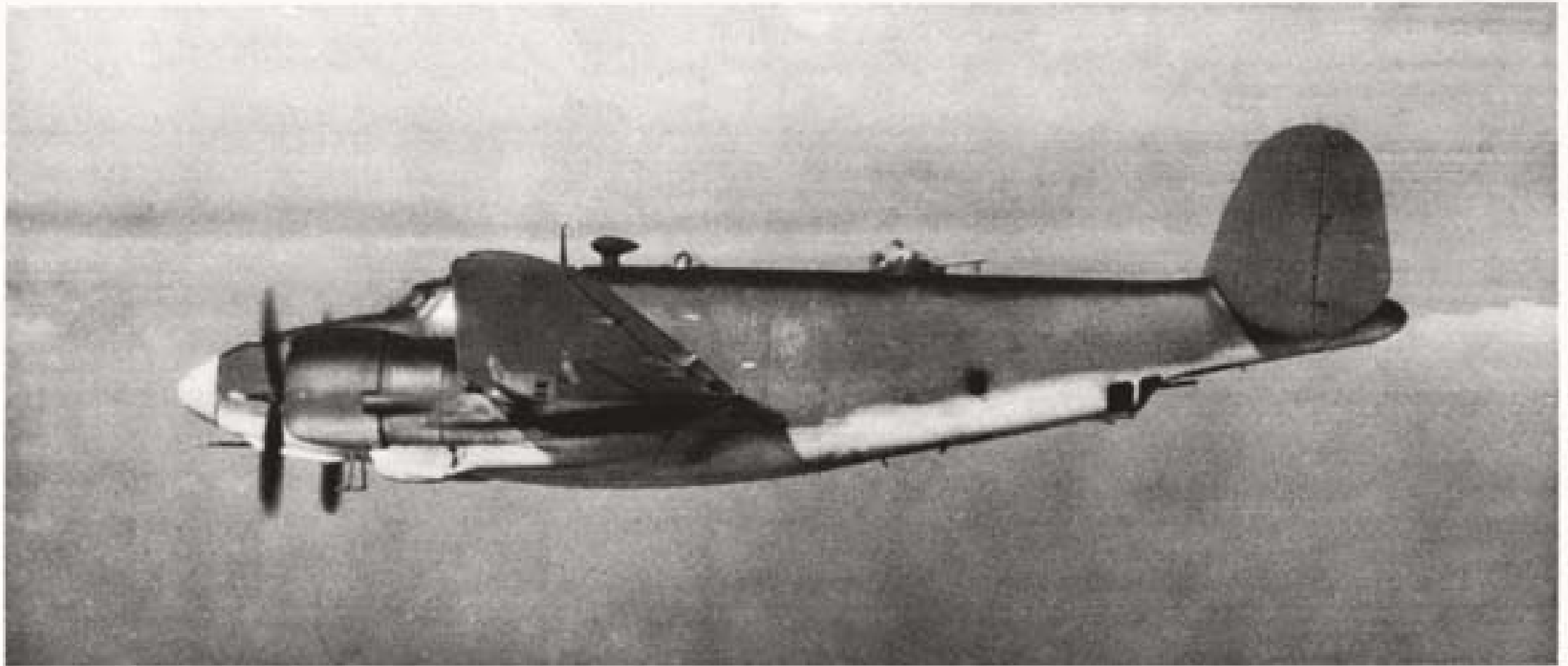
P4M-1 MERCATOR



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The PV-2 Harpoon, basically an improved PV-1 Ventura, stemmed from the Lockheed 14 commercial transport of prewar days. It is a twin-engine mid-wing monoplane with twin fins and rudders mounted high on the tail of the fuselage. The long, narrow wing tapers to rounded tips and has dihedral from the roots. The engine nacelles are low-mid-mount on the wing and are close to the fuselage. The fuselage has a pointed nose, a deep center section and a pointed tail. A turret rises abruptly from the even dorsal fuselage line and a belly turret interrupts the smooth upsweep of the ventral fuselage line.

SPAN: 75'0".

LENGTH: 52'1".

ENGINE: R-2800/2,000 h. p.

SPEED: 266 knots/15,200 ft.

RANGE: 1,650 nautical miles/143 knots.

ARMAMENT: 9 x .50 cal



LOCKHEED

RESTRICTED

PV-2 HARPON



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Neptune is a high mid-wing patrol plane with tremendous range, speed and bomb load. It is readily recognized by its tall bell-shaped fin and rudder, two tapering outer wings and the long untapered engine nacelles projecting far forward of the wing. The "fish head" nose of the fuselage is also distinctive. The P2V is rapidly replacing other Naval land based patrol planes. A modified version of the Neptune known as the "Truculent Turtle" set a world's long distance record of 11,236 miles on 1 October 1946 after having flown non-stop from Perth, Australia, to Columbus, Ohio. It is exceptionally maneuverable at all altitudes.

SPAN: 100'0".

LENGTH: 77'11".

ENGINE: R-3350/2,800 h. p.

SPEED: 282 knots/1,200 ft.

RANGE: 3,120 nautical miles/154 knots.

ARMAMENT: 6 x 20 mm.; 4 x .50 cal.



LOCKHEED

RESTRICTED

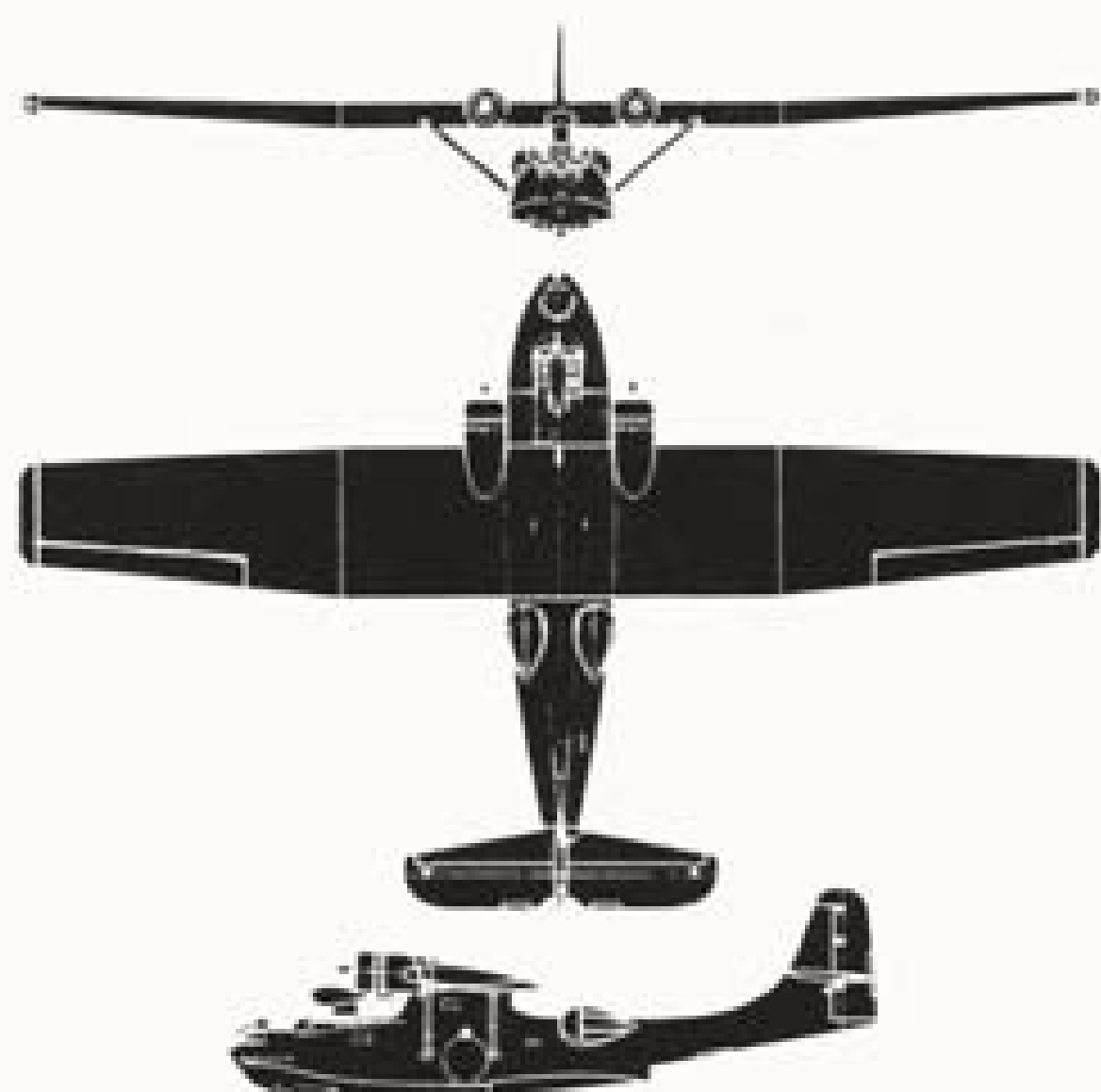
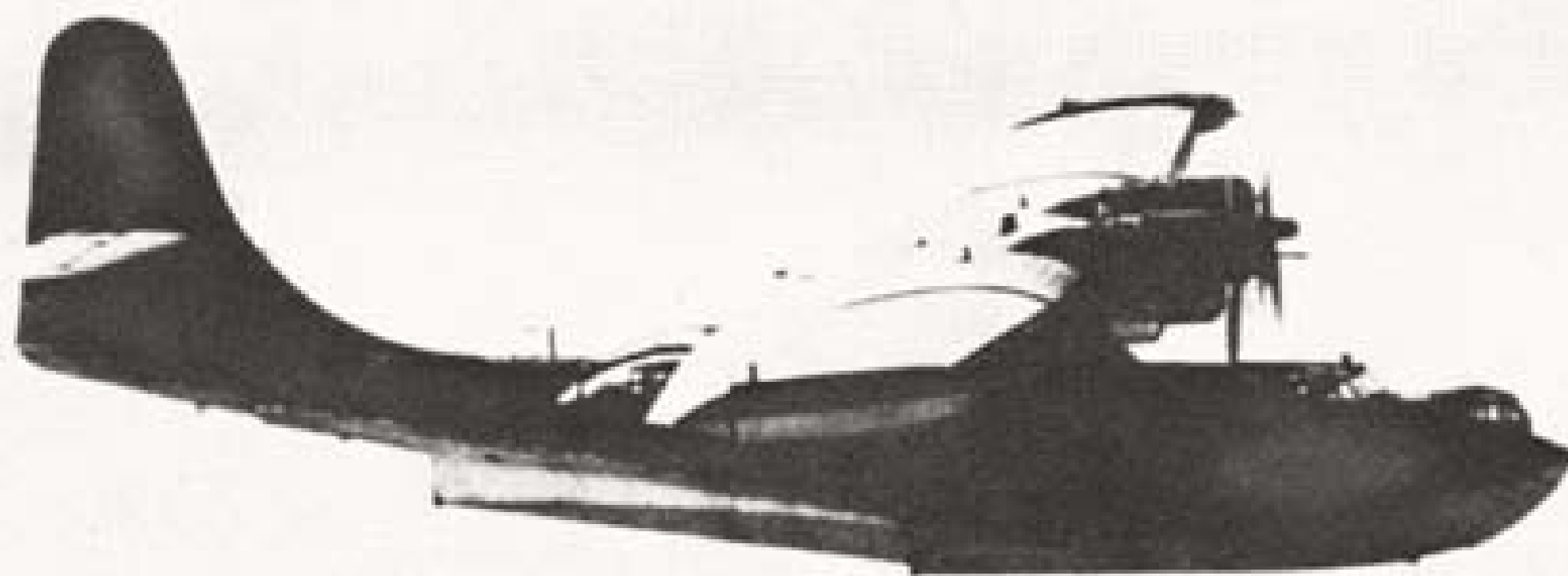
P2V NEPTUNE



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The fabulous "Cat" is probably the most famous patrol plane in existence. Its exploits range over five oceans, from patrols to night torpedo operations, from evacuating the only person from Wake Island to trailing the German battleship Bismarck until it was sunk. Its design is a direct development of the PY-1 boats of 1928. The XP3Y-1, prototype PBY, first flew in the spring of 1935, and after tests, it established an international distance record by flying non-stop from Norfolk to San Diego via Coco Solo, a distance of 3,443 miles. It is characterized by broad, shallow, sweeping hull, broad parasol wing and high horizontal tail plane.

SPAN: 104'0".

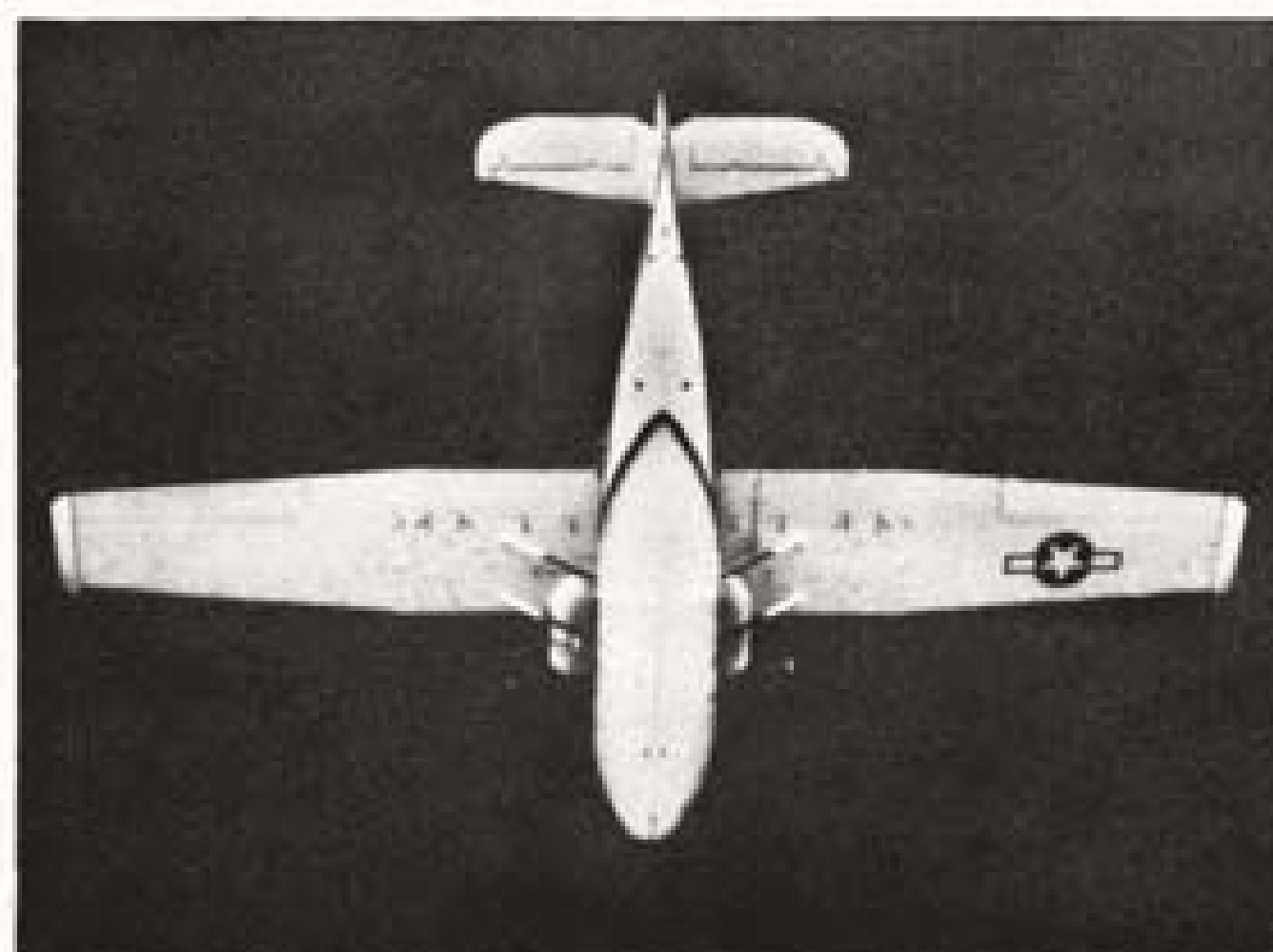
LENGTH: 63'10".

ENGINE: R-1830/1,200 h. p.

SPEED: 160 knots/17,000.

RANGE: 2,214 nautical miles/102 knots.

ARMAMENT: 3 x .30 cal.; 2 x .50 cal.



CONVAIR

RESTRICTED

PBY-6A CATALINA



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Mariner is a nine place patrol bomber and cargo transport with twin canted fins and rudders, and wing floats. An amphibious version, PBM-5A, has a retractable tricycle landing gear. The PBM is the world's largest twin-engined flying-boat and is noted for its long range, and seaworthiness. The hull is deep with blunt nose and with upsweep to the ventral line aft of the second step. The PBM played an important role in World War II, having been used for long range patrols out of newly won bases and for anti-submarine missions. A large number are still in service; it is expected to be one of the standard patrol planes for the immediate future.

SPAN: 118'0".

LENGTH: 79'10".

ENGINE: R-2800/2,100 h. p.

SPEED: 183 knots/16,100 ft.

RANGE: 2,058 nautical miles/115 knots.

ARMAMENT: 8 x .50 cal.



MARTIN

RESTRICTED

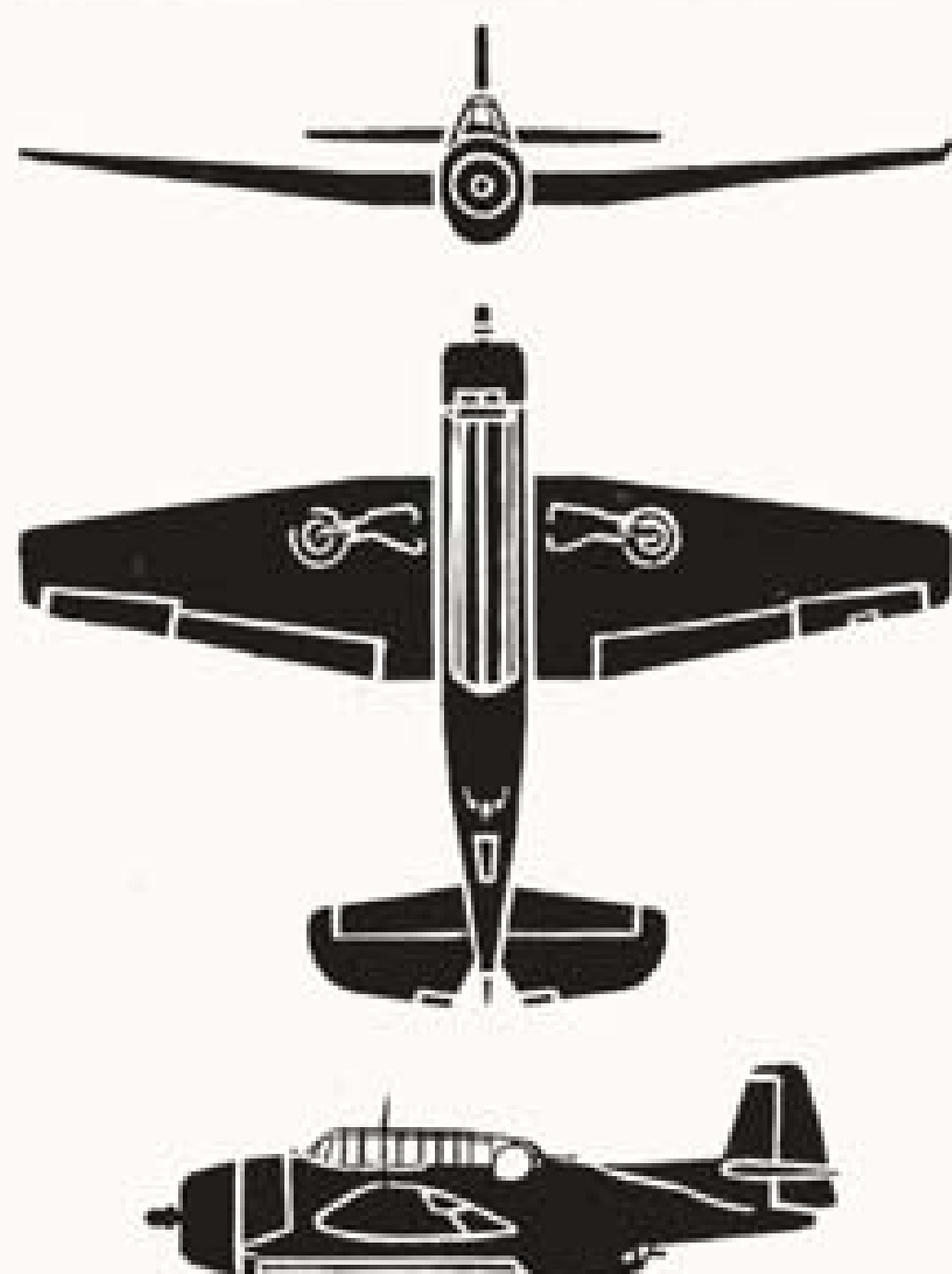
PBM-5 MARINER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The TBM Avenger is a Grumman design (F) later manufactured by General Motors (M), and was the world's best torpedo bomber during World War II. It first gained wide publicity in the Battle of Midway. This versatile aircraft is still widely used in the fleet but is being replaced by single seat type attack aircraft. The Avenger can be recognized by its tall squarish fin and rudder sharply faired into the oversized dorsal turret greenhouse, and the break in the ventral side of the fuselage aft of the trailing edge of the wing. The tapered wing has straight inboard panels and dihedral on the tapered square tipped outboard panels.

SPAN: 54'2". LENGTH: 40'11".
 ENGINE: R-2600/1,800 h. p.
 SPEED: 235 knots/16,500 ft.
 RANGE: 1,510 nautical miles/128 knots.
 ARMAMENT: 3 x .50 cal., 1 x .30 cal.



GENERAL MOTORS

RESTRICTED

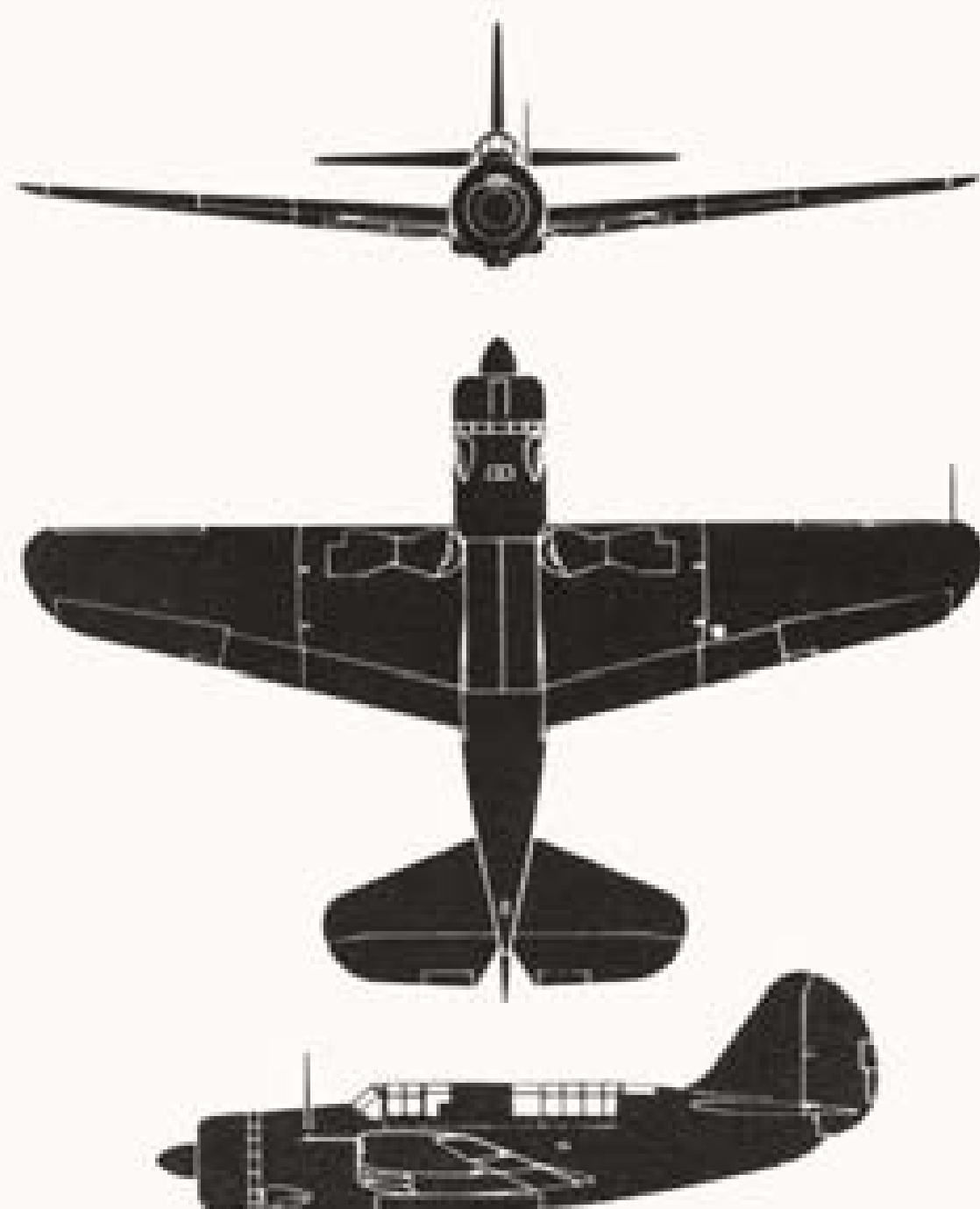
TBM AVENGER



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P-1200**



The Helldiver is a single radial engine low-mid-wing monoplane. The wing has a straight leading edge and tapered trailing edge with full dihedral. A long cockpit enclosure extends aft nearly to the high broad fin and rudder. The ventral side of the fuselage has a continuous curve from nose to tail. The SB2C was one of the largest operational single engine aircraft used in the last years of World War II. It was designed to carry bombs, depth charges, mines or torpedoes and to operate from a carrier. The SB2C replaced the SBD as the standard carrier based dive bomber, but is now rapidly being replaced by single seat attack type aircraft.

SPAN: 49'8".

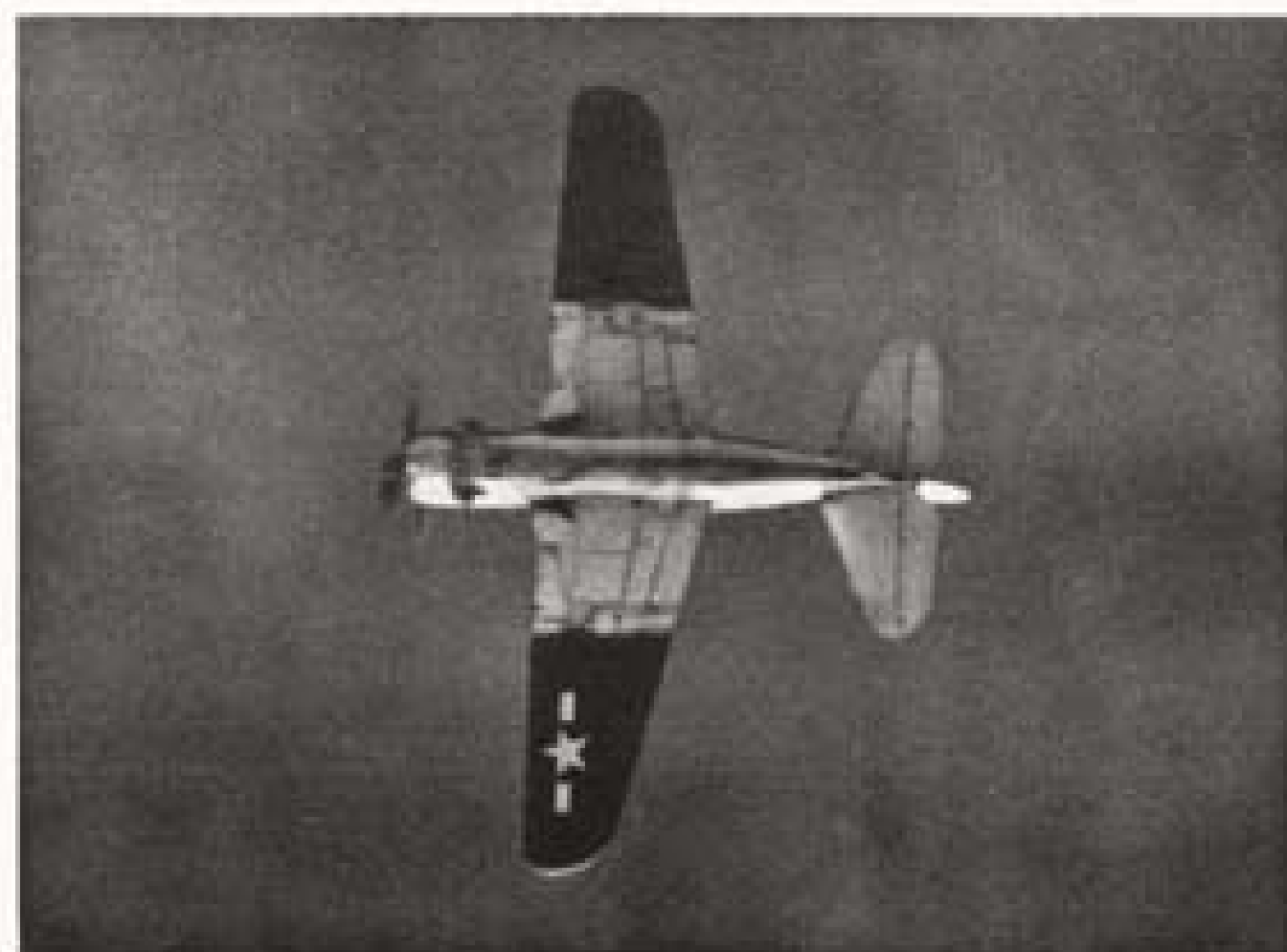
LENGTH: 36'8".

ENGINE: R-2600/1,900 h. p.

SPEED: 258 knots/16,700 ft.

RANGE: 1,245 nautical miles/135 knots.

ARMAMENT: 2 x 20 mm.; 2 x .30 cal.



CURTISS-WRIGHT

RESTRICTED

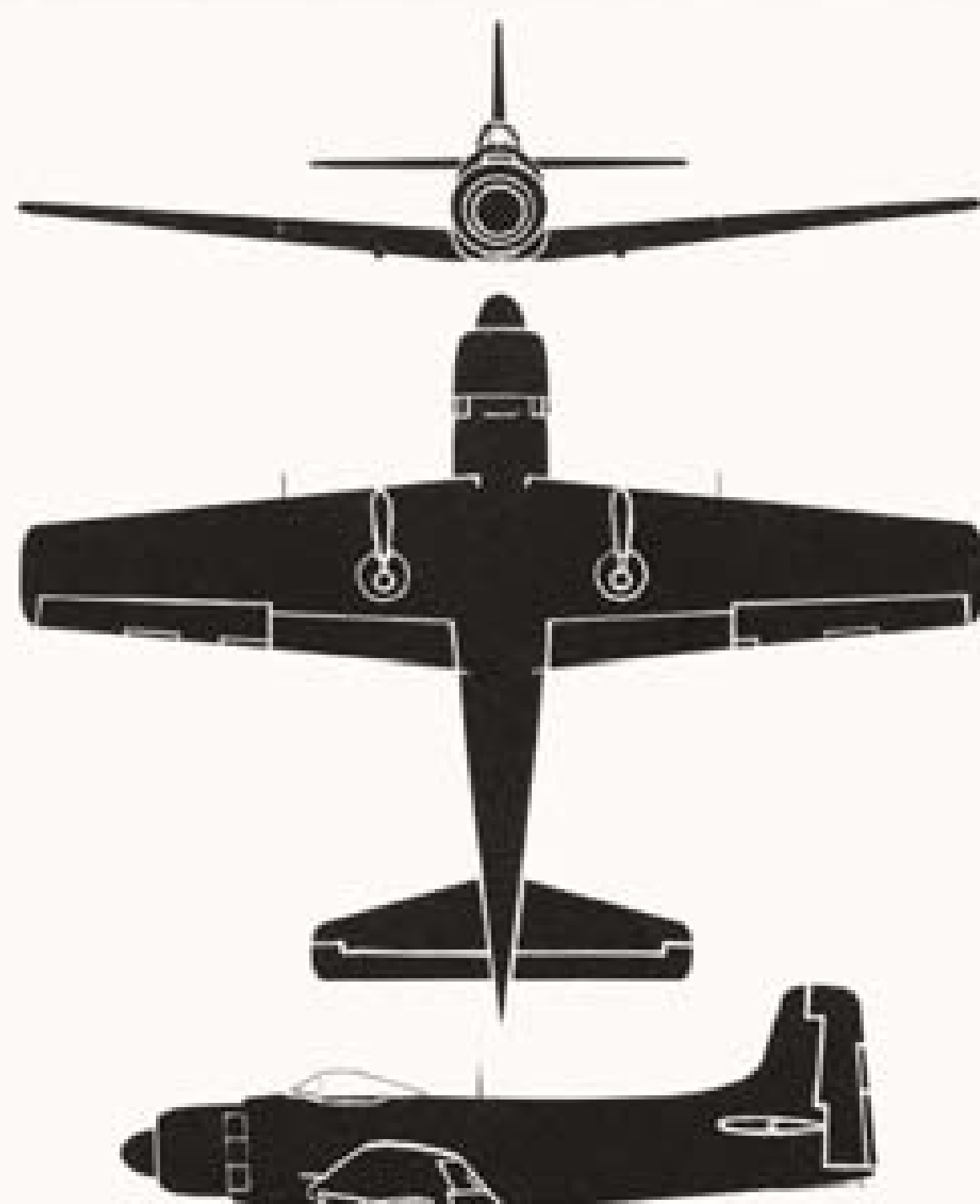
SB2C HELLDIVER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Skyraider is a single-seat, high speed attack airplane. A load of 4,000 pounds can be carried and may include one or more torpedoes slung externally. The recognition features of this aircraft are: long untapered fuselage with comparatively small fin and rudder, small engine cowling, and bubble canopy located well forward giving the pilot good visibility. The AD is equipped with fuselage dive brakes opening from both the sides and bottom of the slab sided fuselage. When a bomb is carried under the fuselage it is forced clear of the propeller arc, during dive bombing attacks, by the discharging of a powder filled cartridge.

SPAN: 50'0".

LENGTH: 39'3".

ENGINE: R-3350/2,800 h. p.

SPEED: 326 knots/13,600 ft.

RANGE: 1,345 nautical miles/142 knots.

ARMAMENT: 2 x 20 mm & rockets.



DOUGLAS

RESTRICTED

AD-1 SKYRAIDER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 39P-1200



The Mauler is a single-seat attack aircraft, powered by one of the most powerful reciprocating engines in operation. It is to be noted for recognition that the AM's assembly is sweptforward with a large dorsal fairing. The bubble canopy is just above the low, evenly tapered wing which has a straight inboard panel with dihedral outboard and blunt wing tips. This very clean design by Martin combines an all metal construction with bulletproof tanks, armor protection and flak resisting glass. It can carry an armament load of more than 9,000 pounds. The AM-1 was designed for use aboard the large CVB aircraft carriers of the Midway Class.

SPAN: 50'0".

LENGTH: 41'2".

ENGINE: R-4360/3,500 h. p.

SPEED: 319 knots/16,000 ft.

RANGE: 1,330 nautical miles/155 knots.

ARMAMENT: 4 x 20 mm & rockets.



MARTIN

RESTRICTED

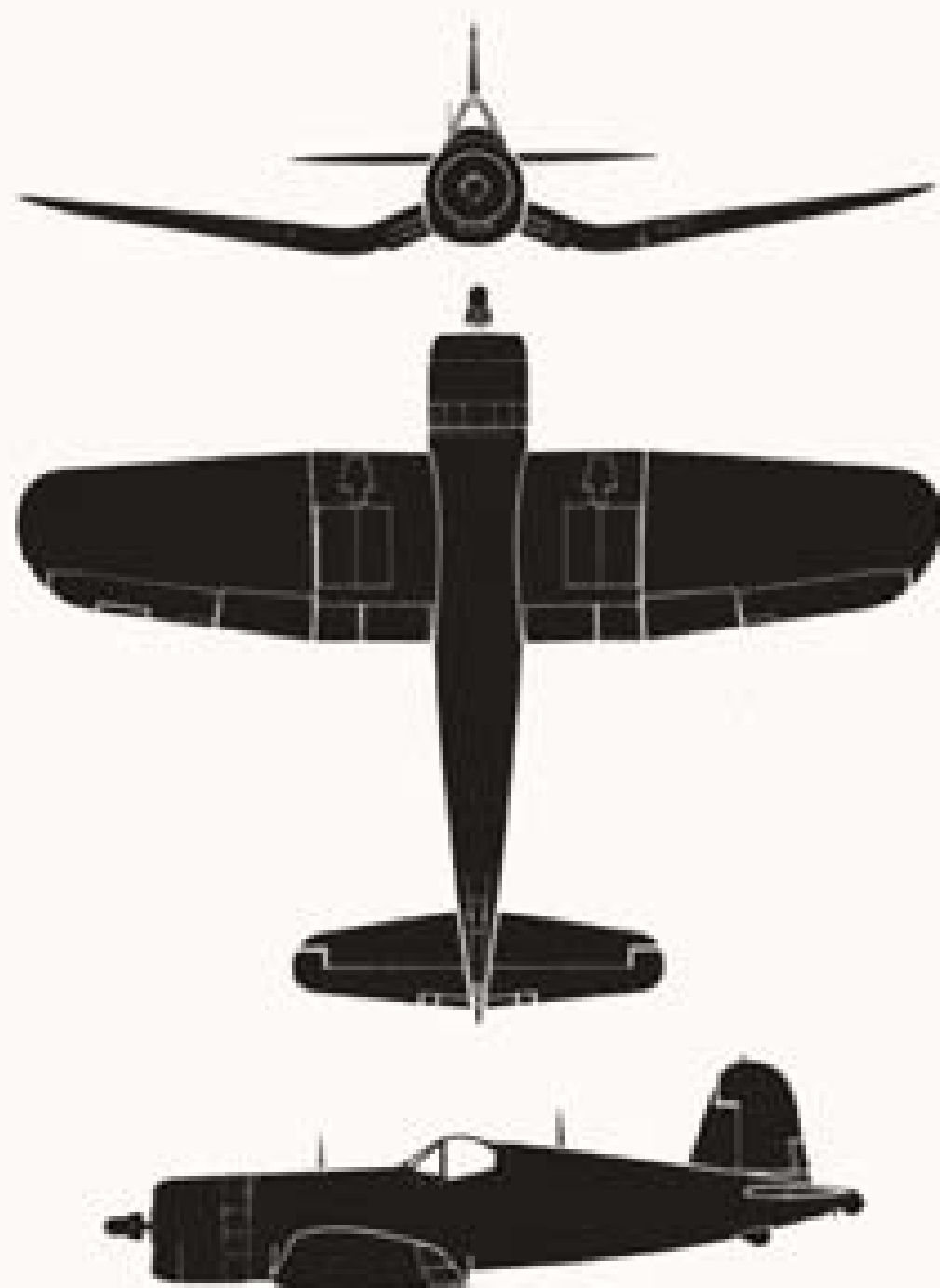
AM-1 MAULER



USA
MAY 1949

RESTRICTED

AFM 50.40
OPNAV 32P-1800



The Corsair, a World War II fighter, is still widely used aboard carriers and in land based fighter squadrons. It is easily recognized by the inverted gull wing and fin and rudder set well forward of the projecting fuselage tip. The gull wing in addition to permitting the use of short landing gear struts, also is interesting from a technical viewpoint, as it is a major factor in lowering the F4U's landing speed to below 70 knots. The wings acting with flaps, "cup" the air, causing actual compression a few feet before the landing. Between June 1942 and the end of the war over 10,000 F4U's had been delivered. Model F4U-5 is now in delivery to operational units.

SPAN: 41'0".

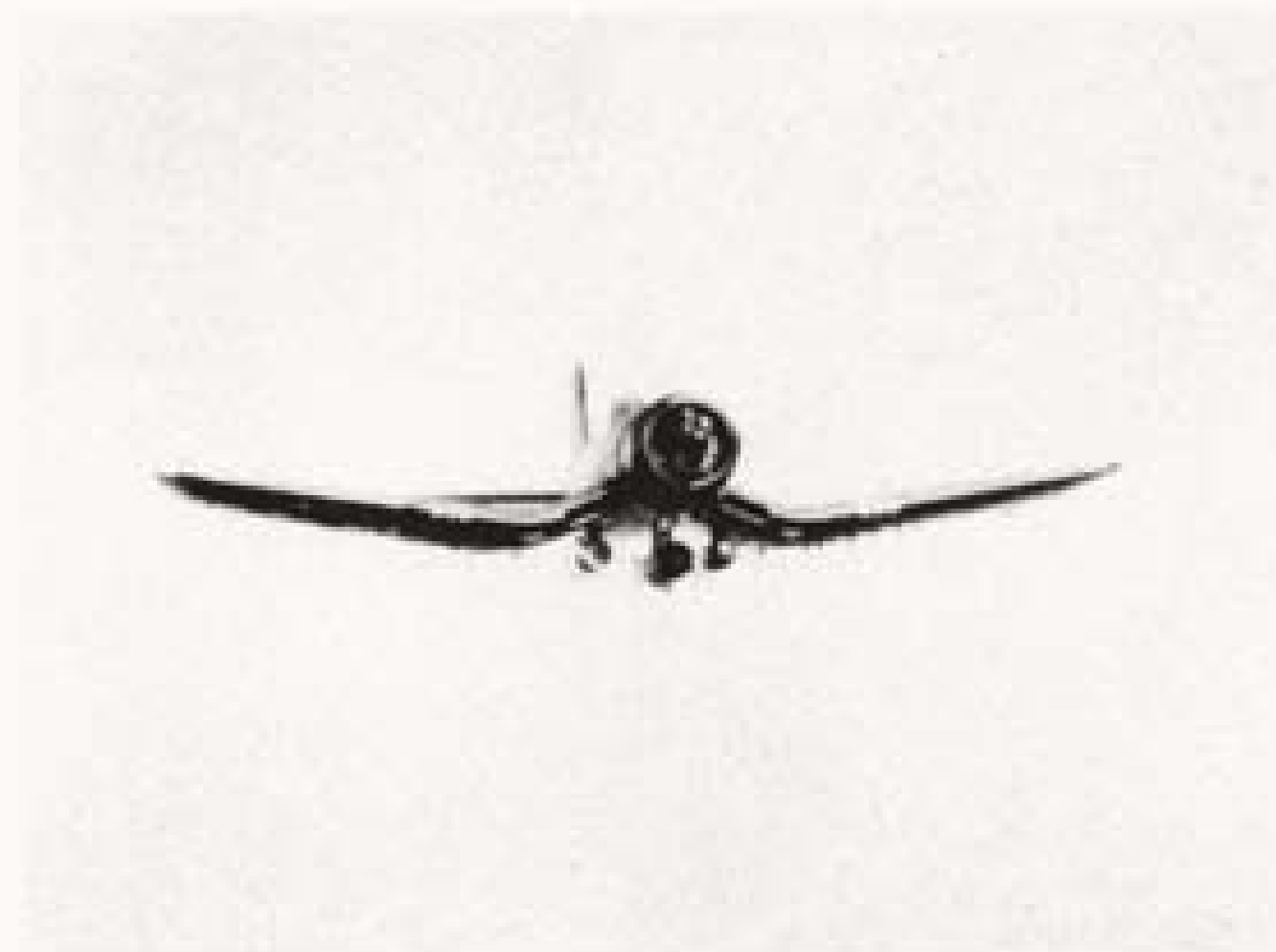
LENGTH: 33'3".

ENGINE: R-2800/2,700 h. p.

SPEED: 401 knots/31,400 ft.

RANGE: 1,190 nautical miles/164 knots.

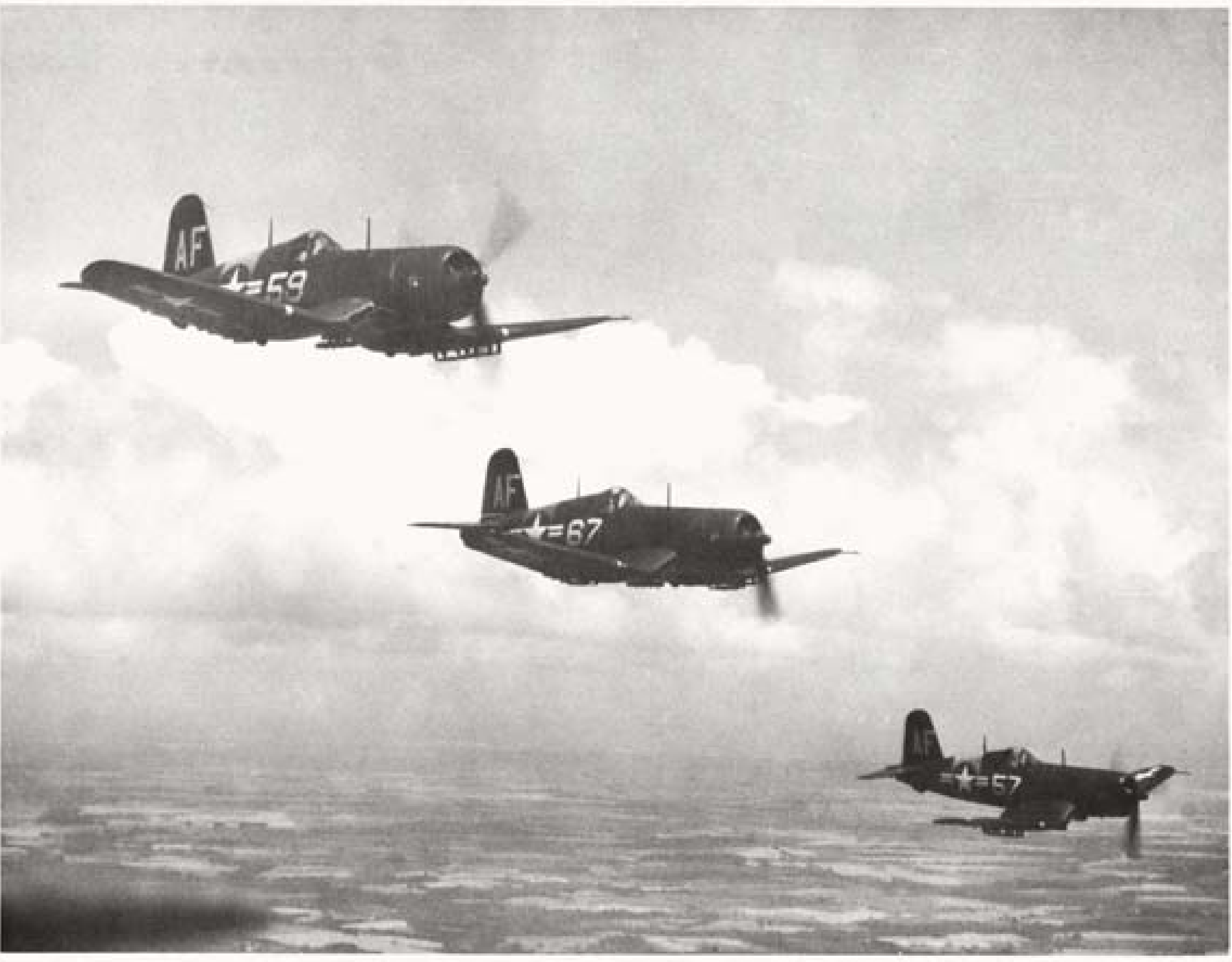
ARMAMENT: 4 x 20 mm & rockets.



CHANCE VUGHT

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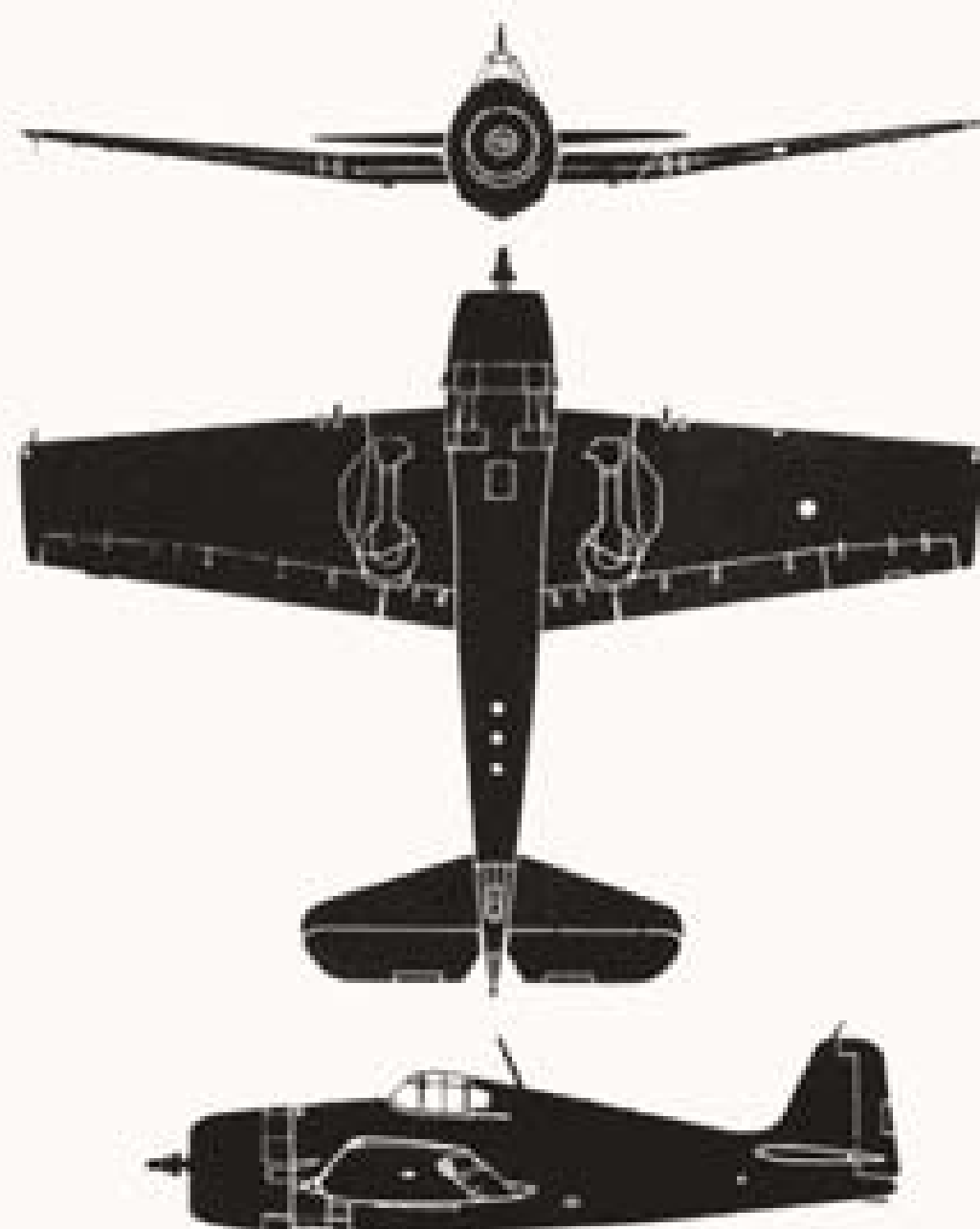
F4U-4 CORSAIR



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The F6F Hellcat is a radial engine, low-mid-wing monoplane. The inboard panels of the wing are horizontal and the outboard panels have dihedral. From a head on view the fuselage is deep egg-shaped with a high narrow cockpit. In the side view the dorsal side of the fuselage fairs into the high cockpit canopy and the fin and rudder tip is blunt. In the plan view the wing is evenly tapered with blunt tips; stabilizer and elevator are long with tapered leading edge, straight trailing edge and rounded tips. This famous fighter of World War II and successor to the F4F, is now used largely by reserves and has been replaced in the fleet by newer type aircraft.

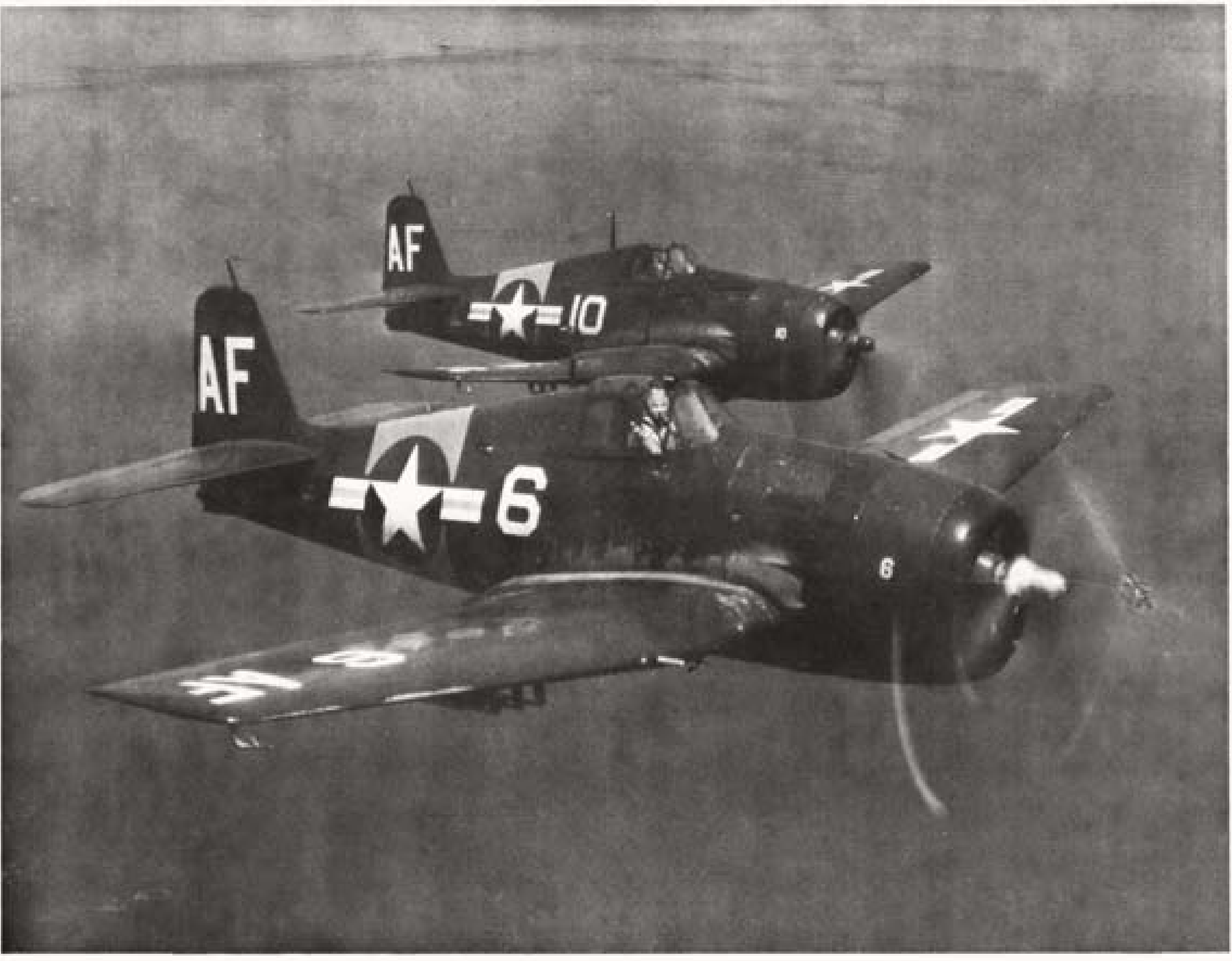
SPAN: 42'10". LENGTH: 33'7".
 ENGINE: R-2800/2,250 h. p.
 SPEED: 335 knots/17,400 ft.
 RANGE: 1,080 nautical miles/143 knots.
 ARMAMENT: 6 x .50 cal & rockets.



GRUMMAN

RESTRICTED

F8F HELLCAT



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The F7F Tigercat is a mid-wing monoplane with single fin and rudder, high mid-mount wing with straight leading edge, sharply tapered trailing edge and squared off tips. Large underslung nacelles project beyond the trailing edge of the wing. The fuselage is long and narrow with a two section cockpit. The long horizontal stabilizer has slightly tapered leading edge and raked tips. This is Grumman's first twin-engine fighter design since the experimental F5F Skyrocket appeared in 1940. The F7F was developed for use from carrier decks but is now used primarily as a land based night fighter by the Navy and Marines.

SPAN: 51'6".

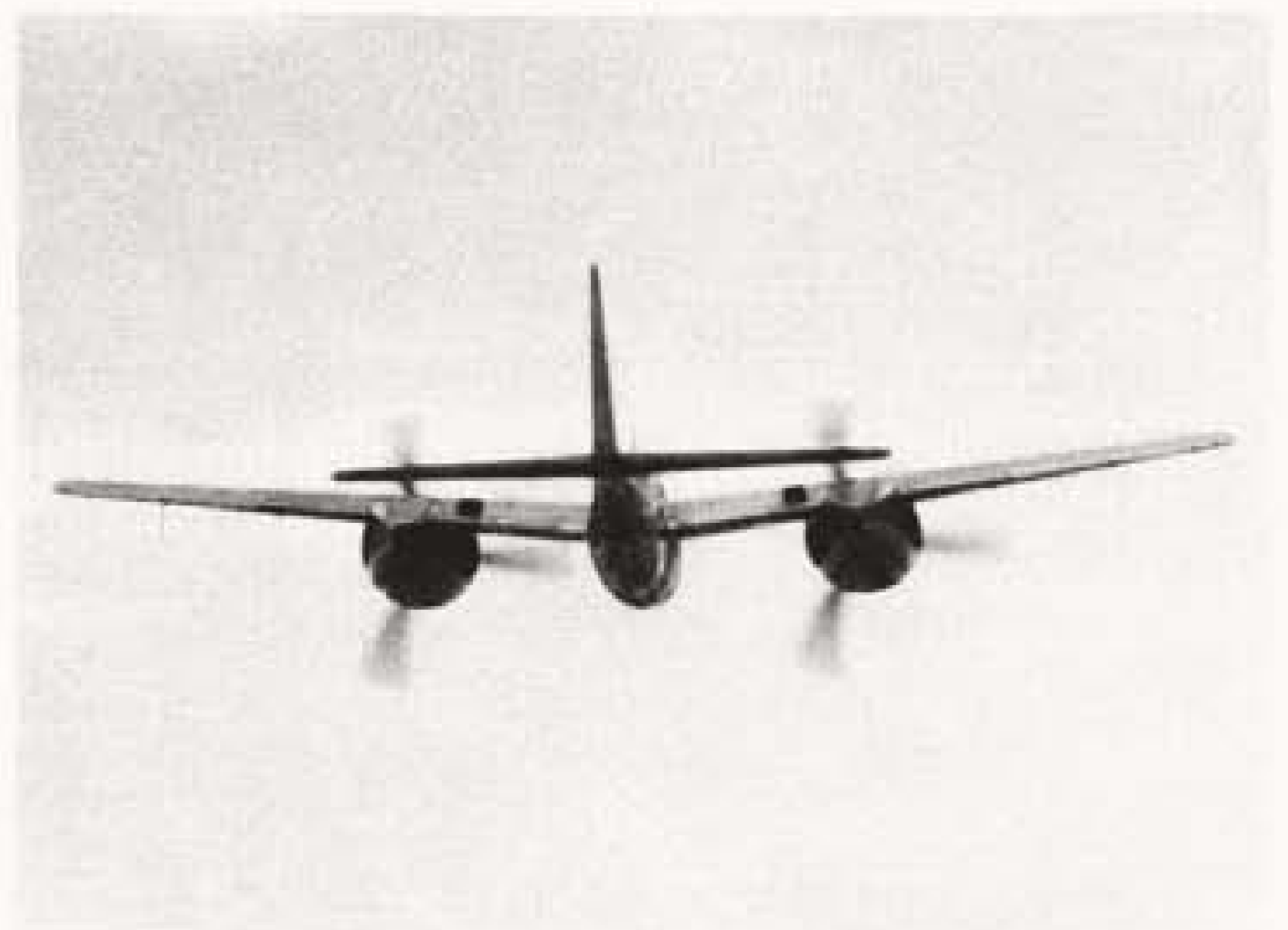
LENGTH: 45'4½".

ENGINE: R-2800/2,380 h. p.

SPEED: 370 knots/19,200 ft.

RANGE: 1,360 nautical miles/190 knots.

ARMAMENT: 4 x 20 mm.; 4 x .50 cal.



GRUMMAN

RESTRICTED

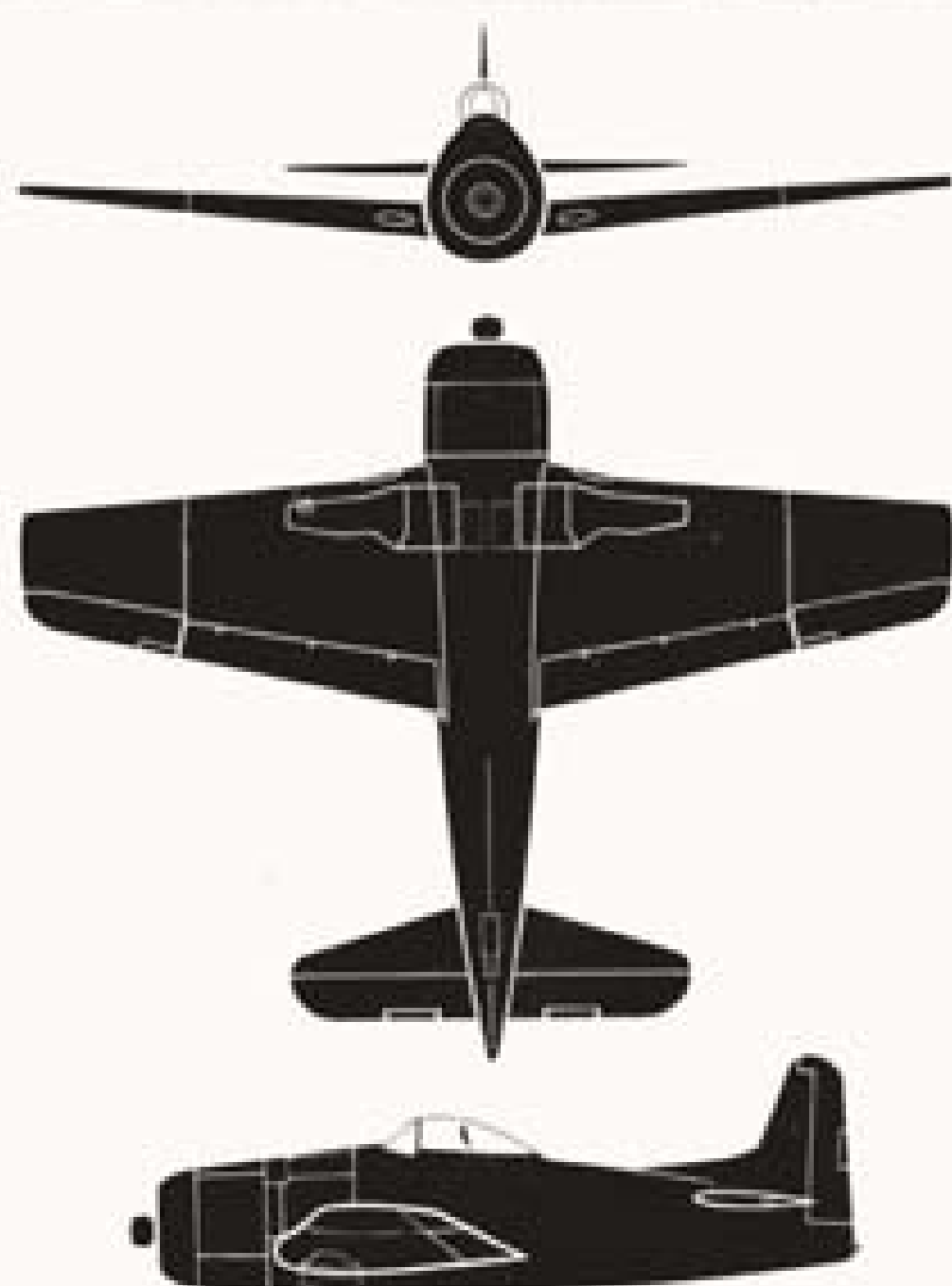
F7F-3 TIGERCAT



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 39P-1200



The evolution of the Grumman fighter has produced this high speed, very maneuverable little fighter, which was with fleet units just prior to VJ-day, but too late for actual combat. Powered with the same horsepower engine as its predecessor, the Hellcat, the Bearcat is lighter, smaller and much cleaner in design. Along with the Corsair it is the Navy's first line conventional engine carrier based fighter. Recognition characteristics are the familiar Grumman stubby fuselage, high bubble canopy and tapered low mid-mount wing with blunt tips. The F8F-2 shown here is actually the same as the F8F-1 with the exception of two 20-mm. cannon.

SPAN: 35'6".

LENGTH: 27'6".

ENGINE: R-2800/2,380 h. p.

SPEED: 370 knots/19,900 ft.

RANGE: 1,140 nautical miles/140 knots.

ARMAMENT: 4 x .50 cal. or 4 x 20 mm.



GRUMMAN

RESTRICTED

F8F-2 BEARCAT



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Panther is the first jet plane produced by Grumman and has very few of the familiar Grumman recognition characteristics. A pressurized cockpit is located far forward on the thick fuselage. Intakes for the single centrifugal flow type jet engine, located in the fuselage aft of the pilot, are in the leading edge of the wing roots. The exhaust is out the ventral side of the fuselage forward of the rudder extremity. A "droop snoot" wing is incorporated to improve landing and take off characteristics. A removable nose section permits rapid changes of armament, electronic or camera equipment to suit the type of mission.

SPAN: 35'3".

LENGTH: 37'8".

ENGINE: J42P or J33A/4,000-lb. thrust.

SPEED: 508 knots/sea level.

RANGE: 945 nautical miles/310 knots.

ARMAMENT: 4 x 20 mm.



GRUMMAN

RESTRICTED

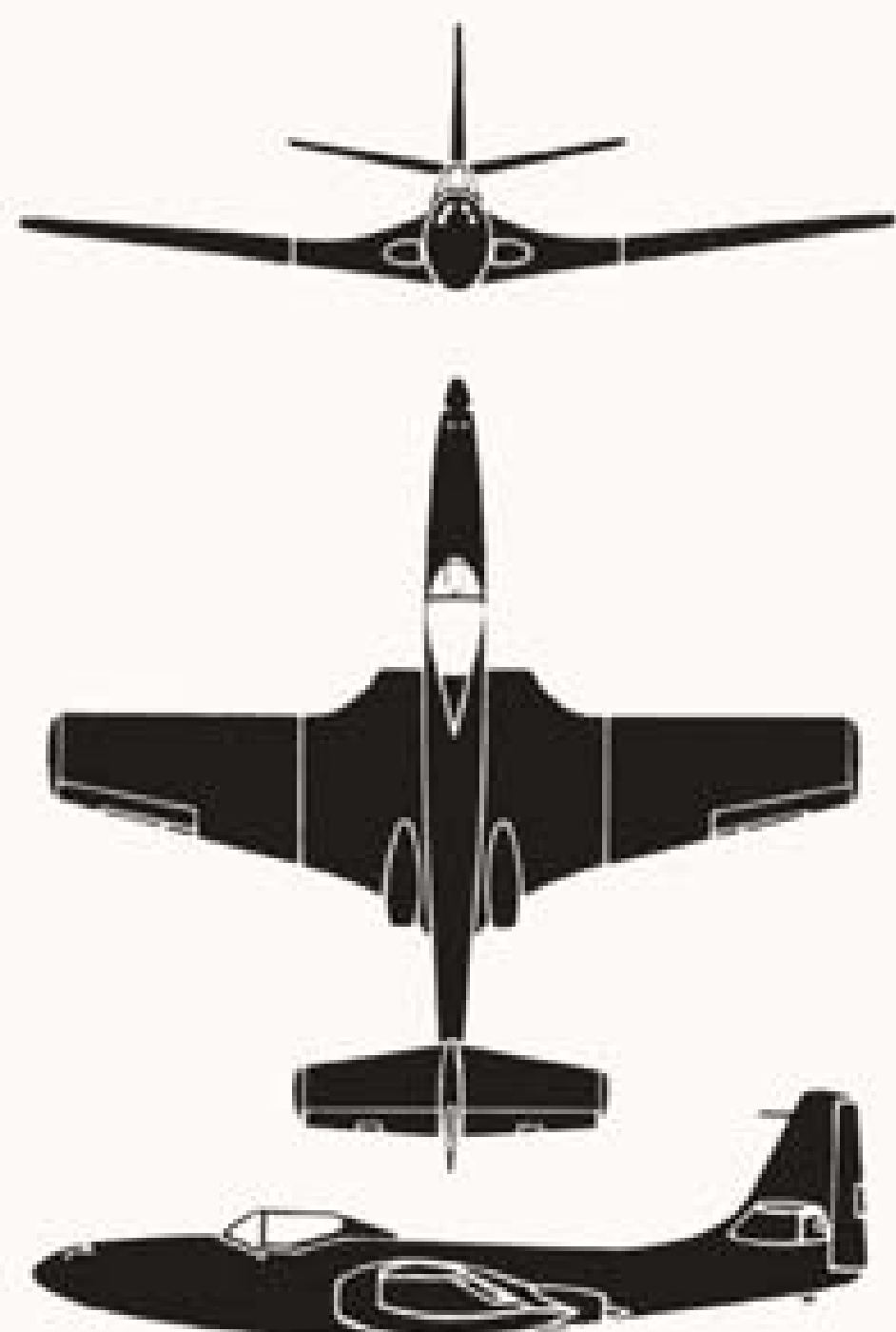
F9F-2 PANTHER



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Phantom is a twin-jet, low-wing, Navy fighter plane. Two jet engines are mounted in the wing roots forming very massive wing root sections. The wings are set well back on a thin fuselage causing the aircraft to appear extremely long nosed. The dihedral stabilizer is set high to avoid the jet blast and the cockpit canopy is forward of the wing affording excellent visibility. In the plan view the leading edge of the wing is straight, with intakes forward of the wing breaking the straight line, and the trailing edge is tapered. All airfoil extremities are squared. The FH-1 was the Navy's first all-jet plane to operate from a carrier.

SPAN: 42'0".

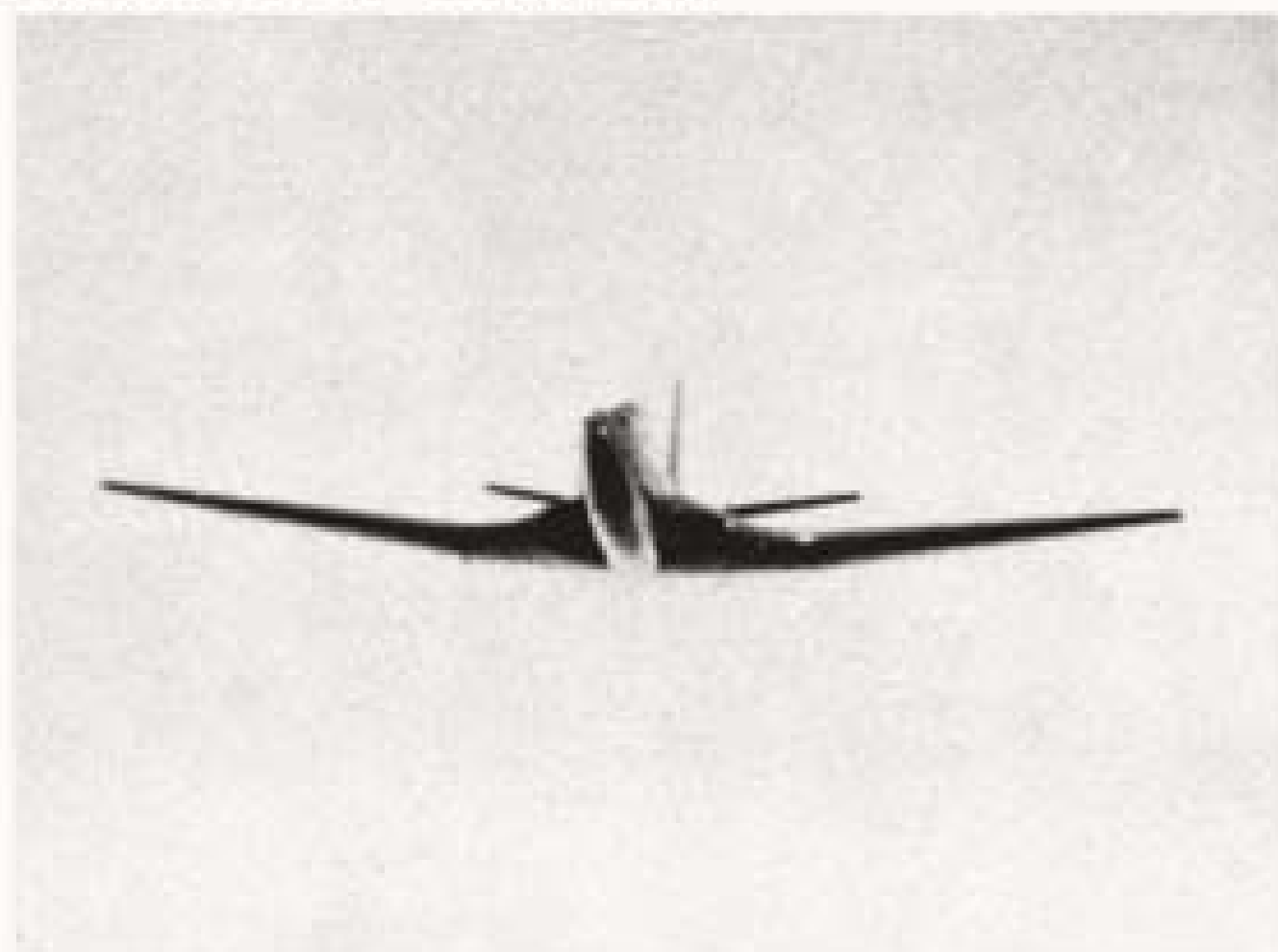
LENGTH: 37'2".

ENGINE: J30-WE/1,600-lb. thrust.

SPEED: 400 knots/25,000 ft.

RANGE: 600 nautical miles.

ARMAMENT: 4 x .50 cal.



MCDONNELL

RESTRICTED

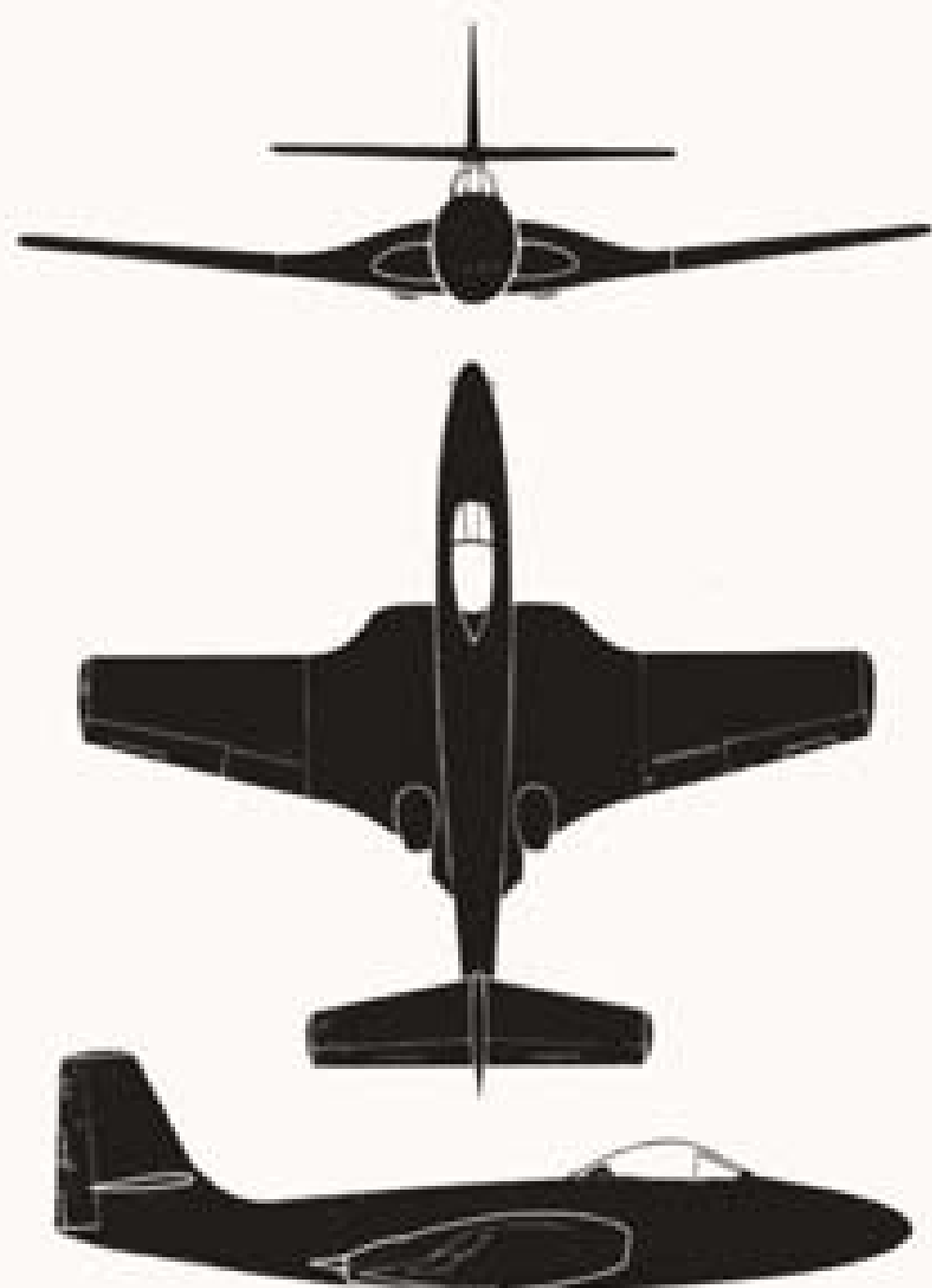
FH-1 PHANTOM



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Banshee bears a marked resemblance to the Phantom. One main recognition difference is the absence of dihedral in the stabilizer of the Banshee. Other improvements have also been made, such as, making the outer surfaces appreciably smoother, constructing the wings and tail considerably thinner and increasing the pilot's visibility. The engines are almost twice as powerful as the Phantom's, thereby, creating much better performance. The F2H-1, like its predecessor the FH-1, is designed to cruise on one or two engines. Both jet units are placed close to the center line of the airplane so that very little yaw results when one engine is shut off.

SPAN: 41'6". LENGTH: 39'11".

ENGINE: J34-WE/3,000-lb. thrust.

SPEED: 510 knots/sea level.

RANGE: 1,185 nautical miles/291 knots.

ARMAMENT: 4 x 20 mm.



MCDONNELL

RESTRICTED

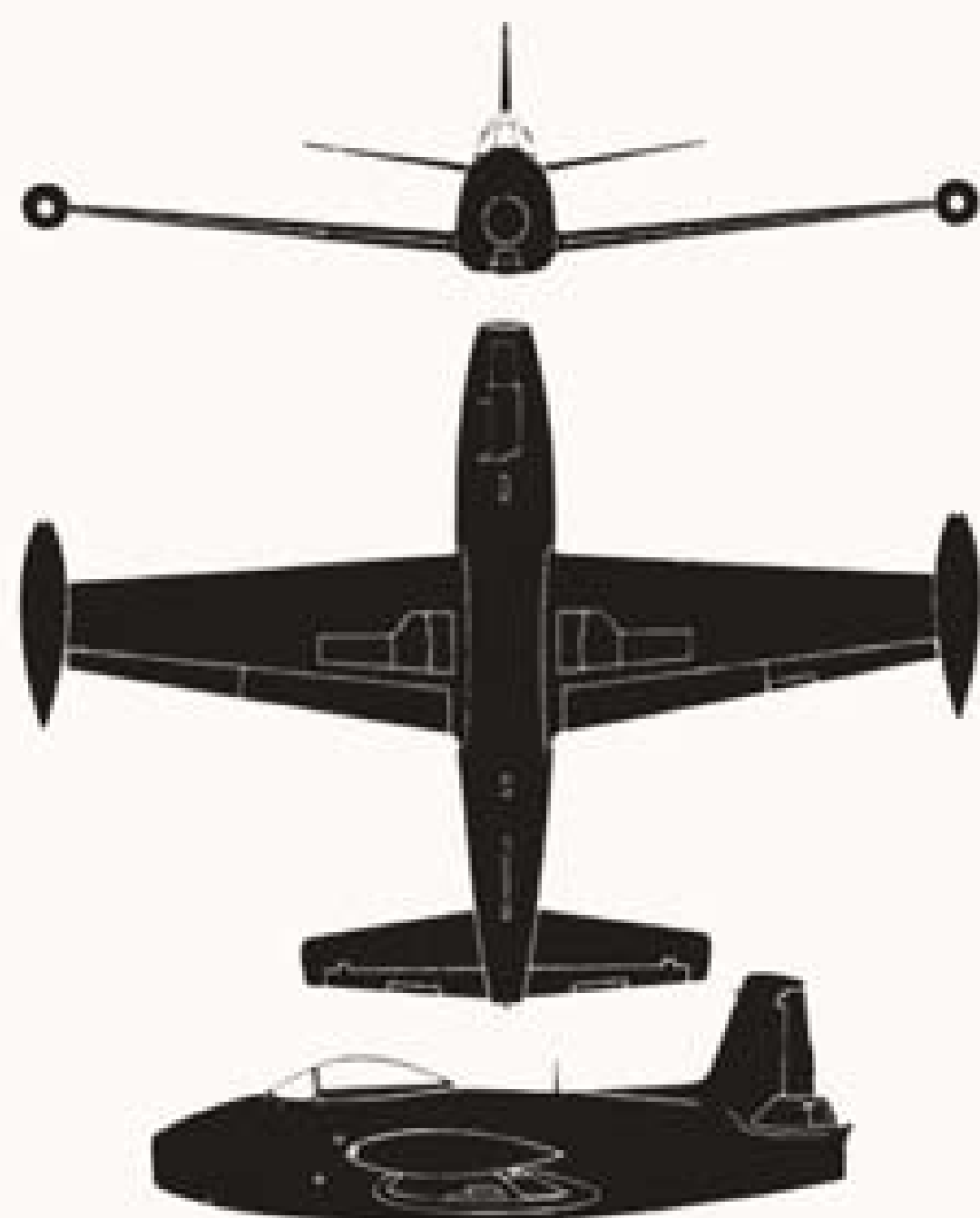
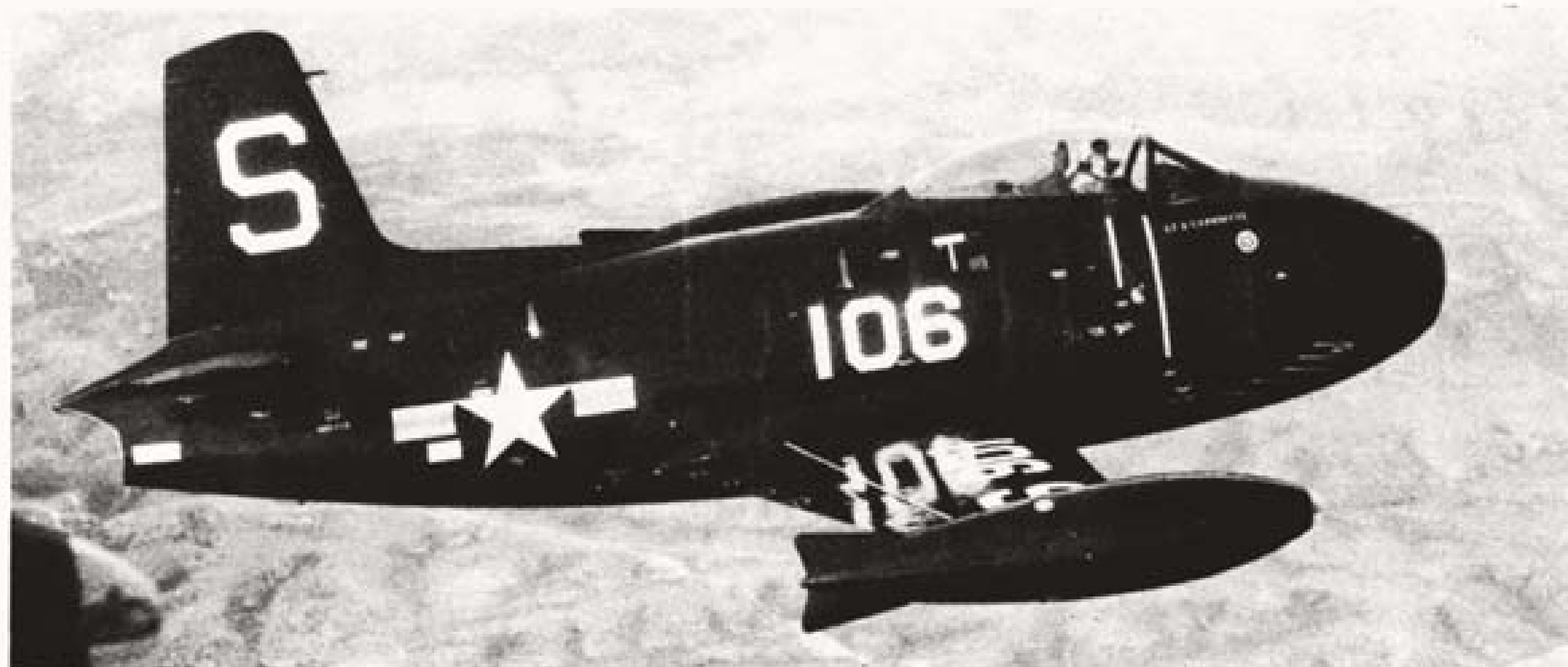
F2H-1 BANSHEE



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P-1200**



The Fury is a single-engine, single-seat low-wing monoplane with short stubby, thin, high speed laminar flow wings and resembles a high "flying bomb". Air intake is located in the nose while the single-engine and fuel tanks are enclosed within the fuselage. The Fury has a high square fin and rudder, the horizontal stabilizer has dihedral and is mounted high for increased stability. For all around visibility, the cockpit has been located forward of the leading edge of the wing. The FJ-1 with its enormous fuselage dwarfs little jets, such as, the FH-1.

SPAN: 41'0".

LENGTH: 33'8".

ENGINE: J35-A/3,820-lb. thrust.

SPEED: 510 knots/sea level.

RANGE: 1,190 nautical miles/278 knots.

ARMAMENT: 6 x .50 cal.



NORTH AMERICAN

RESTRICTED

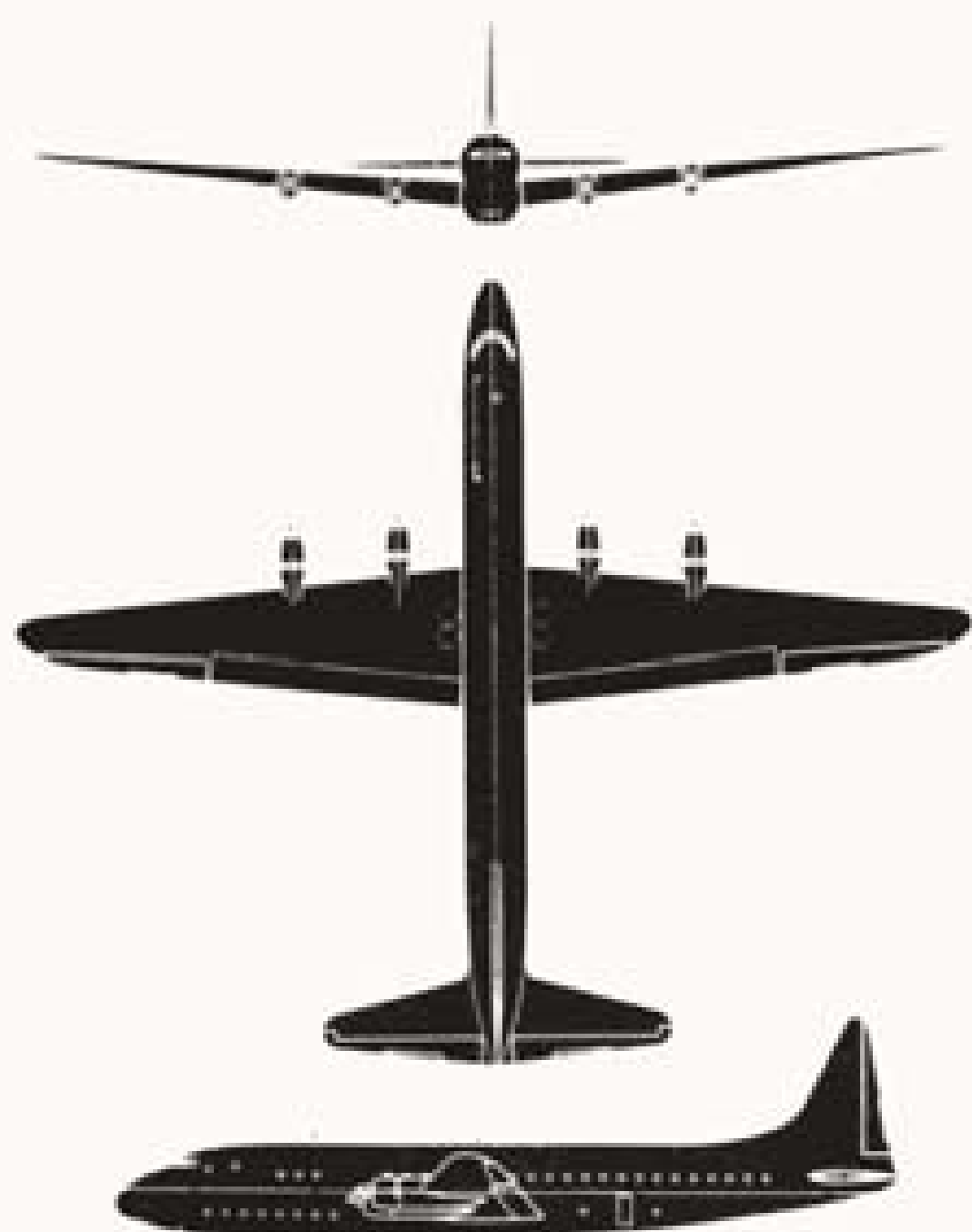
FJ-1 FURY



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P.1300**



The Constitution, a 92-ton giant, is the Navy's largest transport accommodating a crew of 12 and a total of 168 passengers. It is characterized by the double-deck, figure eight fuselage and the sharply tapered fin and rudder with narrow, rounded tip. The evenly tapered wings are set well back on the fuselage and are low mid-mount with full dihedral from the roots. Four P&W engines with reversible pitch inboard propellers, extend far forward of the wing's leading edge. Its short take-off requirement and long range were designed especially for operation in the Pacific areas.

SPAN: 189'1".

LENGTH: 156'1".

ENGINE: R-4360/3,000 h. p.

SPEED: 266 knots/25,000 ft.

RANGE: 4,315 nautical miles/200 knots.

ARMAMENT: None.



LOCKHEED

RESTRICTED

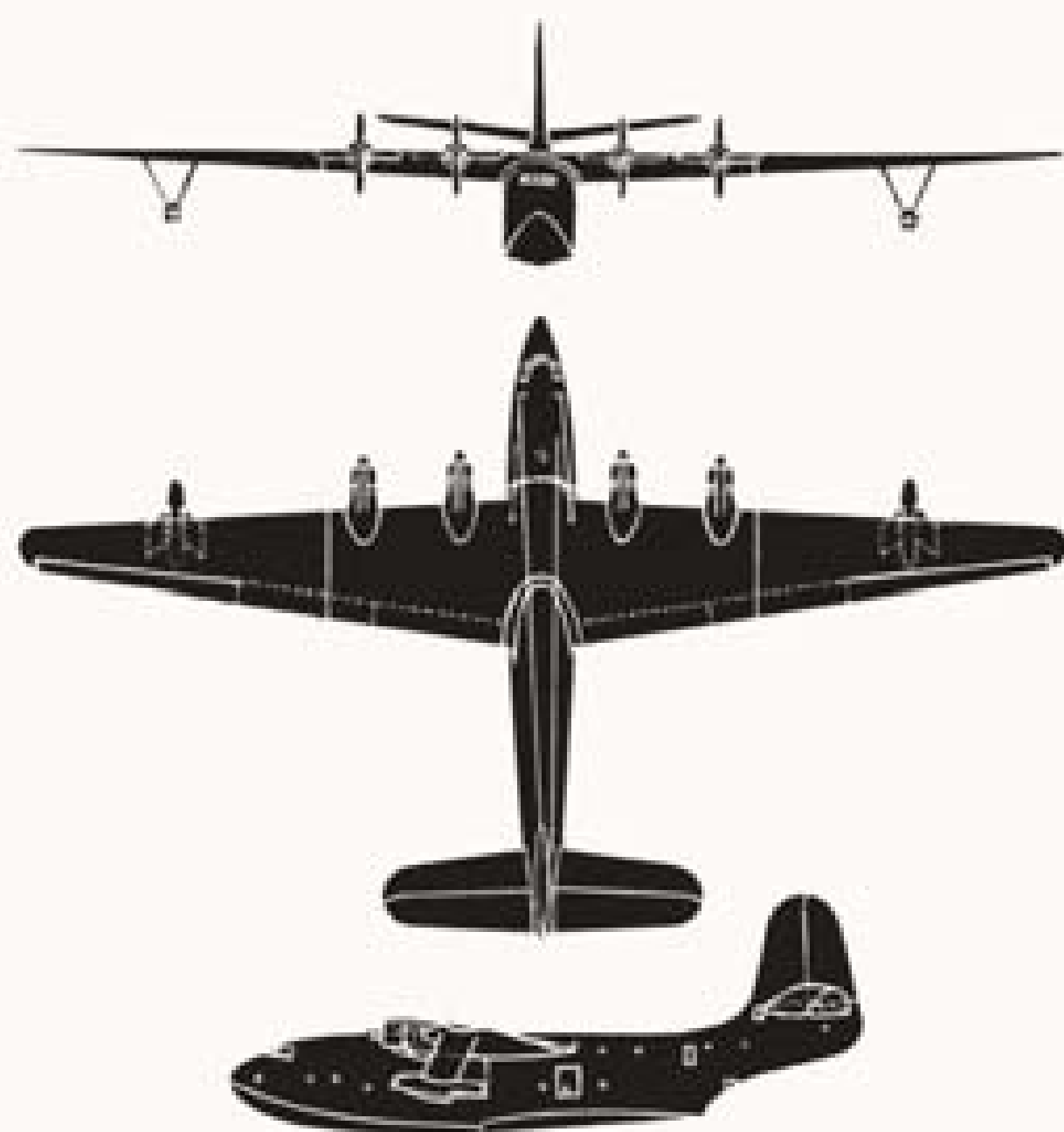
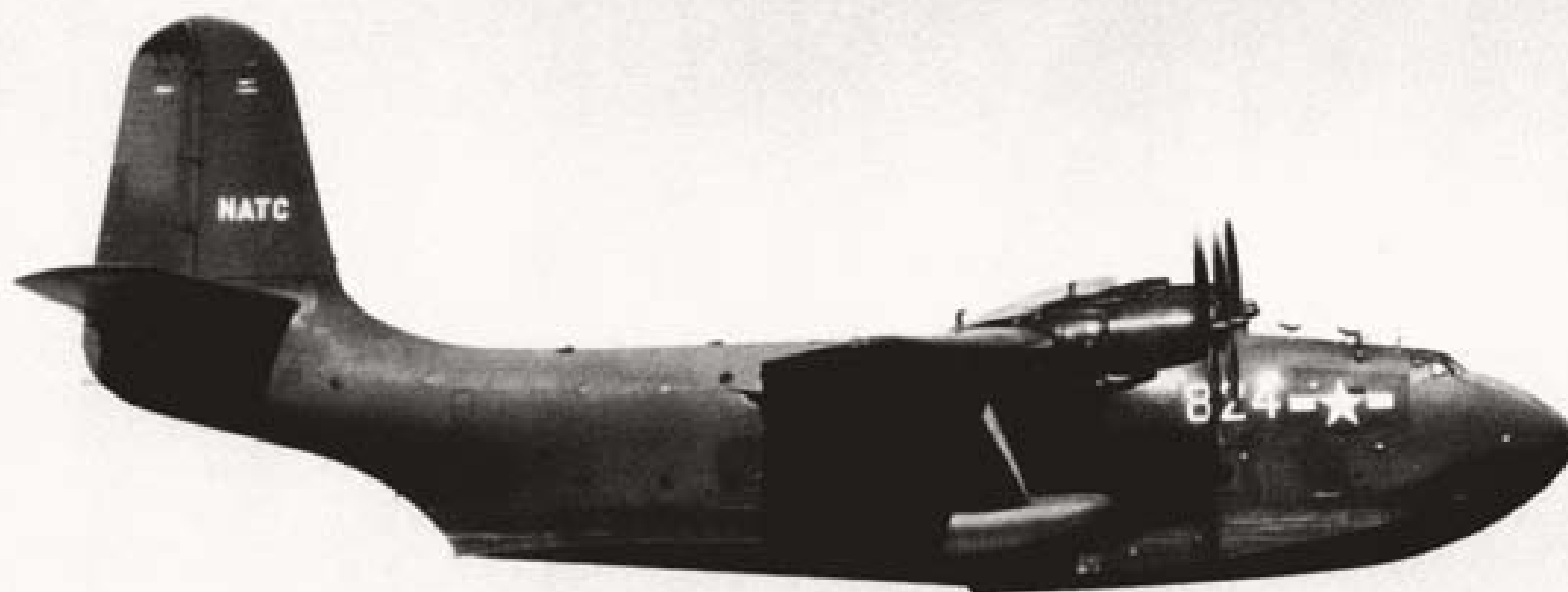
R60 CONSTITUTION



**USA
MAY 1949**

RESTRICTED

**AFM 50-40
OPNAV 32P-1200**



The latest Mars, bigger and faster than her prototype, the "Martin Mars", is a veritable warehouse with large cargo spaces and cargo doors large enough to load with ease a 20-ton tank. It has two complete decks extending almost the whole length of the fuselage and can carry cargo equivalent to four R4D's. The four engines are mid-mount and access is provided to the interior of each nacelle in flight through the wing. A total of 133 fully equipped troops can be carried in canvas bench seats which can be converted into 27 bunks. The JRM-2 has a high-mount tapered wing, single fin and rudder and a long slender hull. Wing tip floats are fixed.

SPAN: 200'0". **LENGTH:** 120'3".
ENGINE: R-3350/2,100 h. p.
SPEED: 191 knots/13,900 ft.
RANGE: 2,870 nautical miles/135 knots.
ARMAMENT: None.



MARTIN

RESTRICTED

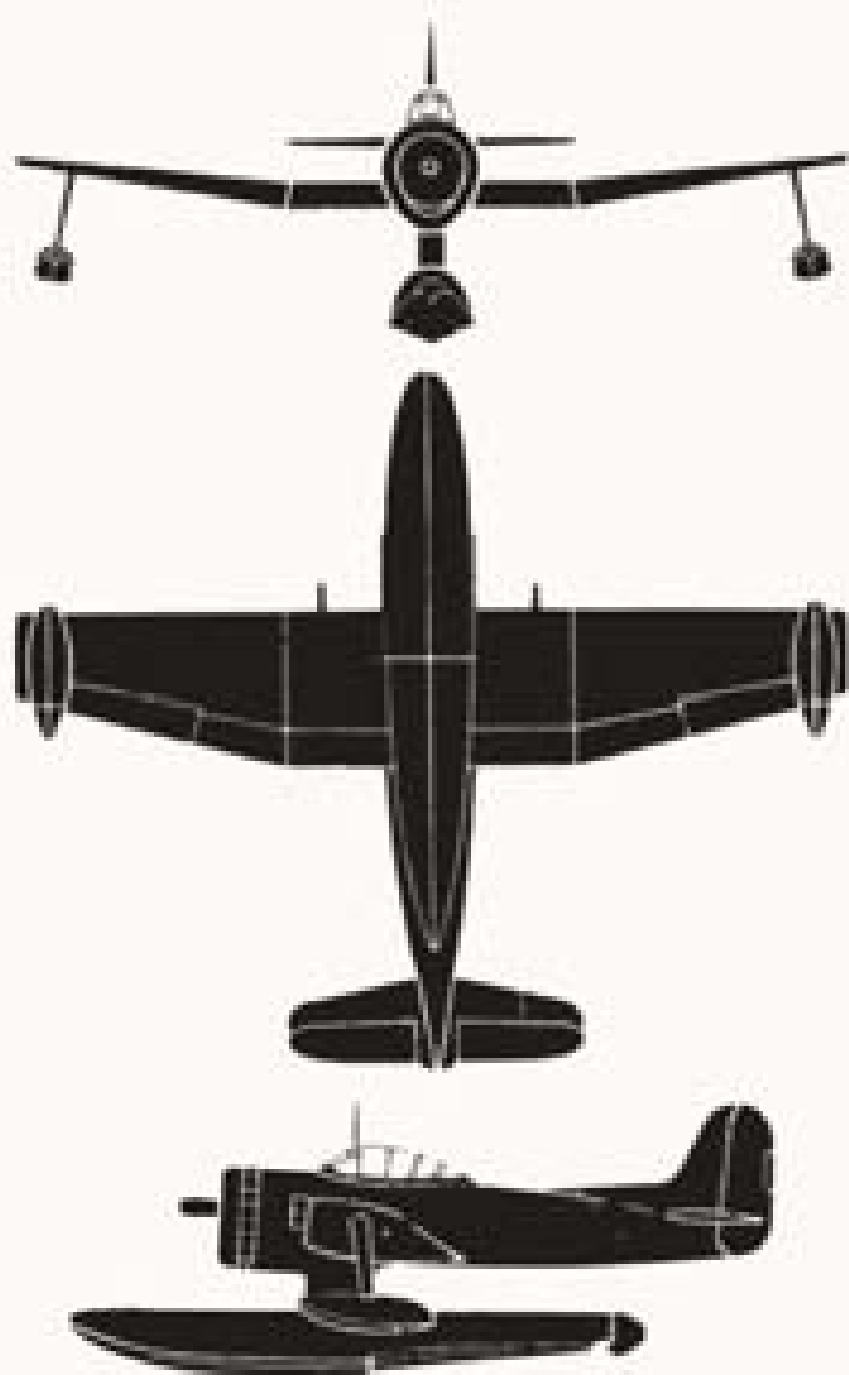
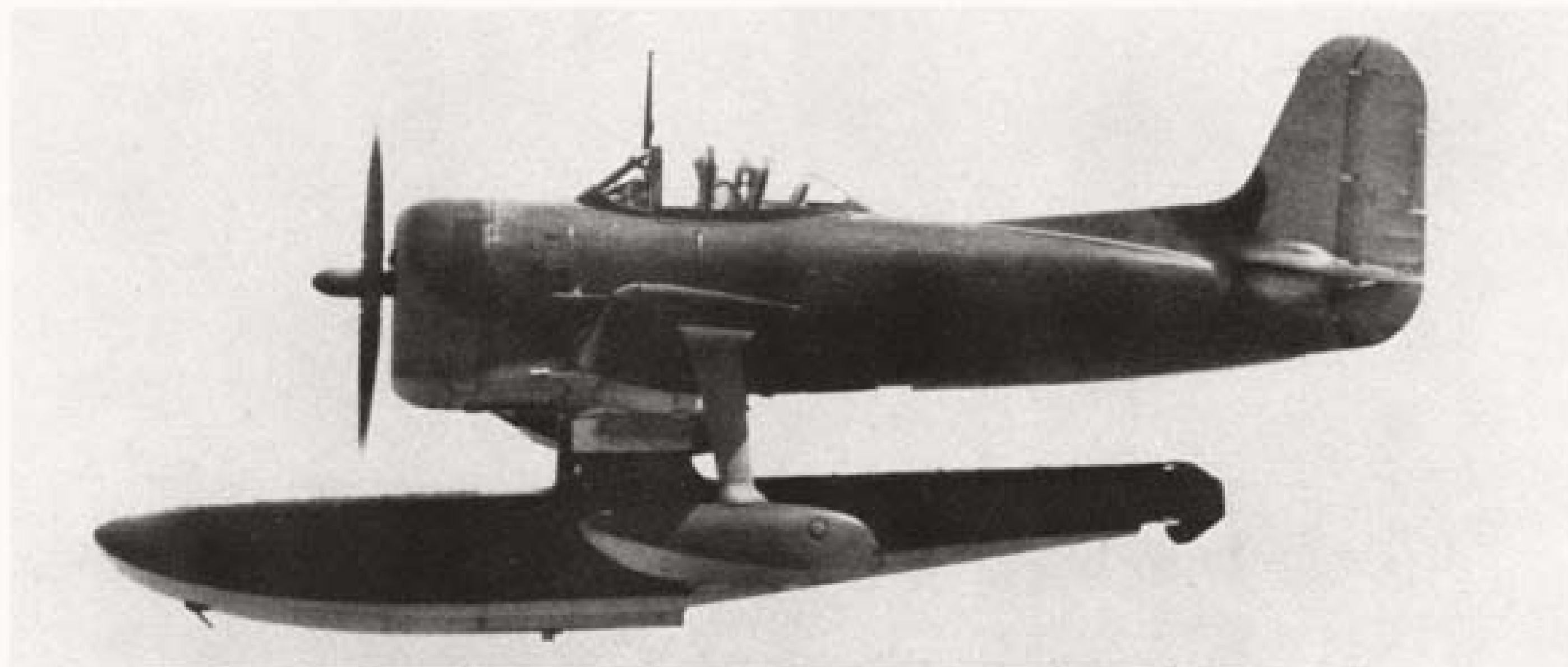
JRM-1 MARS



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Sea Hawk is a single-engine low-wing monoplane with a long single float and fixed wing tip floats. Fin and rudder are tall and narrow while the nose of the fuselage is short and blunt. Both inboard panels of the wing are straight, with dihedral in the outboard panels. The leading edge of the wing is straight as is the trailing edge on the inboard panel. The outboard panel has a tapered trailing edge with square wing tips. The SC is the standard scout plane aboard cruisers and battleships. However, tests are under way with helicopters as possible replacements for the SC. A version with fixed landing gear is used for land operation and is illustrated as the SC-2.

SPAN: 41'0".

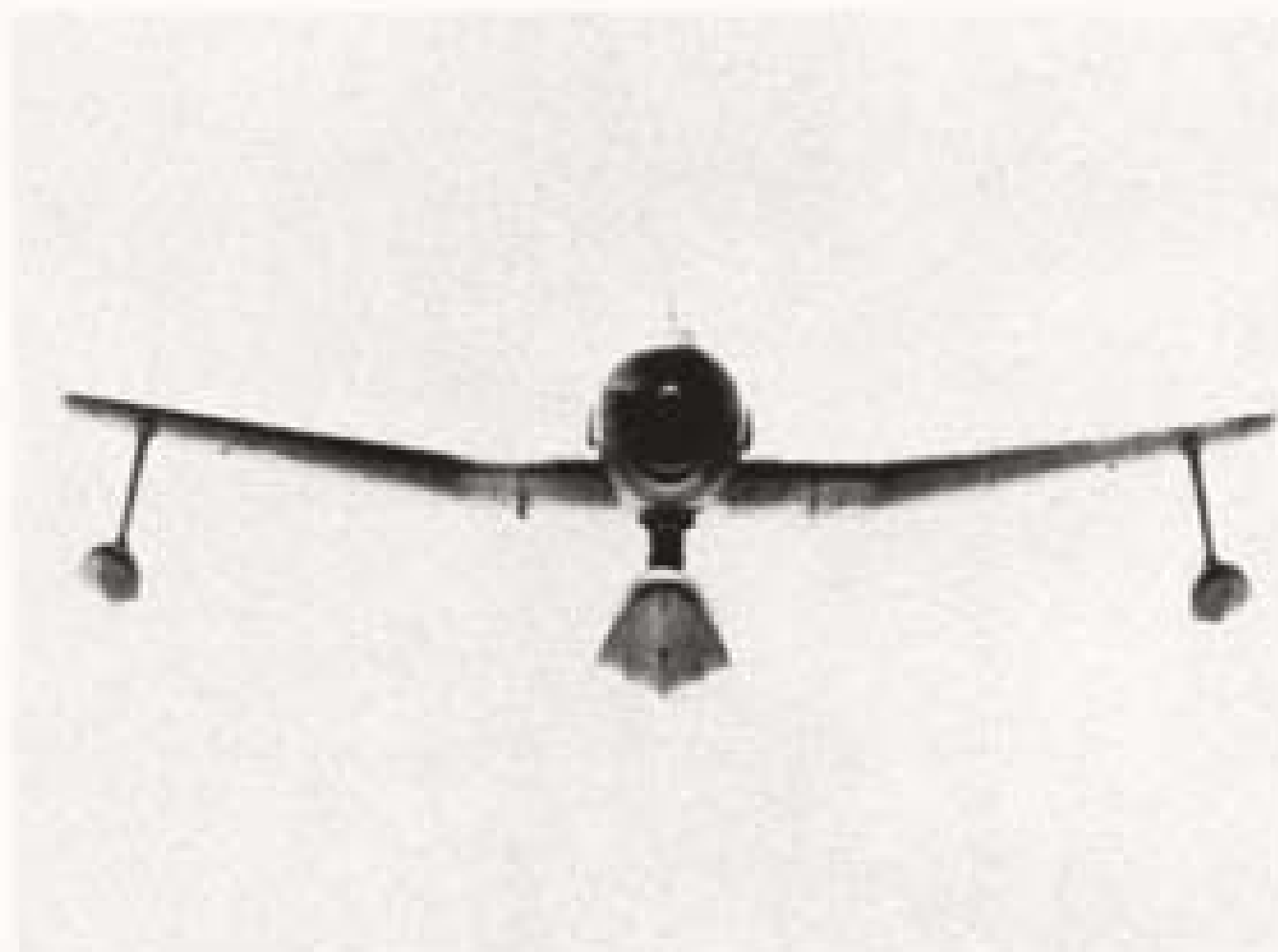
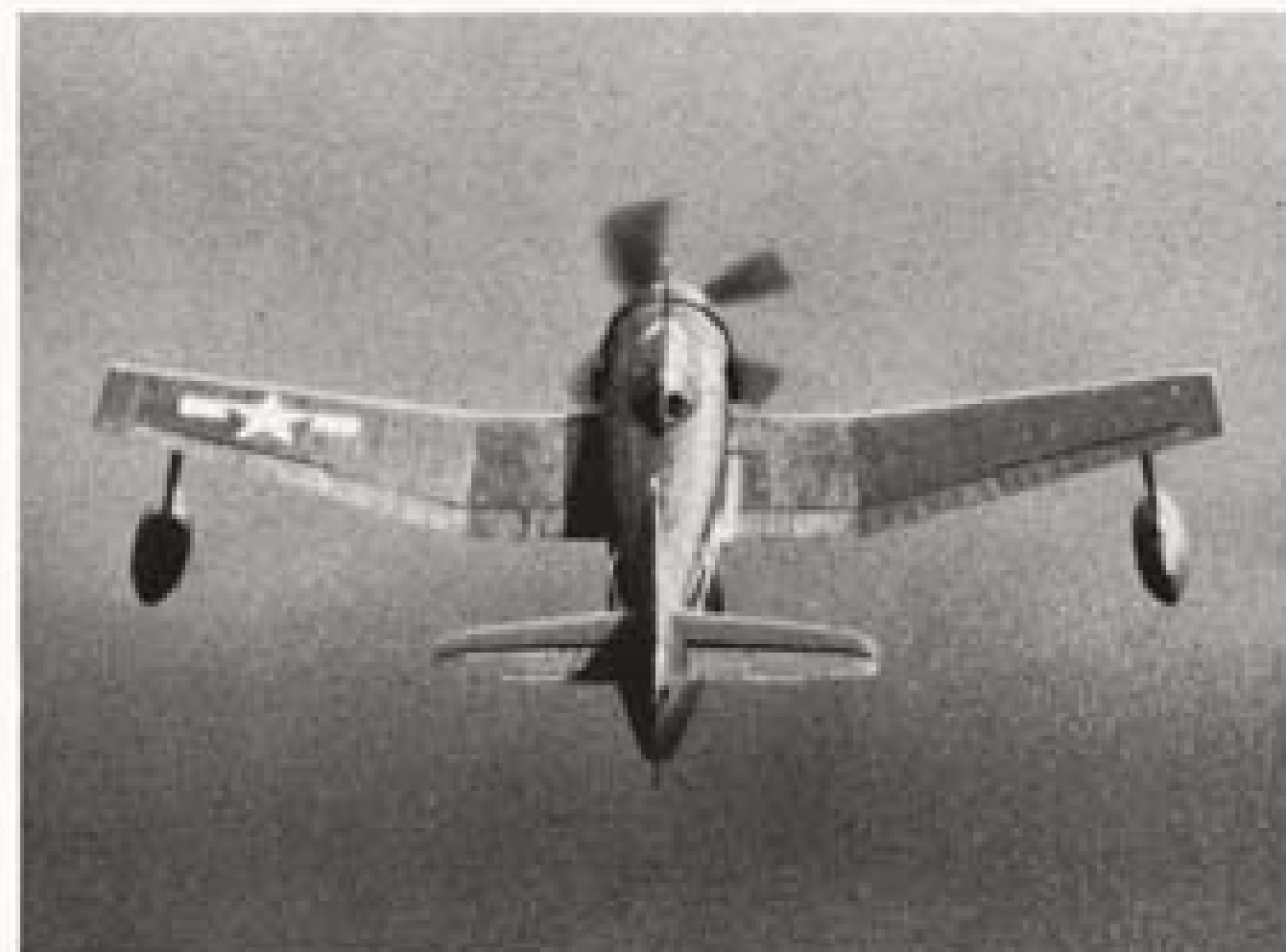
LENGTH: 36'4".

ENGINE: R-1820/1,350 h. p.

SPEED: 210 knots/2,300 ft.

RANGE: 725 nautical miles/115 knots.

ARMAMENT: 2 x .50 cal.



CURTISS-WRIGHT

RESTRICTED

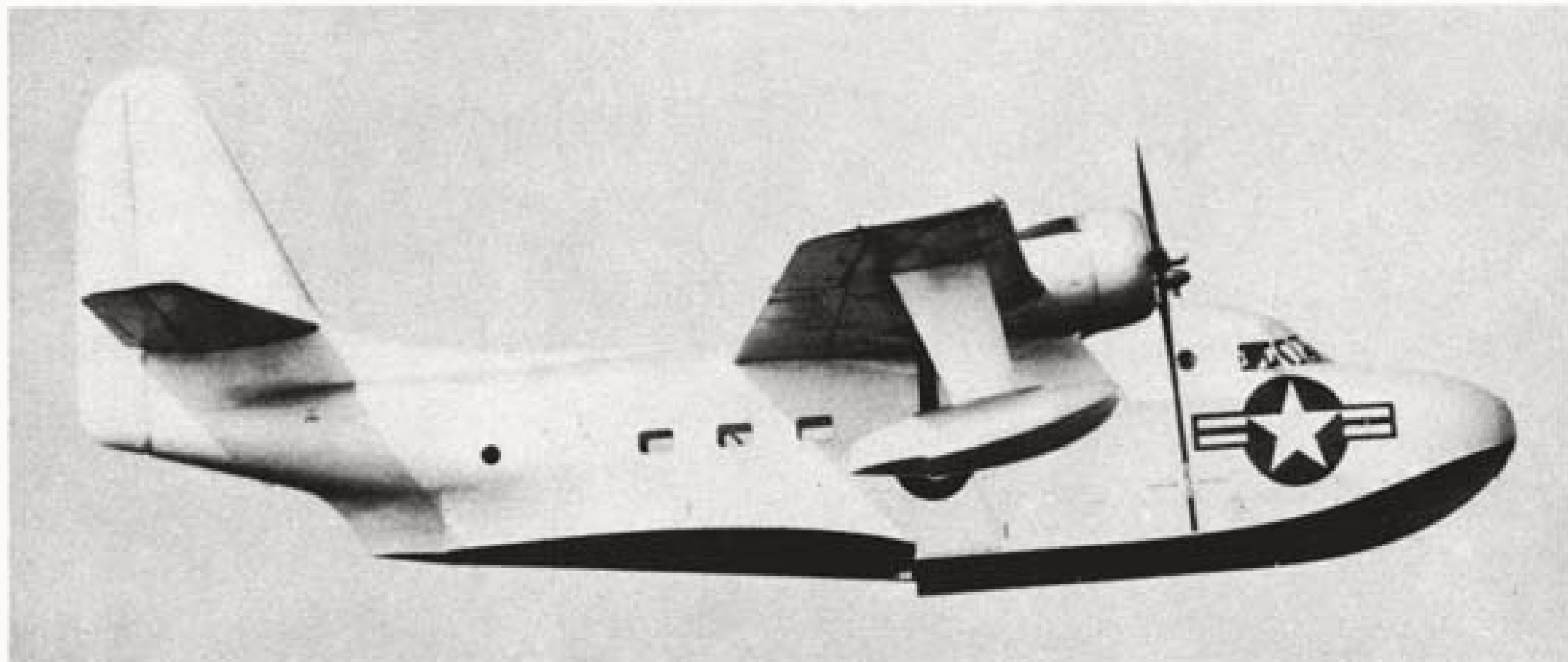
SC-2 SEAHAWK



USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 38P-1200



The Albatross, latest of the Grumman amphibians, is a multi-purpose aircraft fitted for air-sea-rescue, transport or training duties. From the head on view the hull appears to be slab sided, but from the beam view the graceful lines are evident. Fixed wing tip floats are mounted with single broad struts. Main wheels retract upward into the side of the hull and the nose wheel retracts completely into the bottom of the hull. It seats 17 comfortably and has a comparatively long range. The Air Force has procured a number of these aircraft and they have been designated SA-16A.

SPAN: 80'0".

LENGTH: 60'7".

ENGINE: R-1820/1,425 h. p.

SPEED: 210 knots/15,800 ft.

RANGE: 1,285 nautical miles/113 knots.

ARMAMENT: 2 x 325 lb. D.B.



GRUMMAN

RESTRICTED

JR2F-1 ALBATROSS

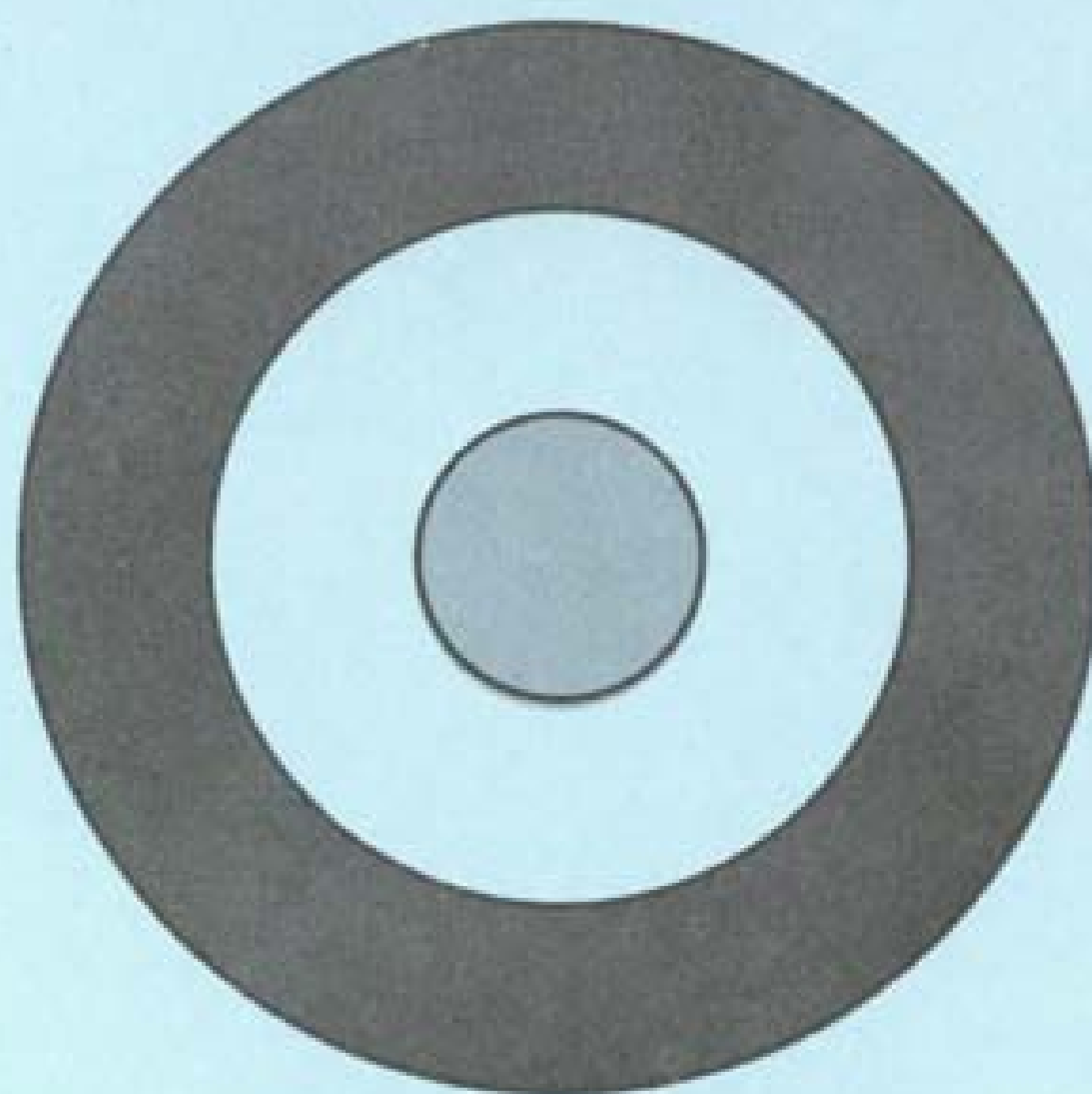


USA
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 39P-1200

BRITISH COMMONWEALTH
OF NATIONS
AIRFORCES AND AIRCRAFT



GREAT BRITAIN AND NORTHERN IRELAND

(The British Commonwealth of Nations)

The Royal Air Force

The Royal Air Force is administered by the Air Council, which is the controlling authority of the Air Ministry which, in turn, derives its authority from Parliament.

The President of the Air Council, the Secretary of State for Air, is assisted by four Air Members of the Council and the Permanent Under-Secretary of State for Air comprising the five department heads among whom the administrative duties of the Air Ministry are divided.

The Marshal of the Royal Air Force is H. M. King George VI.

The Royal Air Force is divided into Home Commands and Overseas Commands.

Equipment							
Type	Designation	Manufacturer	Country	Type	Designation	Manufacturer	Country
Medium Bomber	Lincoln 1, 2, 2 (3G, 4A)	A. V. Roe	G.B.	Transport	Dakota (Skymaster C-47; R4D)	Douglas	U.S.A.
Light Bombers	Brigand B.1	Bristol	G.B.		Devon	de Havilland	G.B.
	Halifax B.6	Handley Page	G.B.		Halifax A.9	Handley Page	G.B.
	Lancaster B.1, 3, 7	A. V. Roe	G.B.		Hastings 1	Handley Page	G.B.
Fighter	Mosquito F.B.6	de Havilland	G.B.		Lancastrian	A. V. Roe	G.B.
	Tempest	Hawker	G.B.		Valetta	Vickers-Armstrongs	G.B.
	Beaufighter	Bristol	G.B.		Viking 2	Vickers-Armstrongs	G.B.
	Brigand	Bristol	G.B.		York	A. V. Roe	G.B.
	Hornet	de Havilland	G.B.	Trainer	Anson 1,4,20,21	A. V. Roe	G.B.
	Meteor	Gloster	G.B.		Buckmaster	Bristol	G.B.
	Mosquito	de Havilland	G.B.		Harvard (Texan T-6; SNJ)	North American	U.S.A.
	Spitfire F.9, 14, 18, 21, 22, 24	Vickers-Armstrongs	G.B.		Mosquito	de Havilland	G.B.
	Tempest 2, 5, 6	Hawker	G.B.		Oxford	Airspeed	G.B.
	Vampire 1,2,3,5	de Havilland	G.B.		Proctor	Percival	G.B.
Reconnaissance	Anson	A. V. Roe	G.B.		Tiger Moth	de Havilland	G.B.
	Dakota (Skytrain C-47; R4D)	Douglas	U.S.A.		Wellington 10, 18	Vickers-Armstrongs	G.B.
	Brigand	Bristol	G.B.	Communications and Utility	Auster	Auster	G.B.
	Halifax	Handley Page	G.B.		Anson	A. V. Roe	G.B.
	Lancaster	A. V. Roe	G.B.		Dominie	de Havilland	G.B.
	Mosquito	de Havilland	G.B.				
	Spitfire	Vickers-Armstrongs	G.B.				
	Sunderland	Short Bros.	G.B.				

GREAT BRITAIN & NORTHERN IRELAND (Continued)

(The British Commonwealth of Nations)

Naval Aviation

British Naval Aviation is administered by the Board of Admiralty through the Fifth Sea Lord (Air) who is a Vice Admiral. A Vice Admiral, subordinate to the Fifth Sea Lord (Air) is the Flag Officer (Air) (Home) and there is a Vice Admiral Commanding the Reserves.

Naval Aviation afloat and overseas is administered by the various Commands, the second in command of which is usually a Vice Admiral (Air).

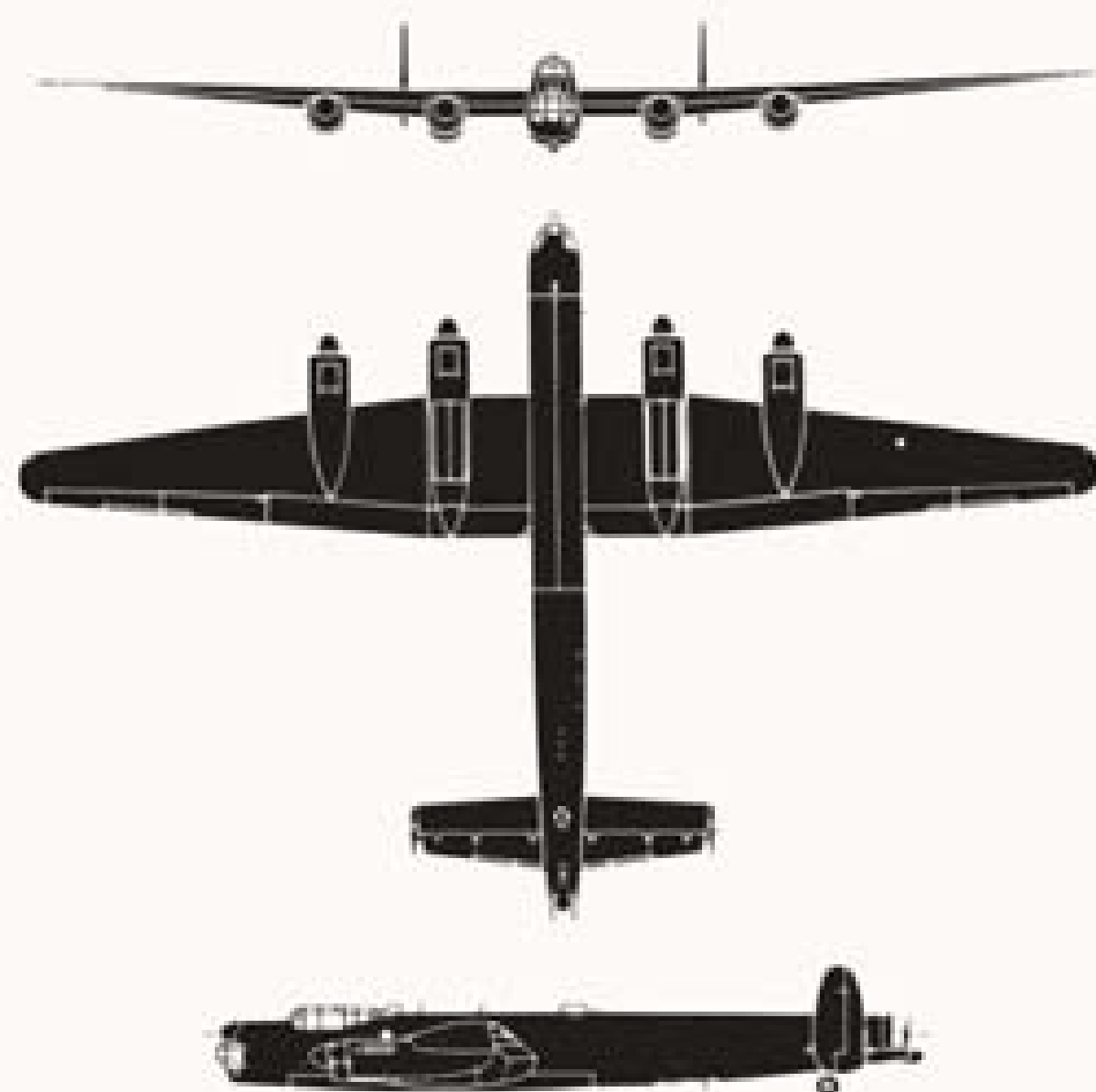
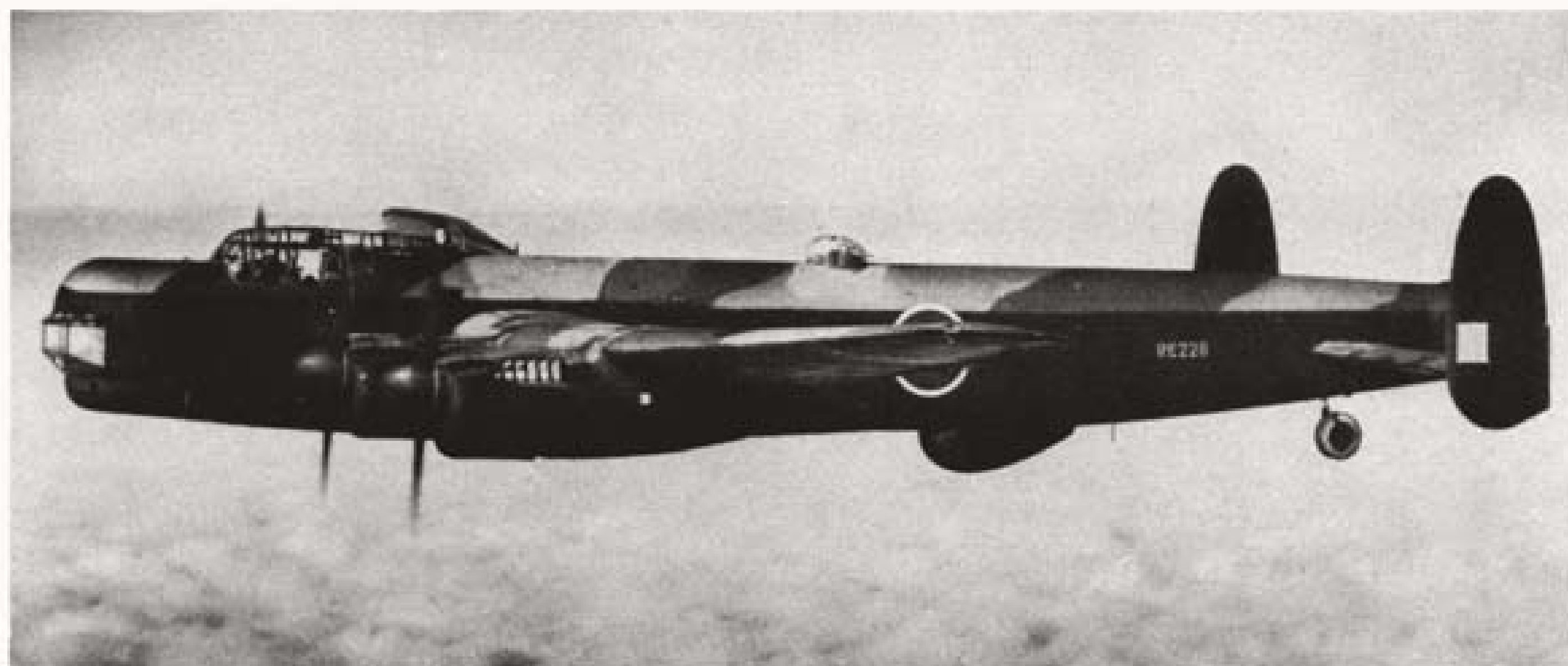
Fleet Carriers (23,000 tons): training and operational, *Illustrious* and *Implacable*; in reserve, *Indomitable*, *Indefatigable* and *Formidable*; under construction, two.

Light Fleet Carriers (14,000 tons): Operational or pending, *Ocean*, *Triumph* and *Theseus*; Reserve, *Glory*; training and experimental, *Vengeance*; under construction, seven; refit, *Warrior*.

Escort Carrier; In reserve, *Campania*.

Equipment

Type	Designation	Manufacturer	Country	Type	Designation	Manufacturer	Country
Attack	Avenger (TBF)	Grumman	U.S.A.	Trainer	Anson 1, 12	A. V. Roe	G.B.
	Barracuda	Fairey	G.B.		Firefly T.1, 4	Fairey	G.B.
	Firebrand	Blackburn	G.B.		Harvard (Texan		
	Firefly	Fairey	G.B.		T-6; SNJ)	North American	U.S.A.
	Mosquito	de Havilland	G.B.		Martinet	Miles	G.B.
Fighter	Sea Mosquito	de Havilland	G.B.		Oxford	Air Speed	G.B.
	Firefly N.F.1	Fairey	G.B.	Communications and Utility	Tiger Moth	de Havilland	G.B.
	Seafire 17, 45, 46,				Mosquito	de Havilland	G.B.
	47	Vickers-Armstrongs	G.B.		Expeditor (Voyag-		
	SeaFury F.B.11	Hawker	G.B.		er C-45; JRB)	Beechcraft	U.S.A.
	Sea Hornet 20	de Havilland	G.B.	Helicopter	Auster	Auster	G.B.
	Sea Vampire 1,				Hoverfly S-51	Sikorsky	U.S.A.
Reconnaissance	21	de Havilland	G.B.				
	Mosquito P.R.						
	16	de Havilland	G.B.				
	Sea Otter 1, 2						
	ASR	Vickers-Armstrongs	G.B.				



The Lincoln II is the same in appearance as the Lincoln I, a development from the Lancaster. It is a four-engine mid-wing bomber. In-line engines are fitted. The wing tapers from inboard nacelle out on both leading and trailing edges to well rounded tips. A center section has straight leading and trailing edges. The fuselage is long and rectangular with nose, dorsal and rear turrets. Twin-tails and retractable conventional landing gear are fitted. A maximum bomb load of 22,000 pounds may be carried. The Lincoln was intended for use in the Pacific Theater, but appeared just too late to be flown operationally.

SPAN: 120'0".

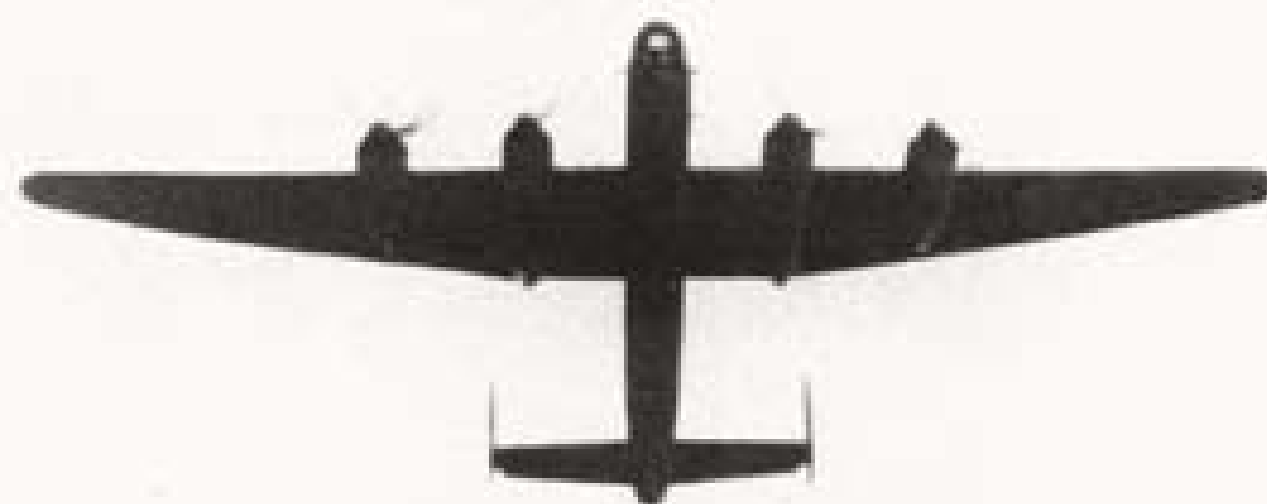
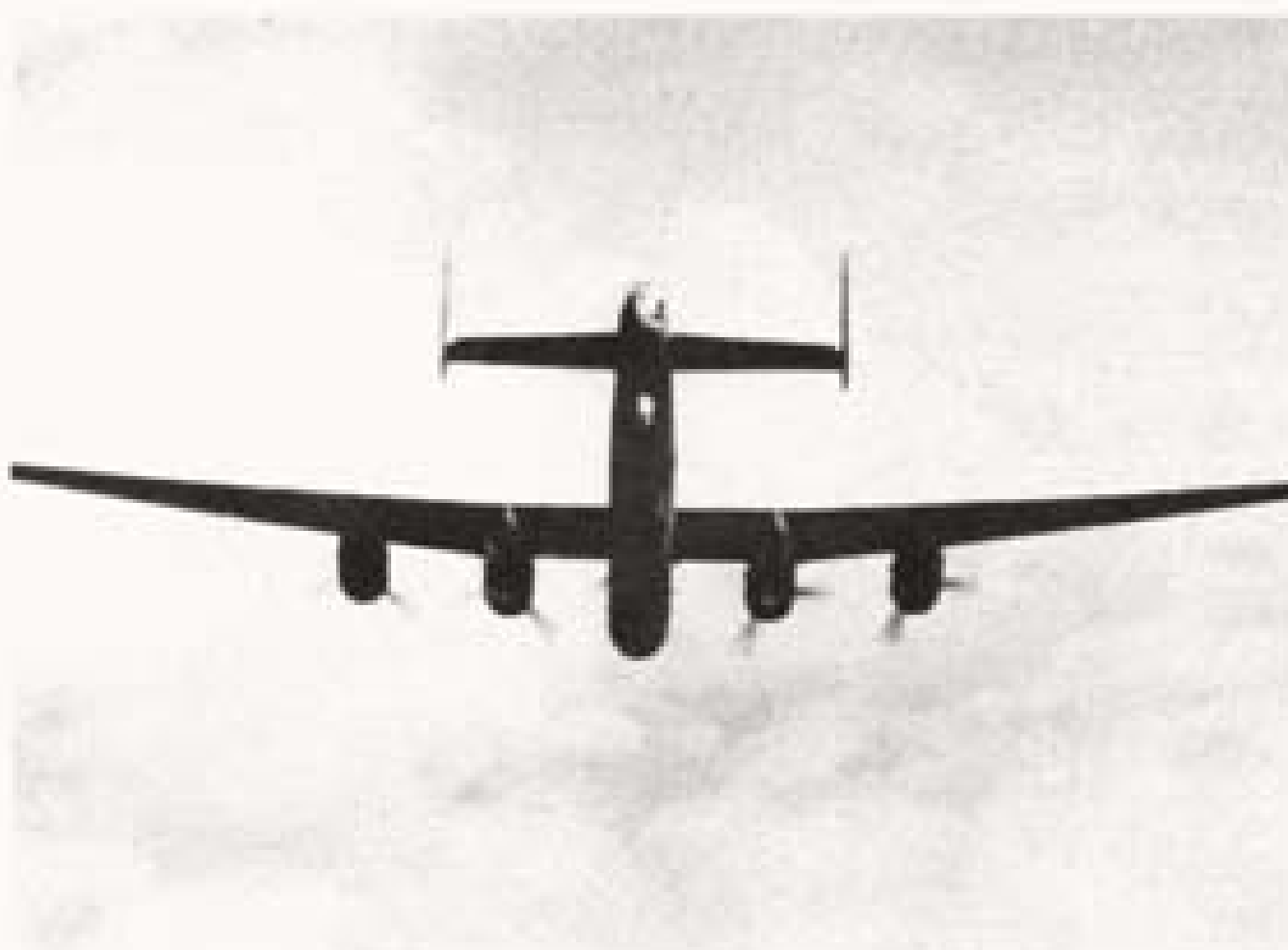
LENGTH: 78'4".

ENGINE: Merlin 68; Vee in-line/1,635 h. p.

SPEED: 260 knots/20,000 ft.

RANGE: 2,540 nautical miles/175 knots.

ARMAMENT: 4 x .50 cal; 2 x 20 mm.



A. V. ROE

RESTRICTED

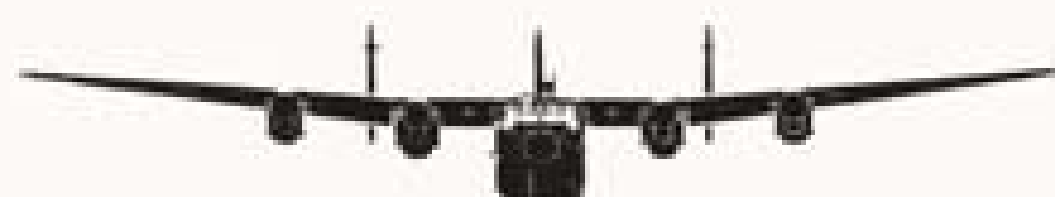
LINCOLN 2



G.B.
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The York is a high-wing, four-engined transport monoplane. The wings taper slightly, more on the leading edge than the trailing edge, to rounded tips. The inboard engines are slightly forward of the outboard engines. The fuselage is of rectangular cross section. There are three fins and two rudders with the fin over the fuselage center line being fixed. The landing gear is of conventional construction. The York was developed from the Lancaster bomber and includes a larger fuselage. This aircraft is widely used by the RAF and by numerous airlines. As a passenger version it will accommodate 21 passengers.

SPAN: 102'0".

LENGTH: 78'6".

ENGINE: Merlin 24; Vee in-line/1,620 h. p.

SPEED: 250 knots/15,000 ft.

RANGE: 2,260 nautical miles.

ARMAMENT: None.



A. V. ROE

RESTRICTED

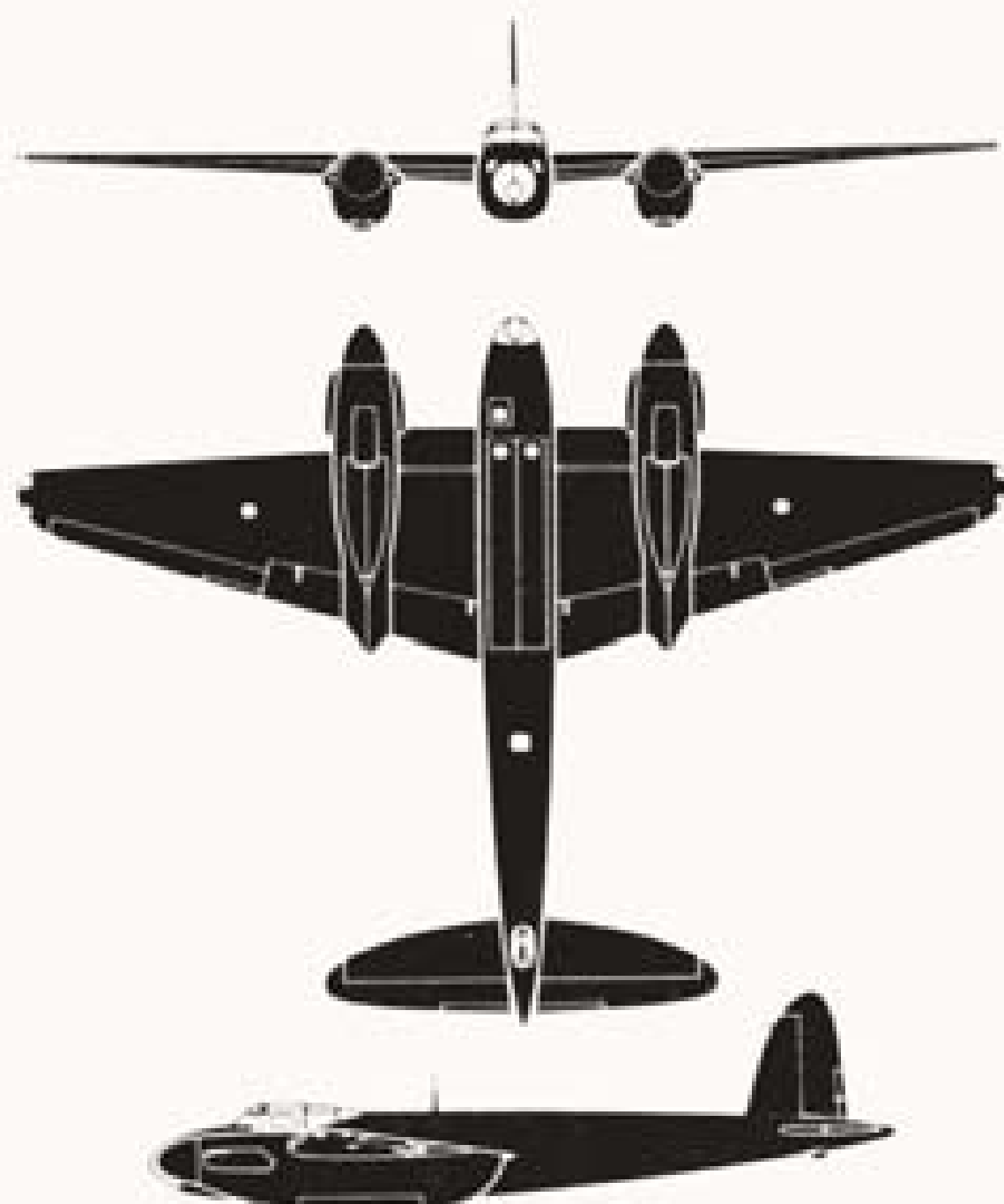
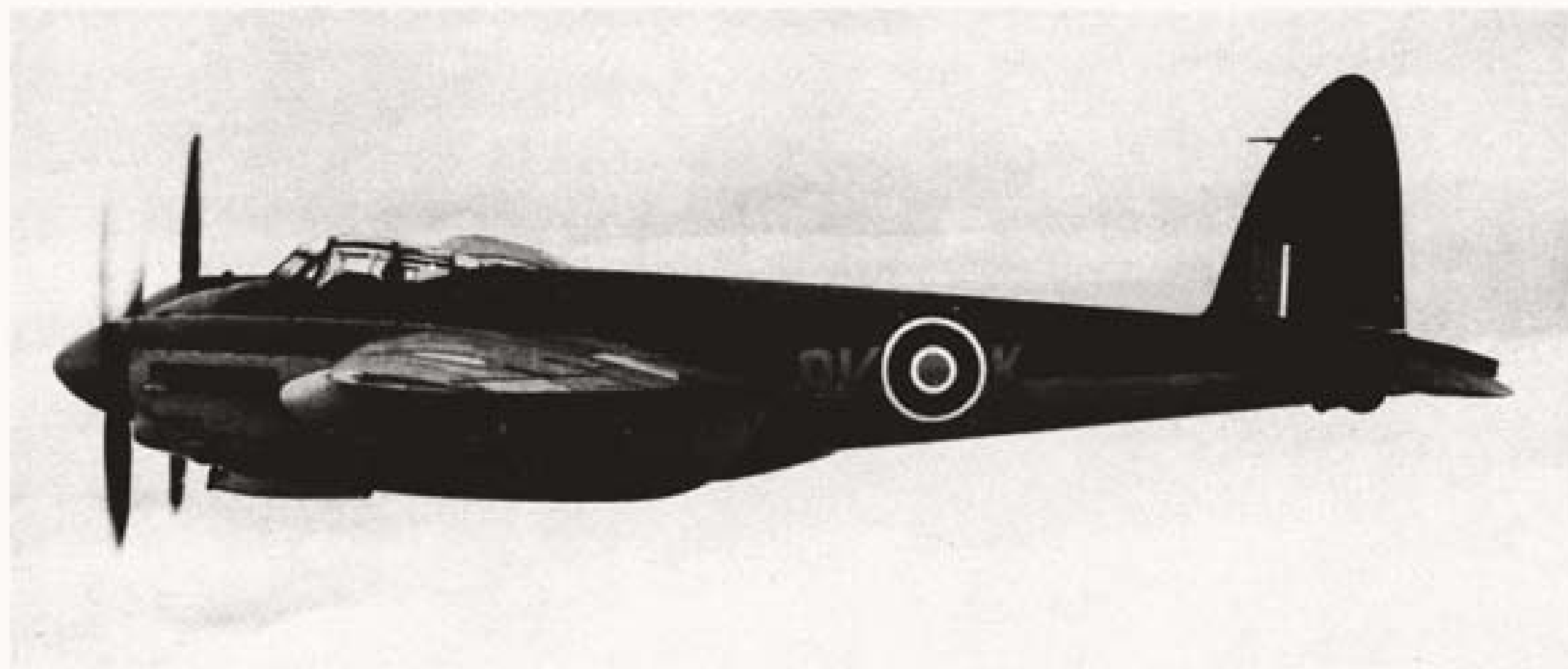
YORK



G.B.
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Mosquito B.35 is a two-engine, mid-wing monoplane bomber. It has a sharp pointed nose, and the engines extend forward of the fuselage. The wings are sharply tapered on the trailing edge to rounded tips. There is a raised cockpit on the streamlined tapered fuselage. A single tail and retractable conventional landing gear are fitted. The main landing gear retracts into nacelles. A maximum bomb load of 4,000 pounds may be carried. There are many versions of the Mosquito, including the night fighter N.F.38, which has an enlarged nose and lengthened cockpit canopy and carries 4 x 20 mm. cannon fixed in the lower nose.

SPAN: 54'2".

LENGTH: 44'6".

ENGINE: Merlin 113, 114; Vee in-line/1,535 h. p.

SPEED: 365 knots/30,000 ft.

RANGE: 1,780 nautical miles/270 knots.

ARMAMENT: Maximum bomb load 4,000 lbs.



DE HAVILLAND

RESTRICTED

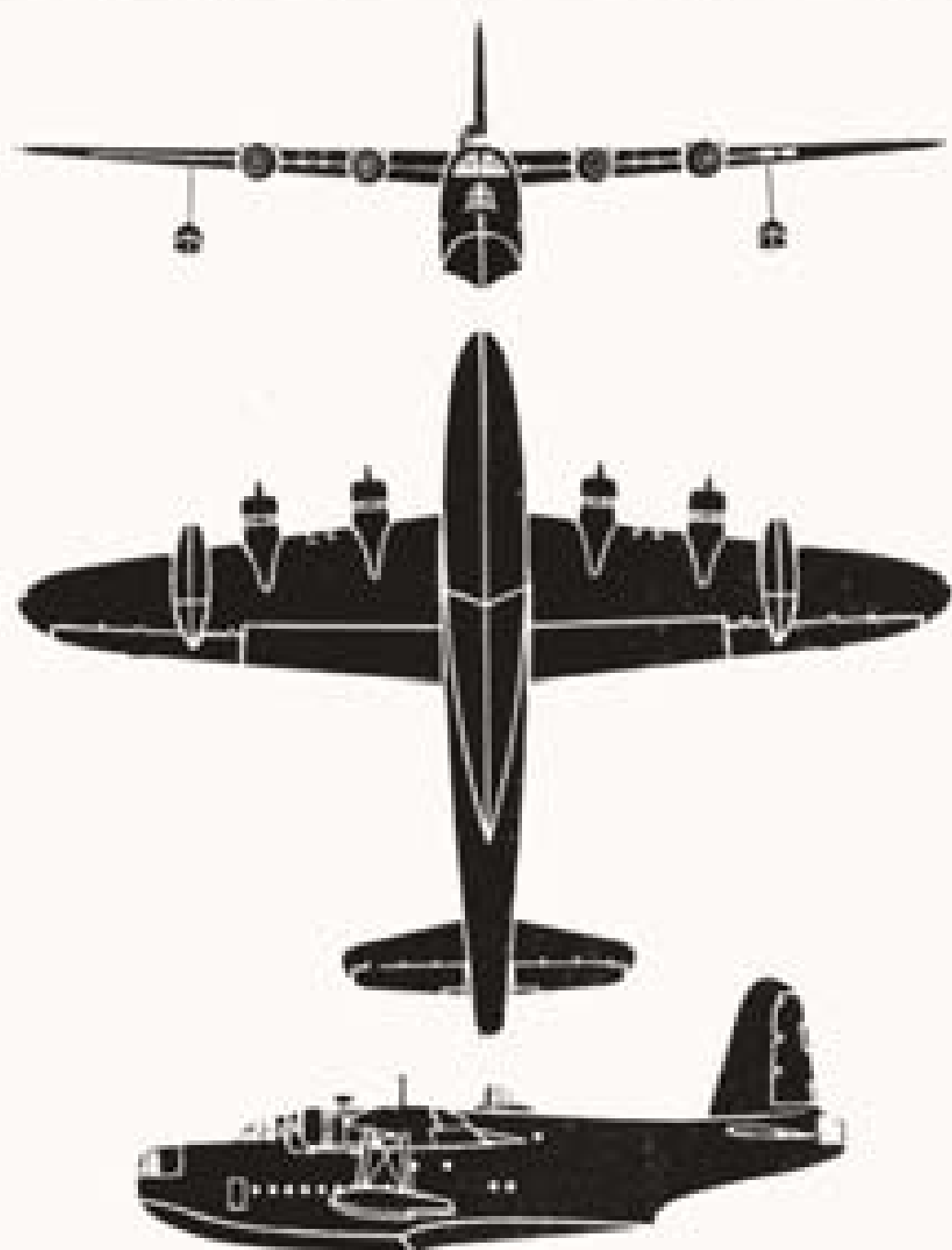
MOSQUITO B. 35



G.B.
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Sunderland is a four-engine high-wing flying-boat. Both inboard engine nacelles are aligned slightly forward of the outboard engine nacelles. The wings taper on both leading and trailing edges to well rounded tips. A two-step hull is utilized; and nose, tail, and dorsal turrets are fitted. There is a tail fin and rudder. The stabilizer and elevator are similar to the wing in shape. The Sunderland is virtually a military version of the "Empire Boat." A prototype first flew in 1937 and by the outbreak of the war there were several squadrons in service.

SPAN: 112'9".

LENGTH: 85'4".

ENGINE: Pegasus 18; radial/1,050 h. p.

SPEED: 182 knots/6,500 ft.

RANGE: 1,550 nautical miles/120 knots.

ARMAMENT: 7 x .303 cal.



SHORT BROS.

RESTRICTED

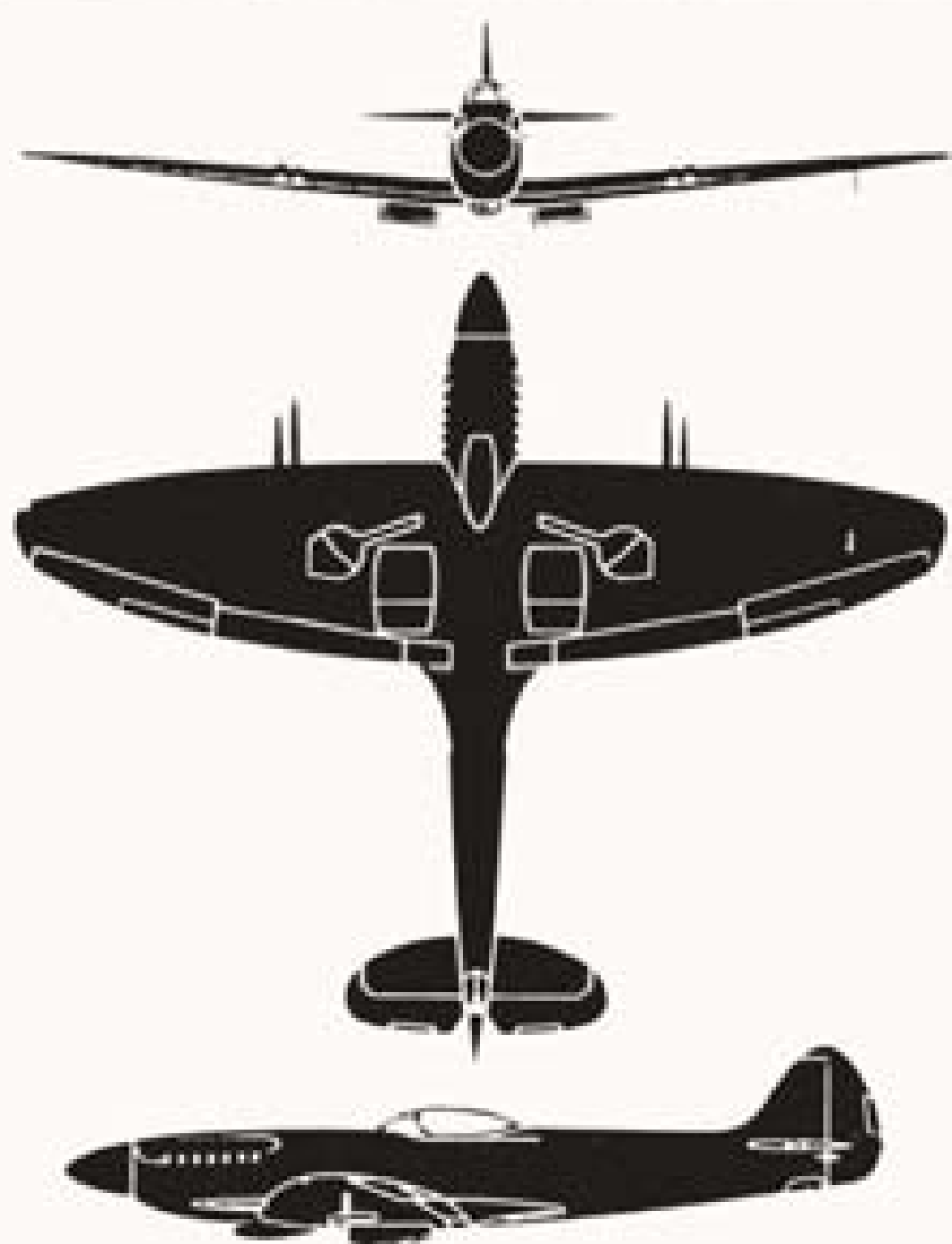
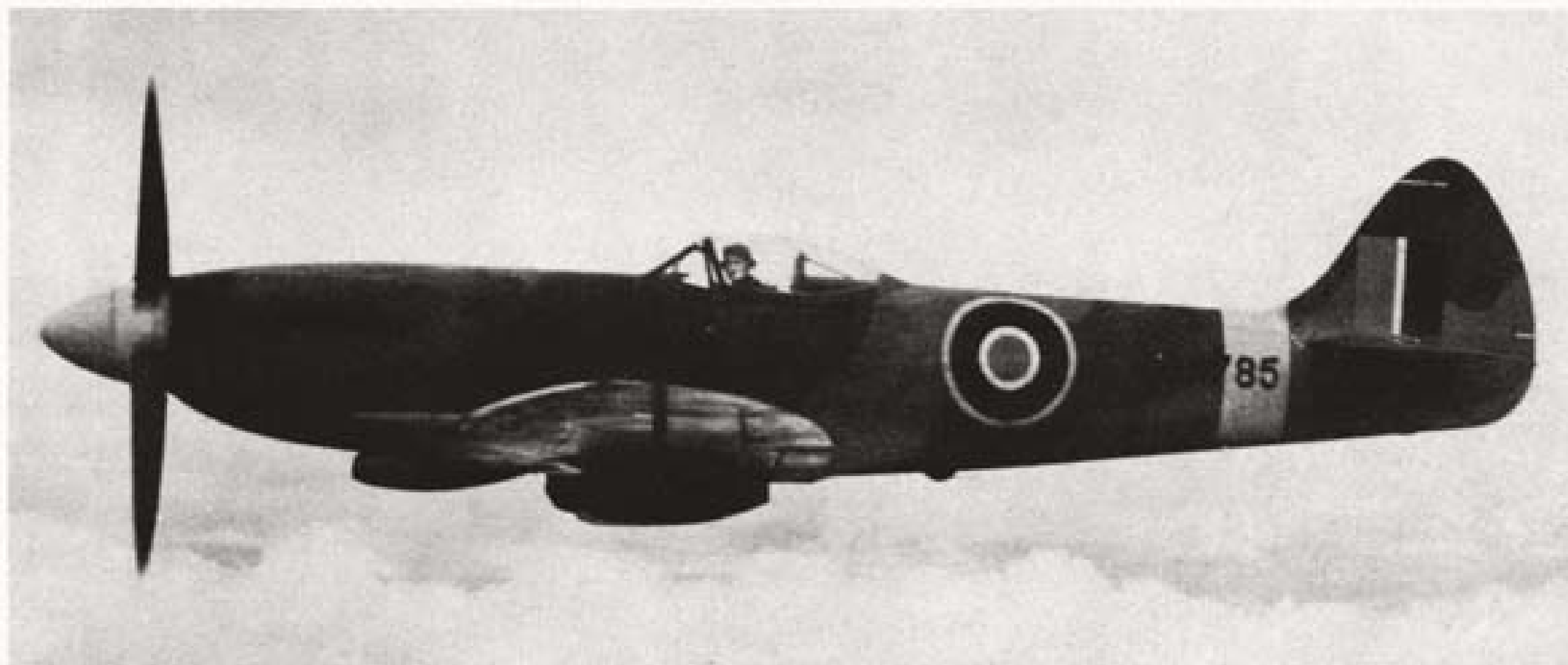
SUNDERLAND 1 & 3



G.B.
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Spitfire 24 is a single-engine low-wing fighter. The wing is elliptical in plan form on both leading and trailing edges. A five-bladed propeller is fitted on a liquid-cooled in-line engine. Prominent features are two large air scoops fitted under the wings near the fuselage. A bubble canopy is fitted. There is a single tail. A retractable landing gear and tail wheel are utilized. The prototype of the Spitfire first flew in March 1936 and since that time it has undergone continuous development to maintain its place in the front rank of the world's fighter aircraft.

SPAN: 36'11".

LENGTH: 32'11".

ENGINE: Griffon 61; Vee in-line/1,540 h. p.

SPEED: 391 knots/18,600 ft.

RANGE: 840 nautical miles/213 knots.

ARMAMENT: 4 x 20 mm.



VICKERS-ARMSTRONGS

RESTRICTED

SPITFIRE 24



G.B.
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 39P-1200



The Meteor 4 is a twin-engine, low-wing, jet-propelled fighter. The wings taper on leading and trailing edge to rounded tips. Some models have square tips. Both engines are fitted on the wings with the air inlet extending forward of the leading edge and the exhaust outlet extending well beyond the trailing edge. The fuselage is rather slender with a prominent canopy near the nose and a tri-cycle retractable landing gear. A single tail is fitted, with the horizontal stabilizer high on the vertical fin. The Halford-engined Meteor was the first version of the Meteor to fly (3-5-43), and the only Allied jet-propelled airplane to see service in World War II.

SPAN: 43'0".

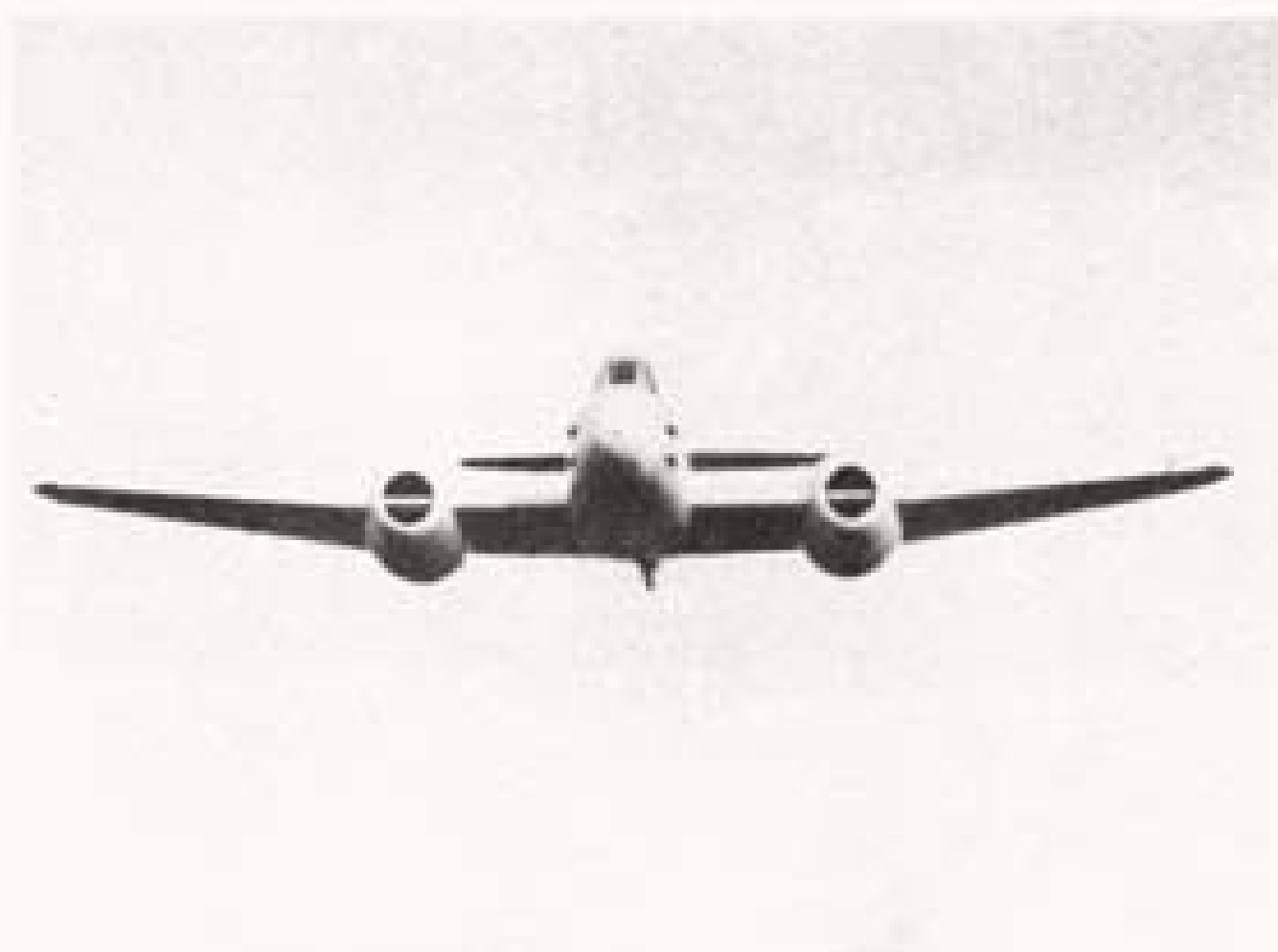
LENGTH: 41'0".

ENGINE: 2 Derwent 5 turbo-jets/3,600-lb. thrust.

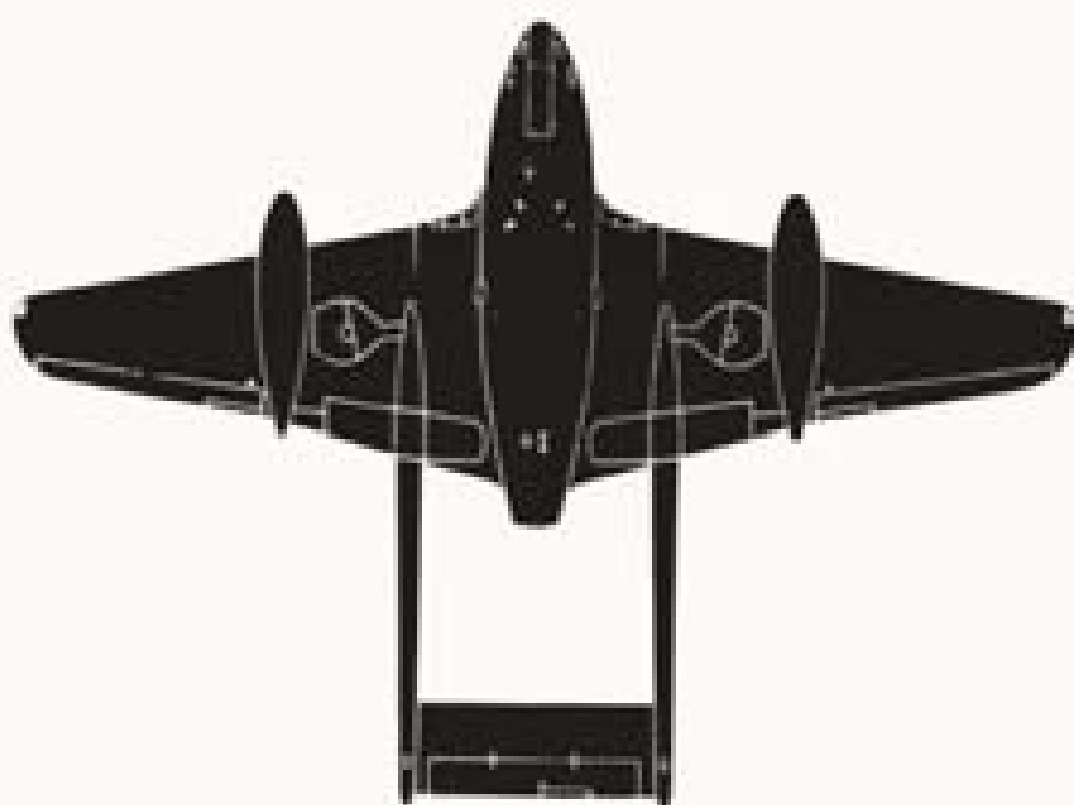
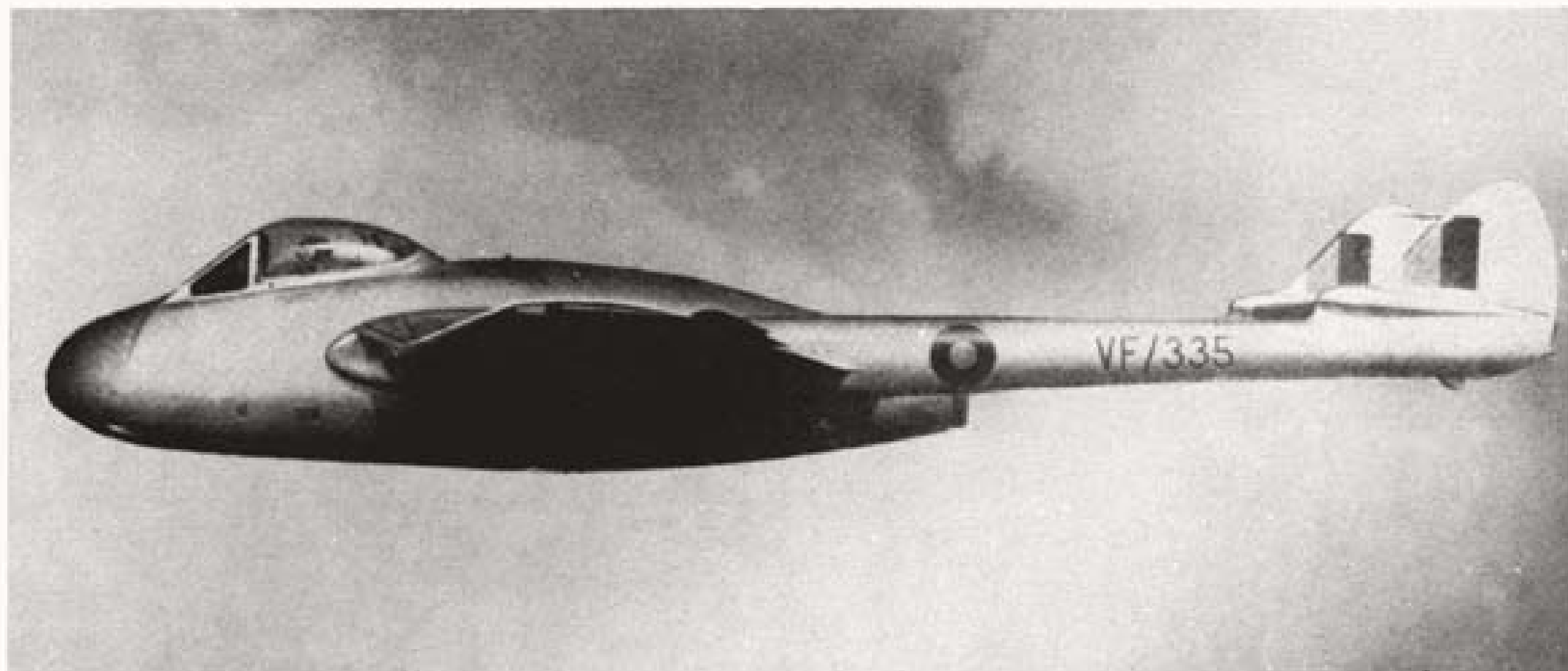
SPEED: 506 knots/sea level.

RANGE: 510 nautical miles/330 knots.

ARMAMENT: 4 x 20 mm.







The Vampire 3 is a mid-wing, single-engine, jet-propelled, twin-boom fighter. The wings are evenly tapered from the roots where the air intakes are accommodated, to the rounded tips. A pilot's pressurized cockpit is ahead of the wings leading edge affording excellent visibility. Twin fins and rudders are mounted above the tail booms with a single elevator between. In March 1948, a Ghost-engined Vampire flew to 59,492 feet for an International Altitude Record. In addition to being in RAF service, the Vampire has been adopted as a standard fighter type by many of the European and Scandinavian countries.

SPAN: 40'0".

LENGTH: 30'9".

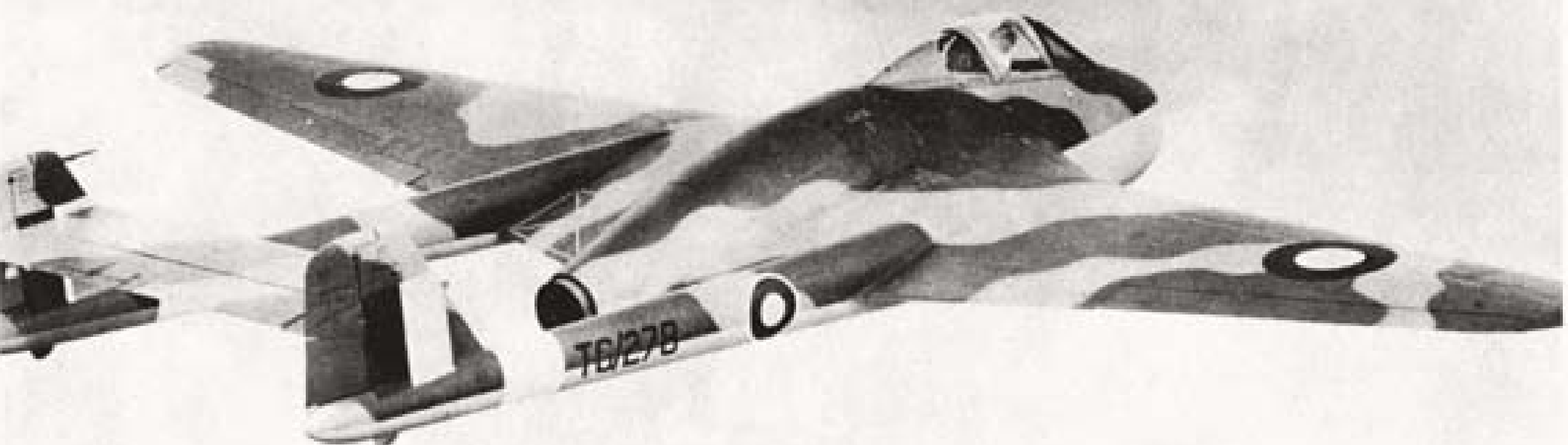
ENGINE: Goblin 2 turbo-jet/3,100-lb. thrust.

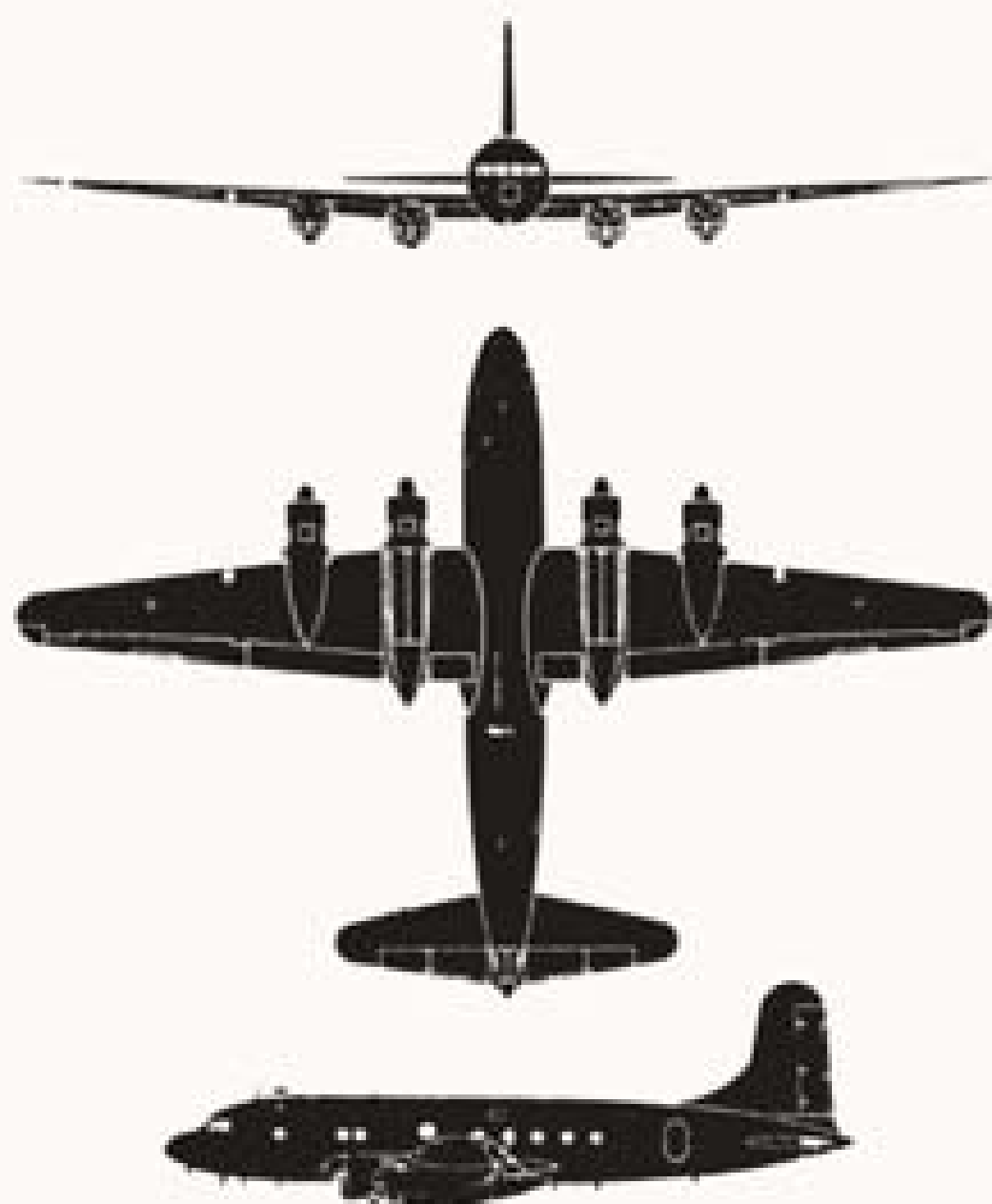
SPEED: 470 knots/20,000 ft.

RANGE: 807 nautical miles/391 knots.

ARMAMENT: 4 x 20 mm.







The Avro Tudor 4 is a low-wing, four-engined transport monoplane. The wing consists of three sections, a rectangular center section and outer sections tapering sharply on the leading edges with trailing edges straight. Both wing tips are rounded. The inboard engine nacelles are slightly forward of the outboard nacelles. The fuselage is all metal and circular in the cross section. A single high fin and rudder and an evenly tapered horizontal stabilizer are fitted. There are many models of the Tudor and the first type 688 Tudor I was conceived in 1943 as a commercial conversion of the Lancaster for use over the North Atlantic.

SPAN: 120'0".

LENGTH: 79'6".

ENGINE: Merlin 621; Vee in-line/1,740 h. p.

SPEED: 240 knots/20,000 ft.

RANGE: 2,910 nautical miles/180 knots.

ARMAMENT: None.



A. V. ROE

RESTRICTED

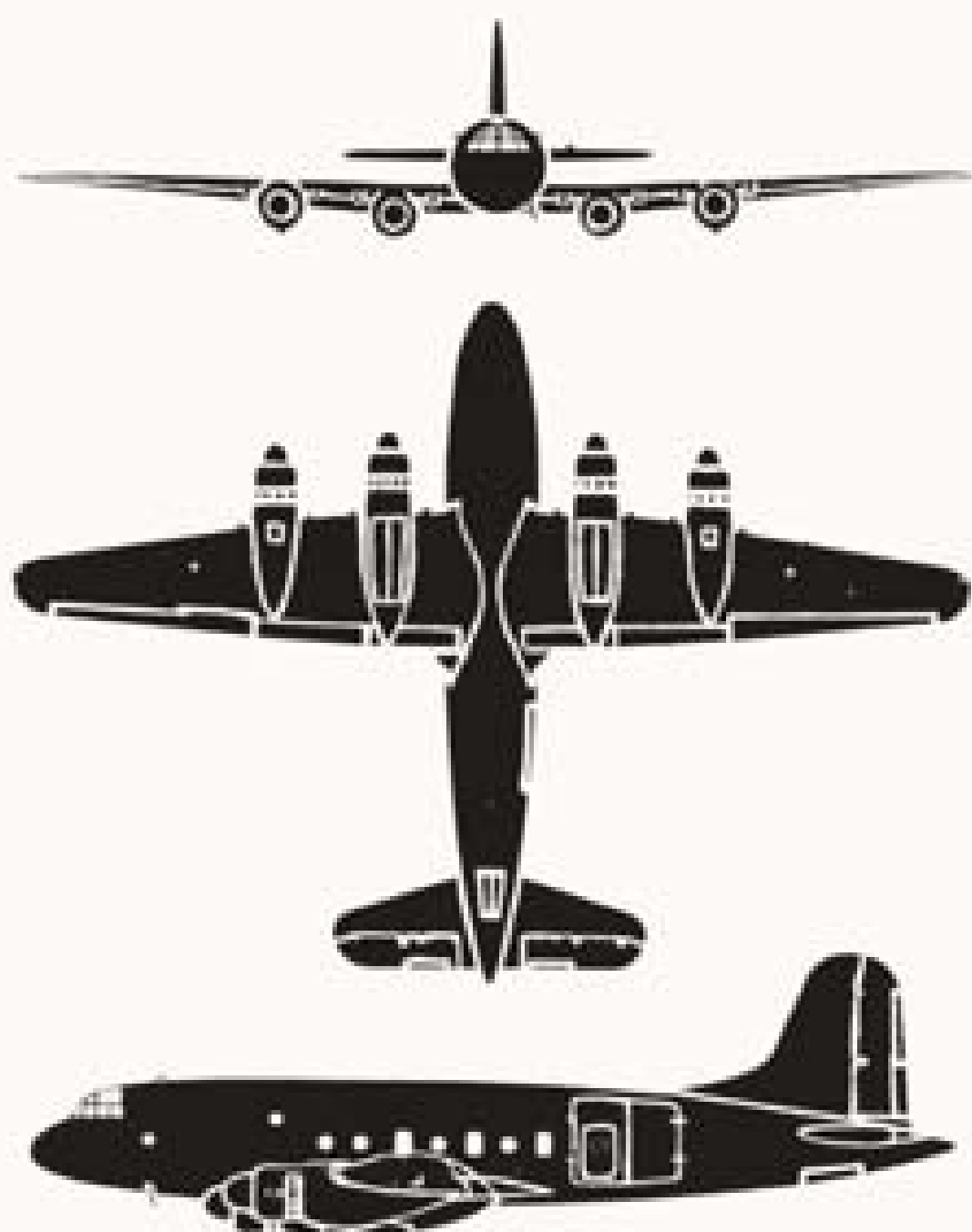
TUDOR 4



G.B.
MAY 1949

RESTRICTED

AFM 50.40
OPNAV 38P-1200



The Hastings is a low-wing, four-engine, long range military transport. The wings taper sharply on the leading edge to rounded tips. All engines are underslung on the wings with the inboard nacelles slightly forward of the outboard nacelles. The fuselage is circular in cross section. There is a single fin and rudder with a horizontal stabilizer tapering on the leading edge to rounded tips. A conventional landing gear is utilized. The Handley Page Hastings is employed as a freighter, para-troop transport, ambulance, troop carrier, supply dropper and glider tug.

SPAN: 113'0".

LENGTH: 82'2".

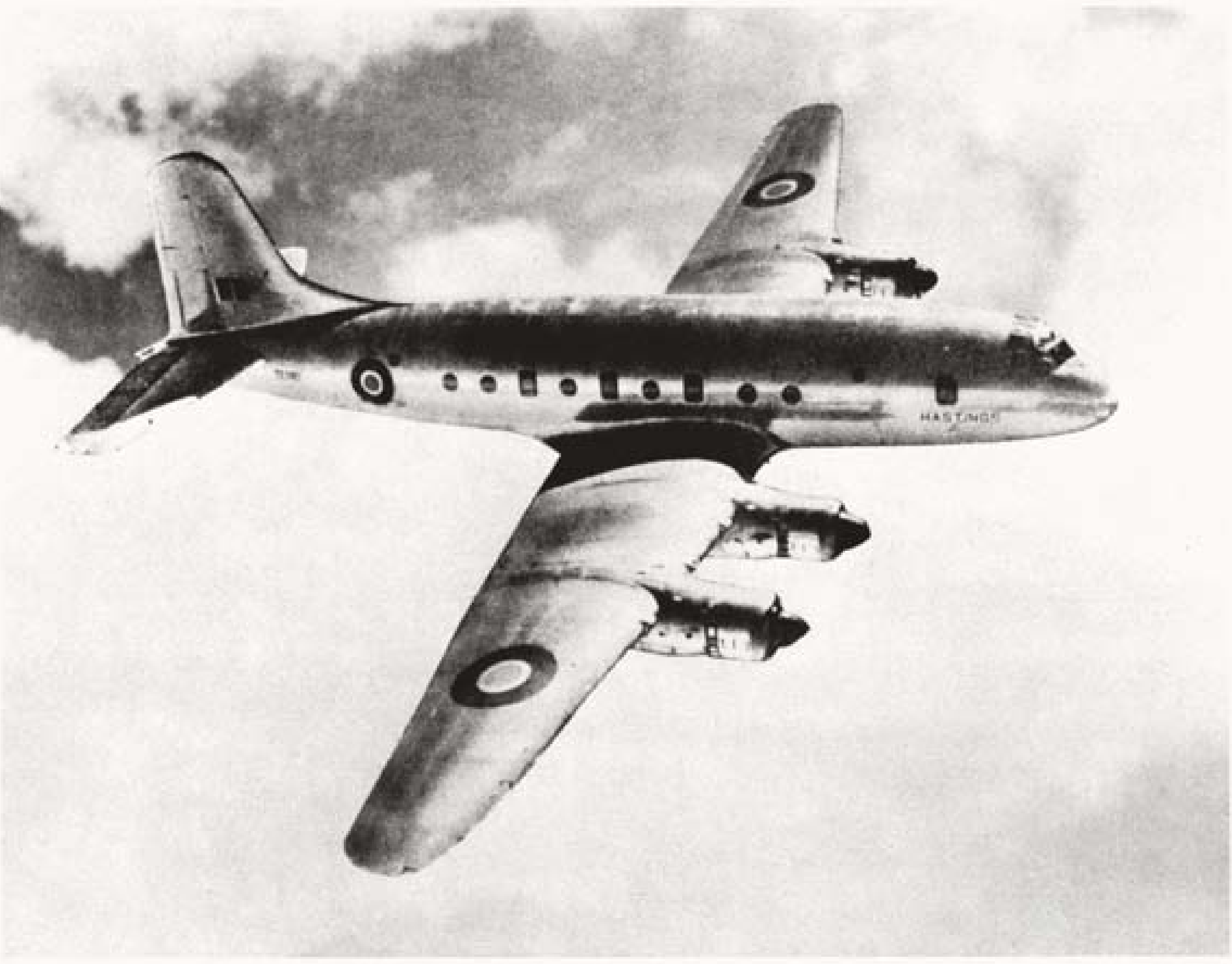
ENGINE: Hercules 100; radial/1,675 h. p.

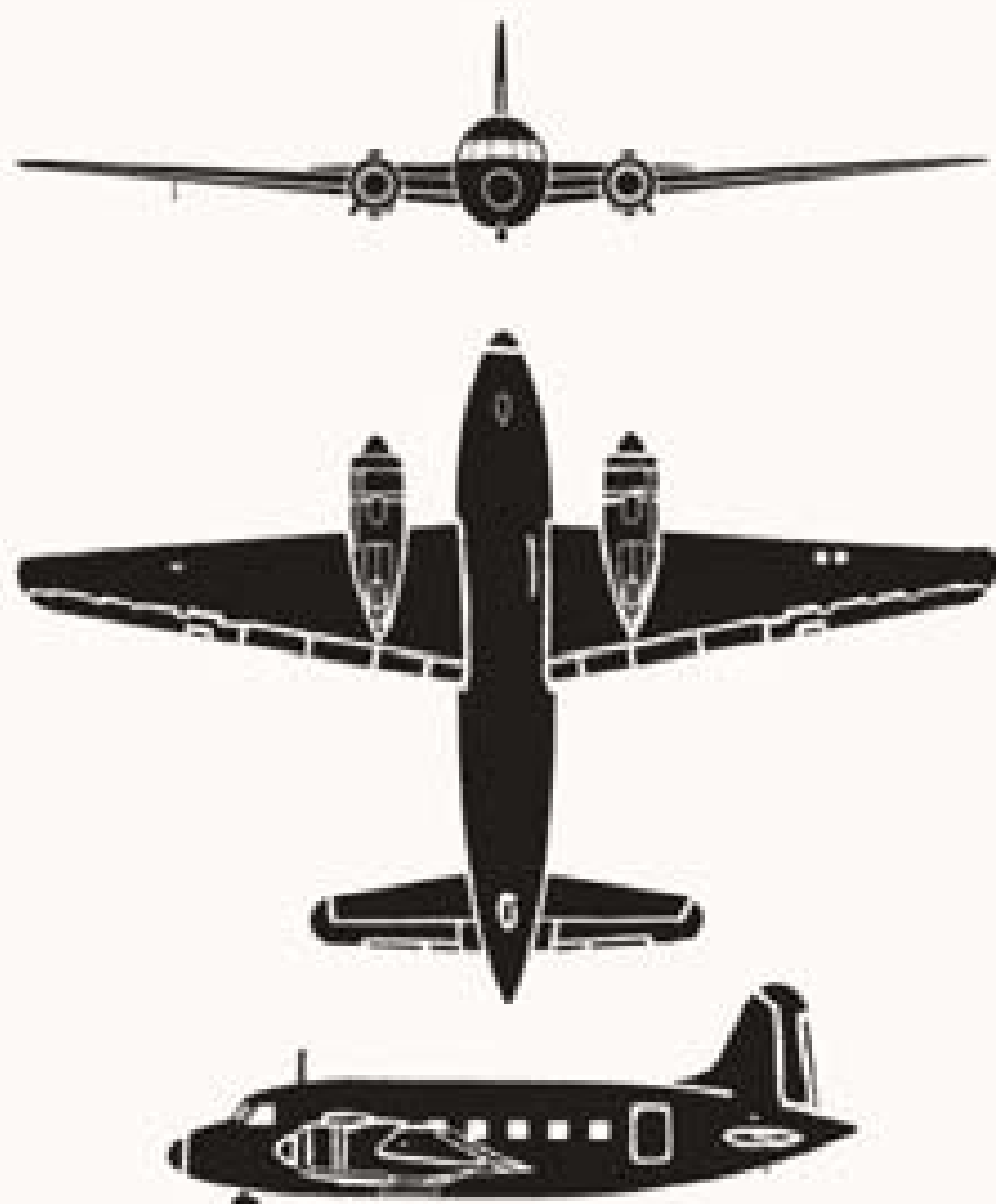
SPEED: 304 knots/20,000 ft.

RANGE: 2,500 nautical miles/205 knots.

ARMAMENT: None.







The Valetta is to be the RAF's standard medium range transport. It is a twin-engine, low-mid-wing monoplane fitted with a single fin and rudder and retractable conventional landing gear. The wings taper on leading and trailing edges to rounded tips. It has a rather thick cigar-shaped fuselage and differs from the Viking in minor respects only. The main differences are an enlarged main door, reinforced floor, and increased size of the crew compartment to accommodate a navigator as the fourth crew member. It may carry a freight load of 8,000 pounds or 36 troops.

SPAN: 89'3".

LENGTH: 62'10".

ENGINE: Hercules 230; radial/2,000 h. p.

SPEED: 280 knots/8,000 ft.

RANGE: 1,380 nautical miles/150 knots.

ARMAMENT: None.



VICKERS-ARMSTRONGS

RESTRICTED

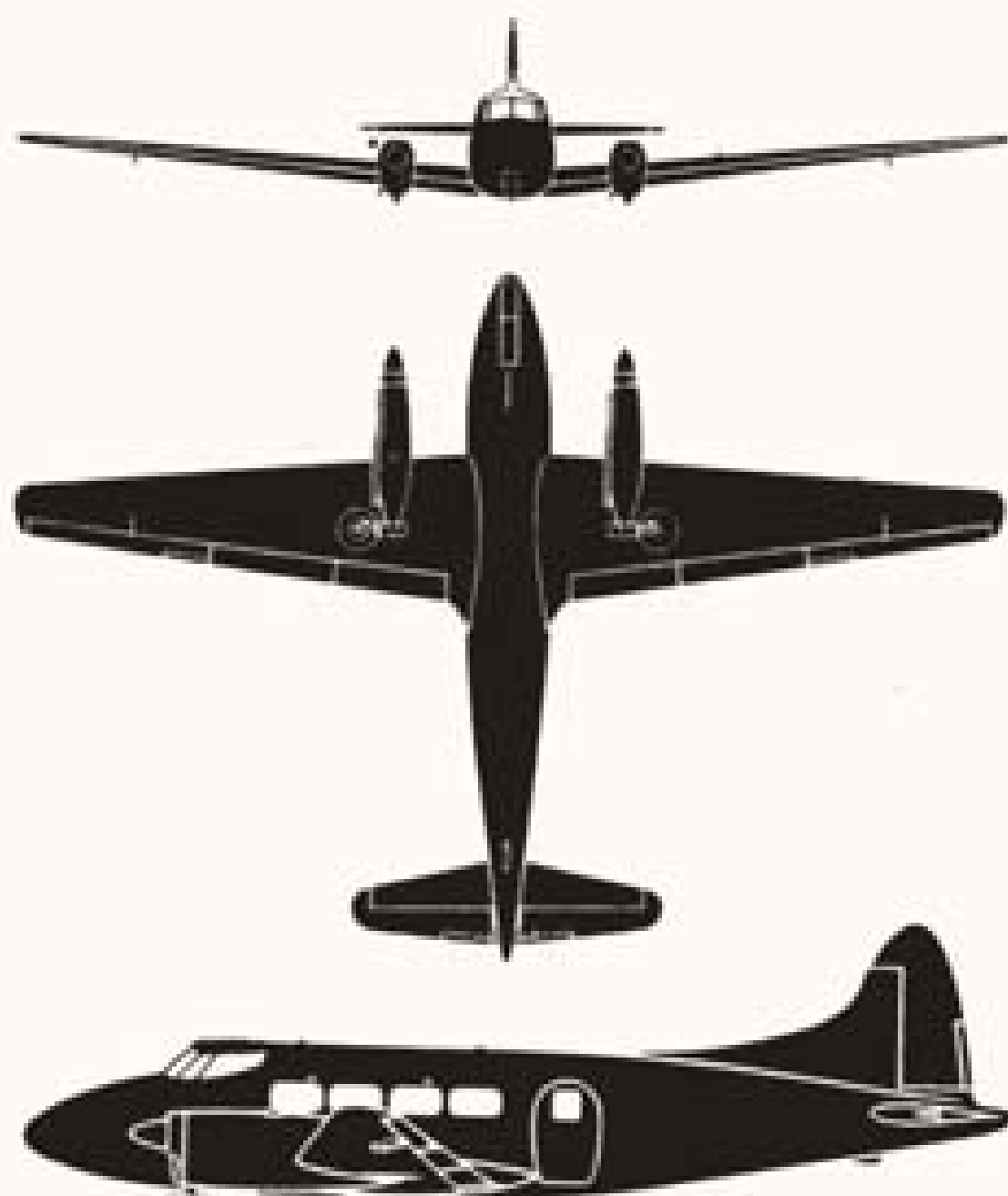
VALETTA



G.B.
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 39P-1200



The Dove, D.H. 104, is a twin-engine, low-wing transport. In-line engines are fitted with the nacelles extending well beyond the leading edge of the wing. The wings taper on leading and trailing edge to very short chord well rounded tips. A single tail is fitted with a large dorsal fin. It has a retractable tricycle landing gear. A cargo of 1,975 pounds or 11 passengers can be carried. A military version of the Dove is the Devon which is used for communications duties within the RAF and for the use of British Air Attache's abroad.

SPAN: 57'0".

LENGTH: 39'4".

ENGINE: Gipsy Queen 71; in-line/330 h. p.

SPEED: 193 knots/5,800 ft.

RANGE: 1,300 nautical miles/139 knots.

ARMAMENT: None.



DE HAVILLAND

RESTRICTED

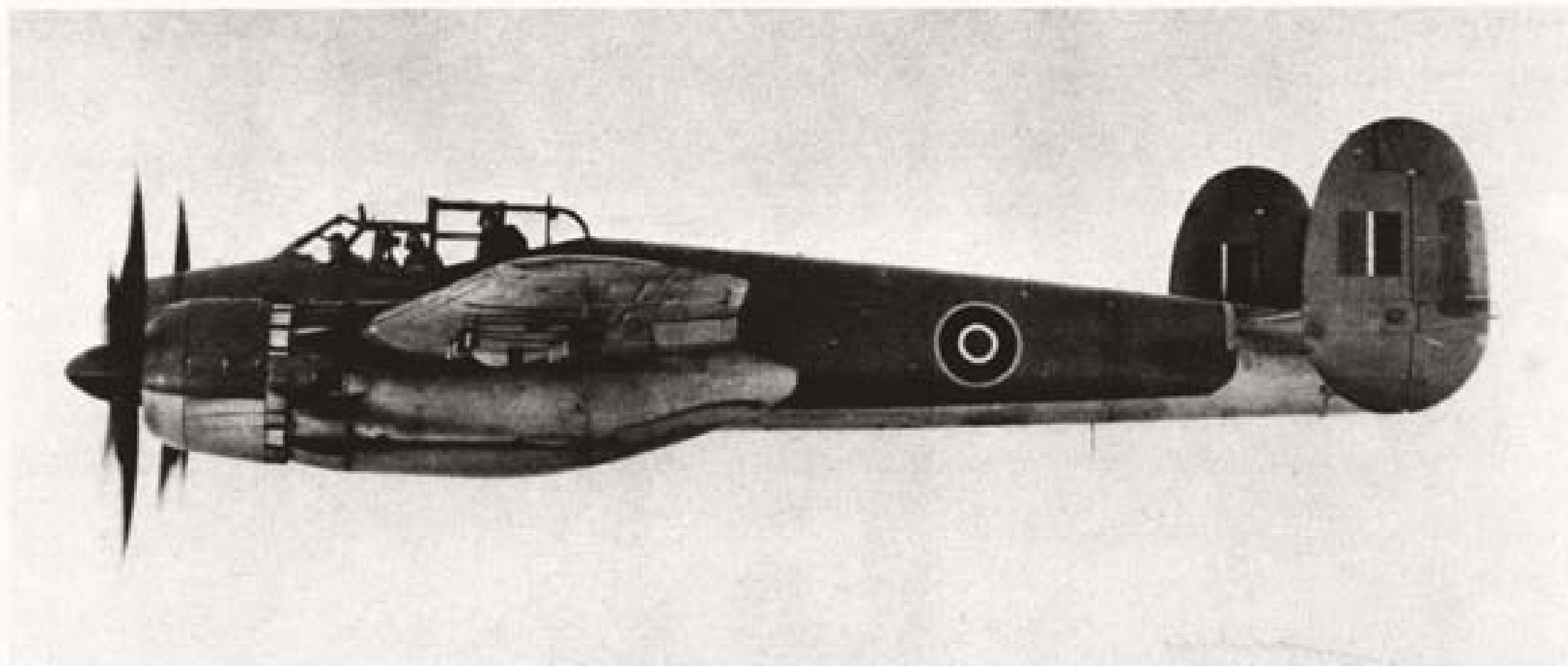
D. H. 104 DOVE



G.B.
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Brigand 1 is a three-place, twin-engine, mid-wing monoplane. Radial engines are fitted, with the nacelles underslung. The wing tapers on both leading and trailing edges to well rounded tips. The nose extends just beyond the engine nacelles. Twin elliptical vertical tails are fitted. A conventional retractable landing gear is employed. A maximum bomb load of 2,450 pounds may be carried. The Brigand was designed as a long range attack aircraft capable of fulfilling the duties of a dive bomber, torpedo fighter, mine carrier or day or night fighter.

SPAN: 72'4".

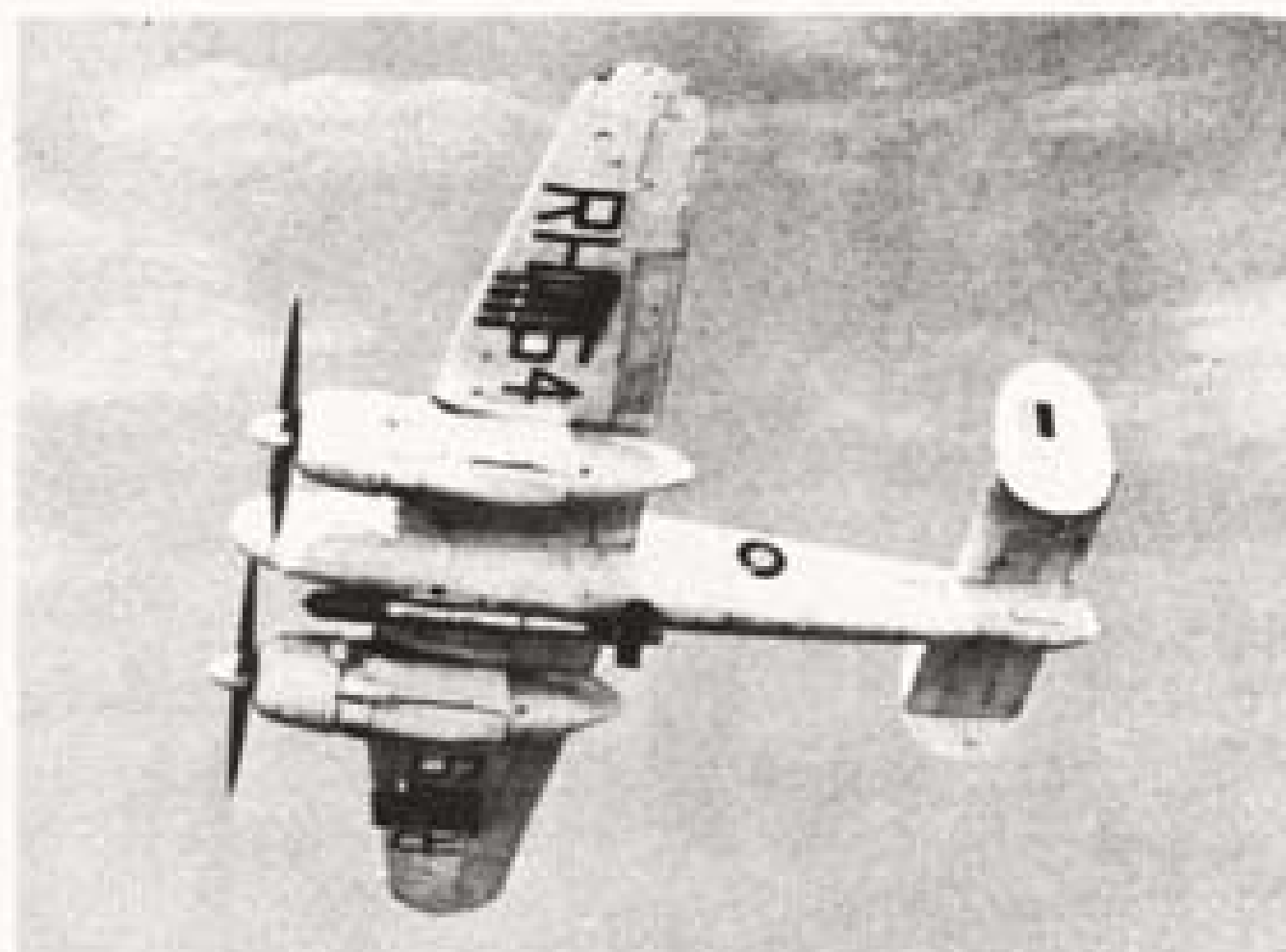
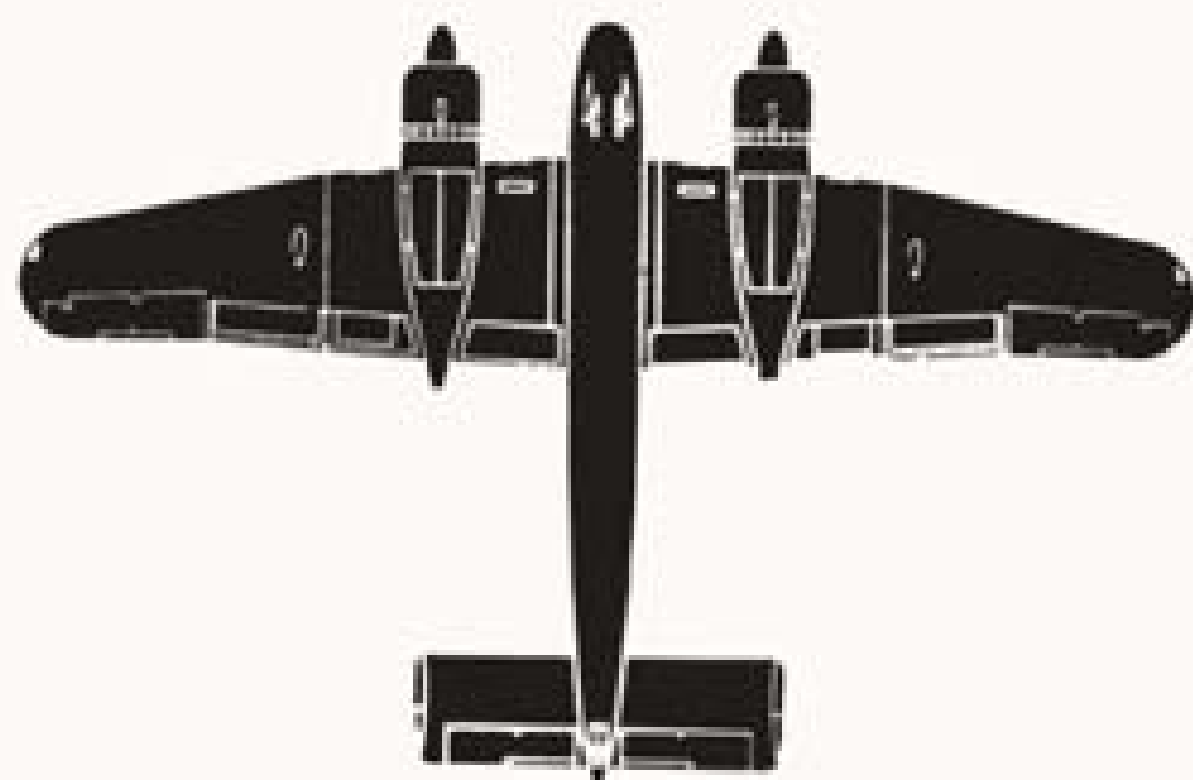
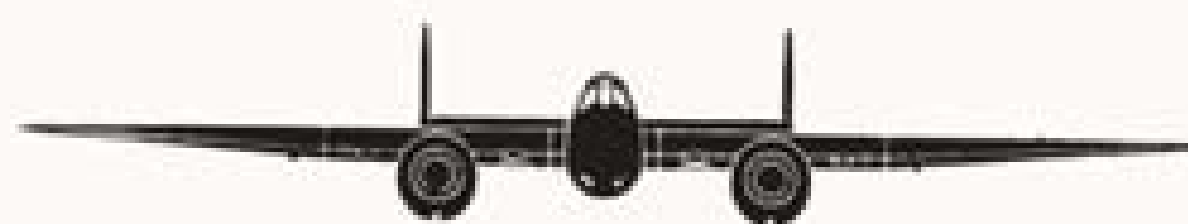
LENGTH: 46'5".

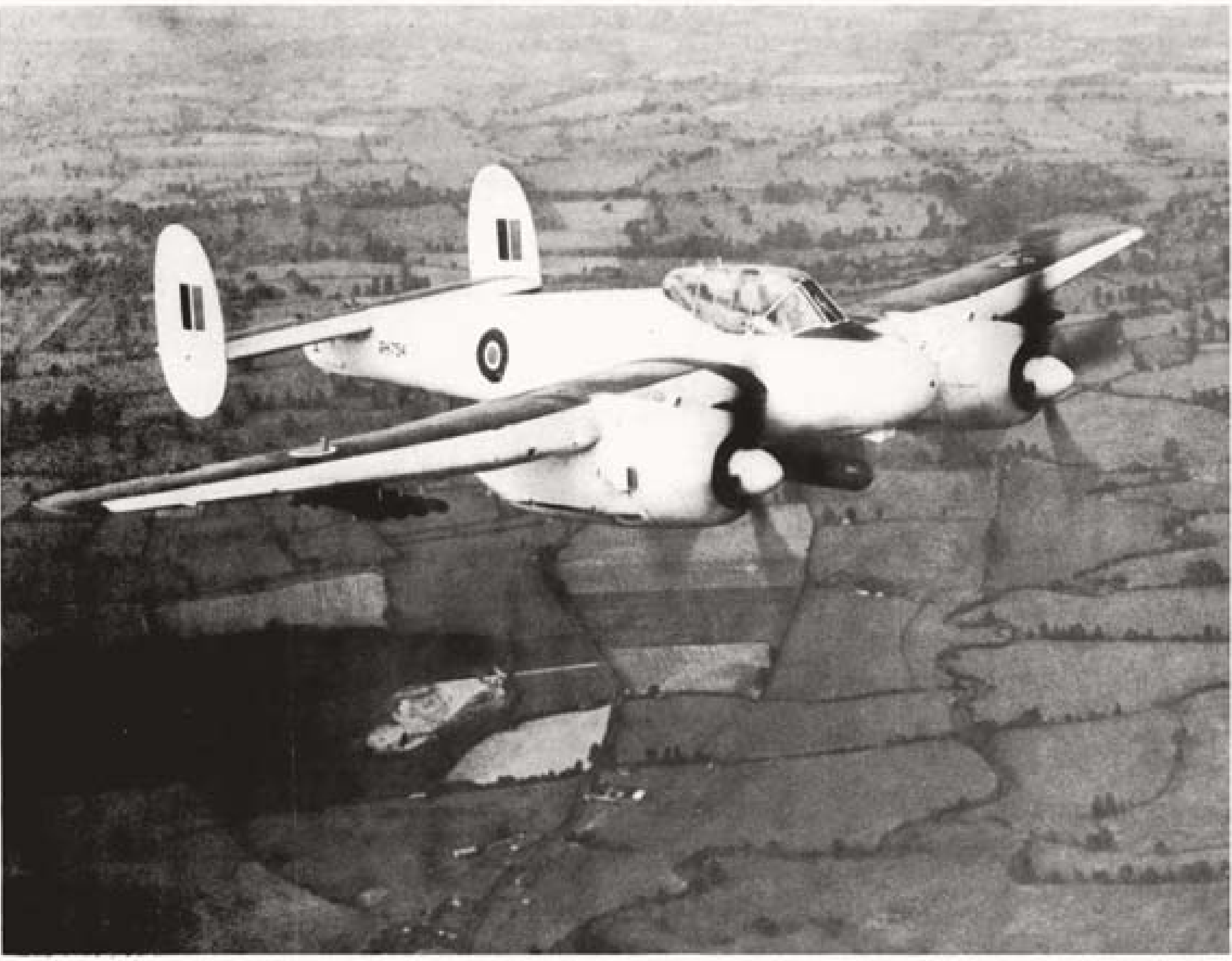
ENGINE: Centaurus 57; radial/2,400 h. p.

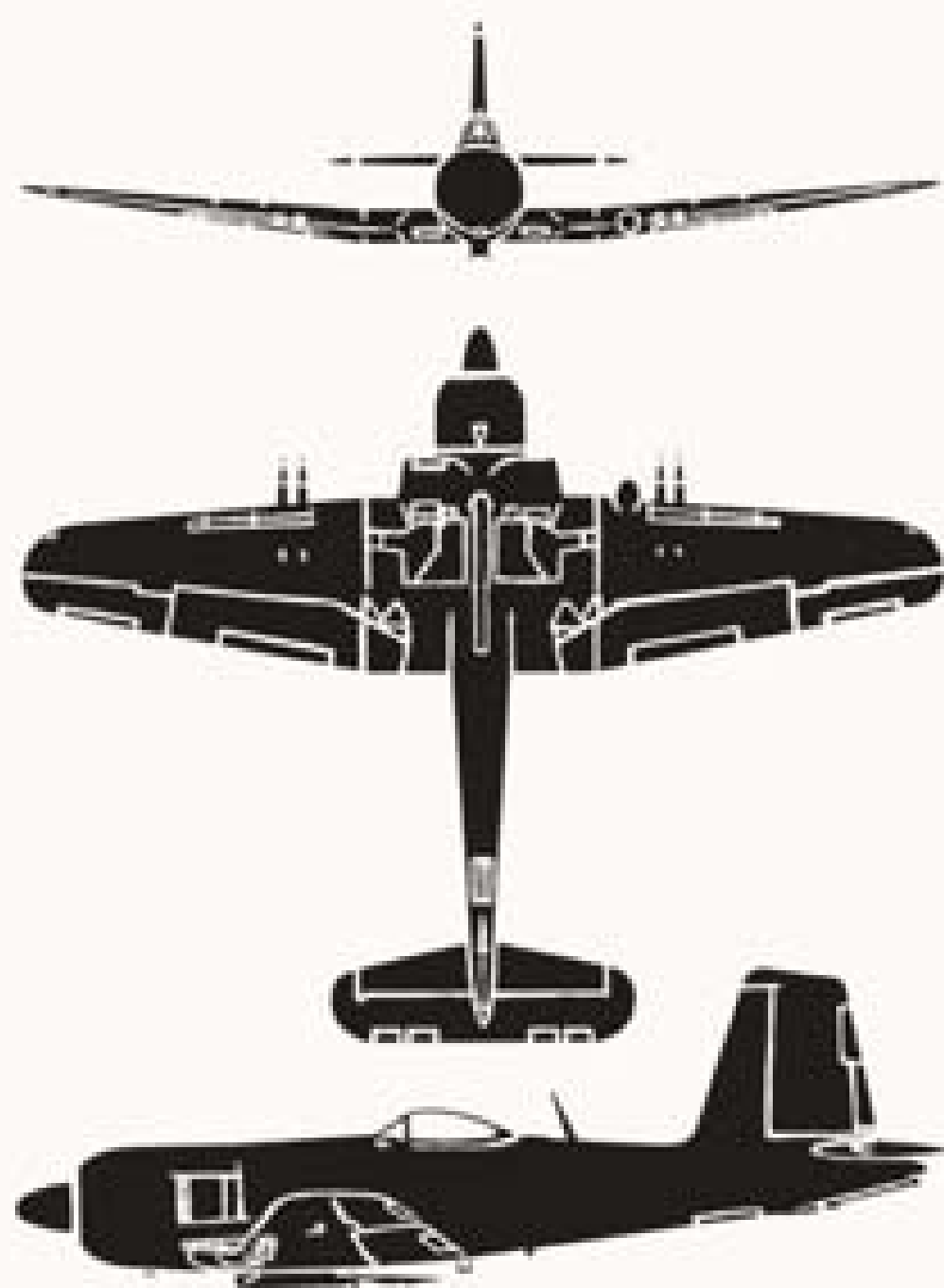
SPEED: 318 knots/12,500 ft.

RANGE: 1,910 nautical miles/169 knots.

ARMAMENT: 4 x 20 mm.; 1 x .50 cal.







The Firebrand 5 is a single-engine, single-place, low-wing fighter, torpedo carrier. A radial engine is fitted. The wing has dihedral in the outer panels, and tapers on leading and trailing edges to well rounded tips. A single tail is fitted, with the tip of the vertical fin square. The landing gear is of the conventional retractable type. The wings fold for carrier operation. A 2,000 pound torpedo or bomb may be carried externally beneath the fuselage. It may also carry two 45 imperial (206 litre) wing drop tanks or one larger tank on the torpedo gear. The prototype of the Firebrand 1 first flew on 27 February 1942.

SPAN: 51'3½".

LENGTH: 39'1".

ENGINE: Centaurus 9; radial/2,590 h. p.

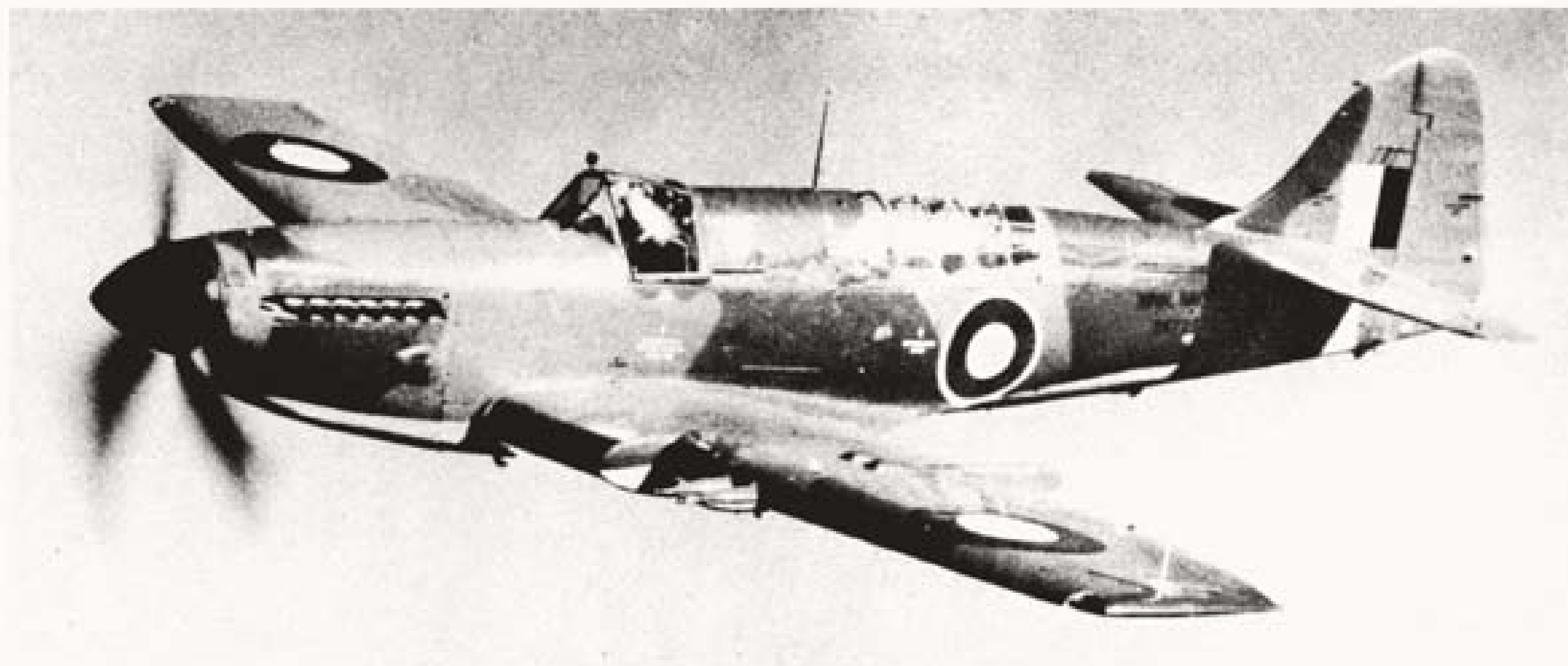
SPEED: 296 knots/13,000 ft.

RANGE: 380 nautical miles/250 knots.

ARMAMENT: 4 x 20 mm. fixed in wings.







The Firefly 4 is a single-engine, two-place, low-wing monoplane with an in-line engine. The wings taper slightly on leading and trailing edge to square tips. A single tail and retractable conventional landing gear are fitted. The Firefly 4 is similar to the Firefly 1 except that the wings are clipped, the center section of the wing's leading edge is revised to take cooling radiators, and the leading edge of the fin is extended. A maximum bomb load of 2,000 pounds may be carried. The Firefly 4 was designed to fulfill day and night fighter duties. The night fighter version has radar gear set in each wing.

SPAN: 41'2". **LENGTH:** 37'11".

ENGINE: Griffon 74; Vee in-line/2,020 h. p.

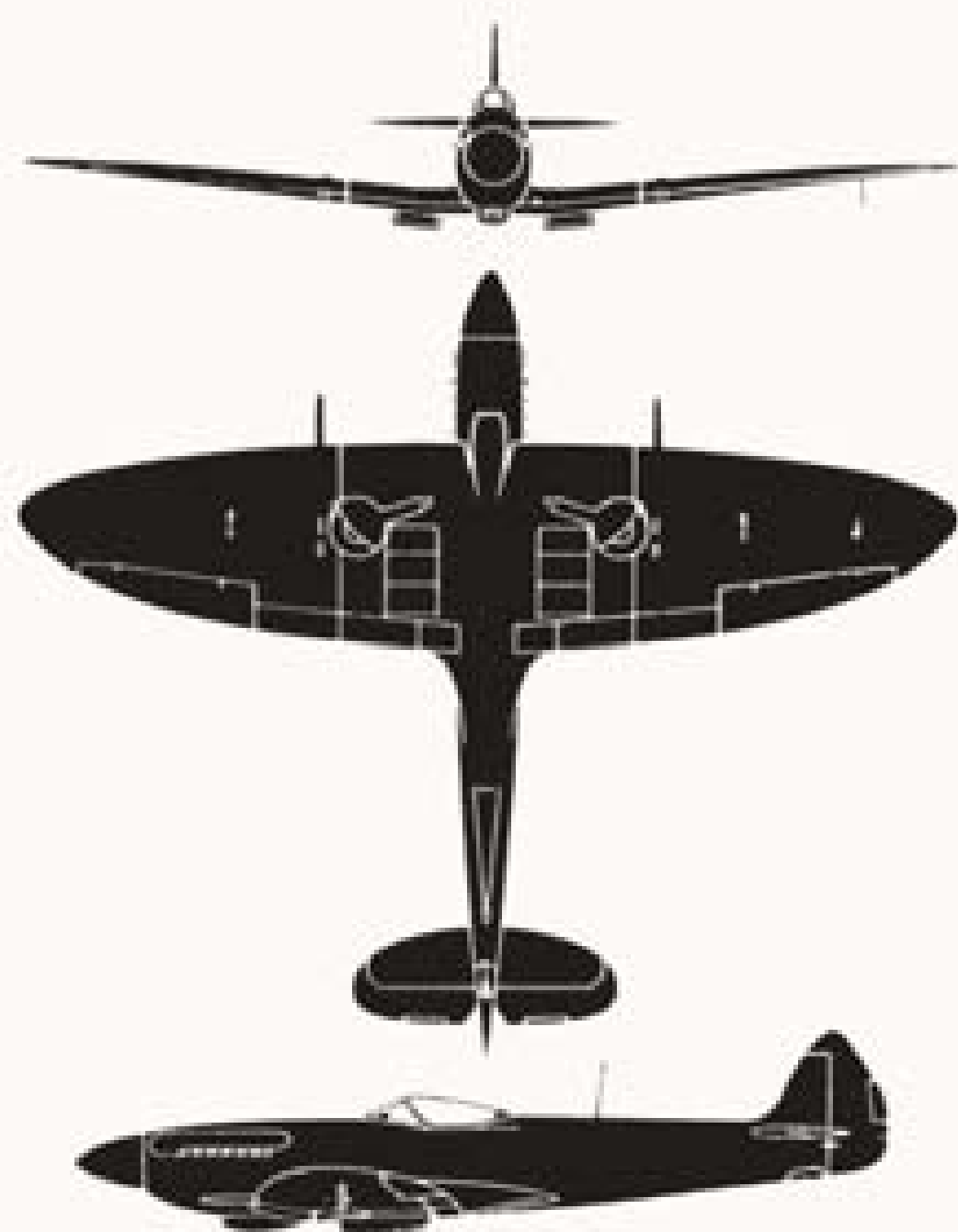
SPEED: 335 knots/14,000 ft.

RANGE: 642 nautical miles/220 knots.

ARMAMENT: 4 x 20 mm.; 8 x 3" rkts. or bomb load.







The Seafire 47 is a single-seat, single-engine, low-wing monoplane. An in-line engine is fitted with two three-bladed contra-rotating propellers. A bubble canopy is located at mid fuselage. The wing is elliptical in shape, and has rather sharp tips. A single tail is fitted with a full length rudder. A retractable conventional landing gear is employed. It is equipped with folding wings and arrestor gear for carrier operations. A maximum bomb load of 1,000 pounds may be carried. The Seafire is the Naval version of the famous Spitfire, the original design of this aircraft was accepted by the Air Ministry in 1934.

SPAN: 36'11".

LENGTH: 31'6".

ENGINE: Griffon 87; Vee in-line/1,765 h. p.

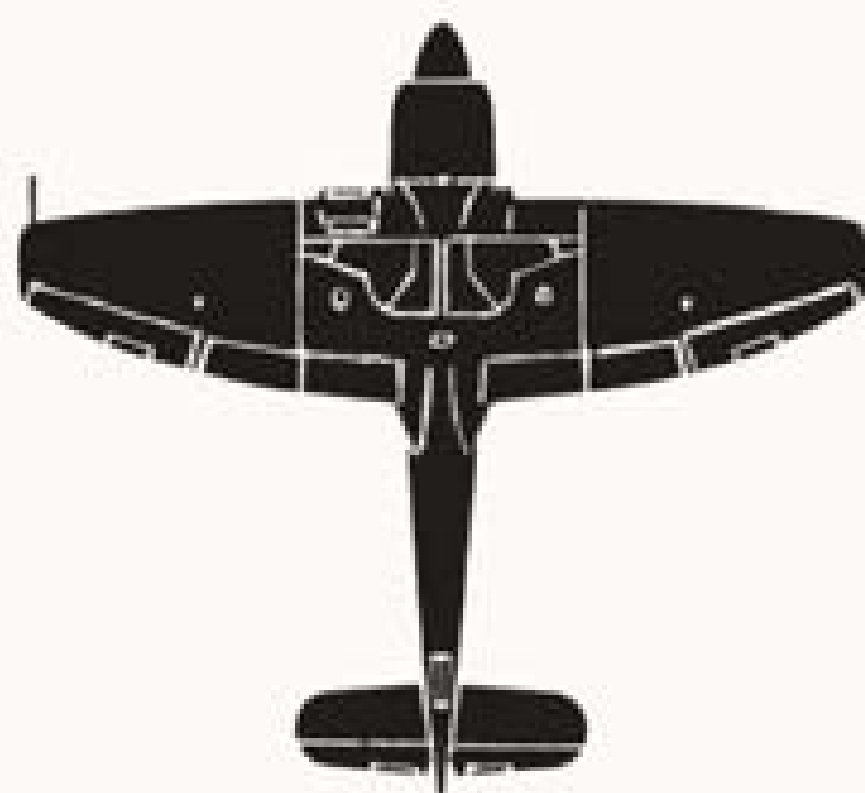
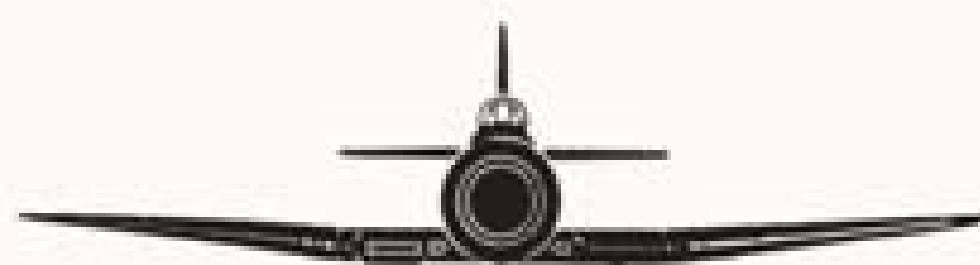
SPEED: 400 knots/20,000 ft.

RANGE: 455 nautical miles/229 knots.

ARMAMENT: 2 x 20 mm.; 4 x .303 cal.; 8 x 3" rcts. or bombs.







The Sea Fury 10 is the same as the Fury 1 in appearance. It is a single-seat, single-engine, low-wing monoplane. The wing tapers slightly on the leading edge and is elliptical on the trailing edge to rounded tips. A single tail is fitted. The landing gear is retractable and of the conventional type. The wings fold on the naval version, and a bubble canopy is fitted. A radial engine with a large spinner is fitted. A maximum bomb load of 2,000 pounds may be carried. Deck landing trials were made with this aircraft on the HMS Ocean in October 1945.

SPAN: 38'5".

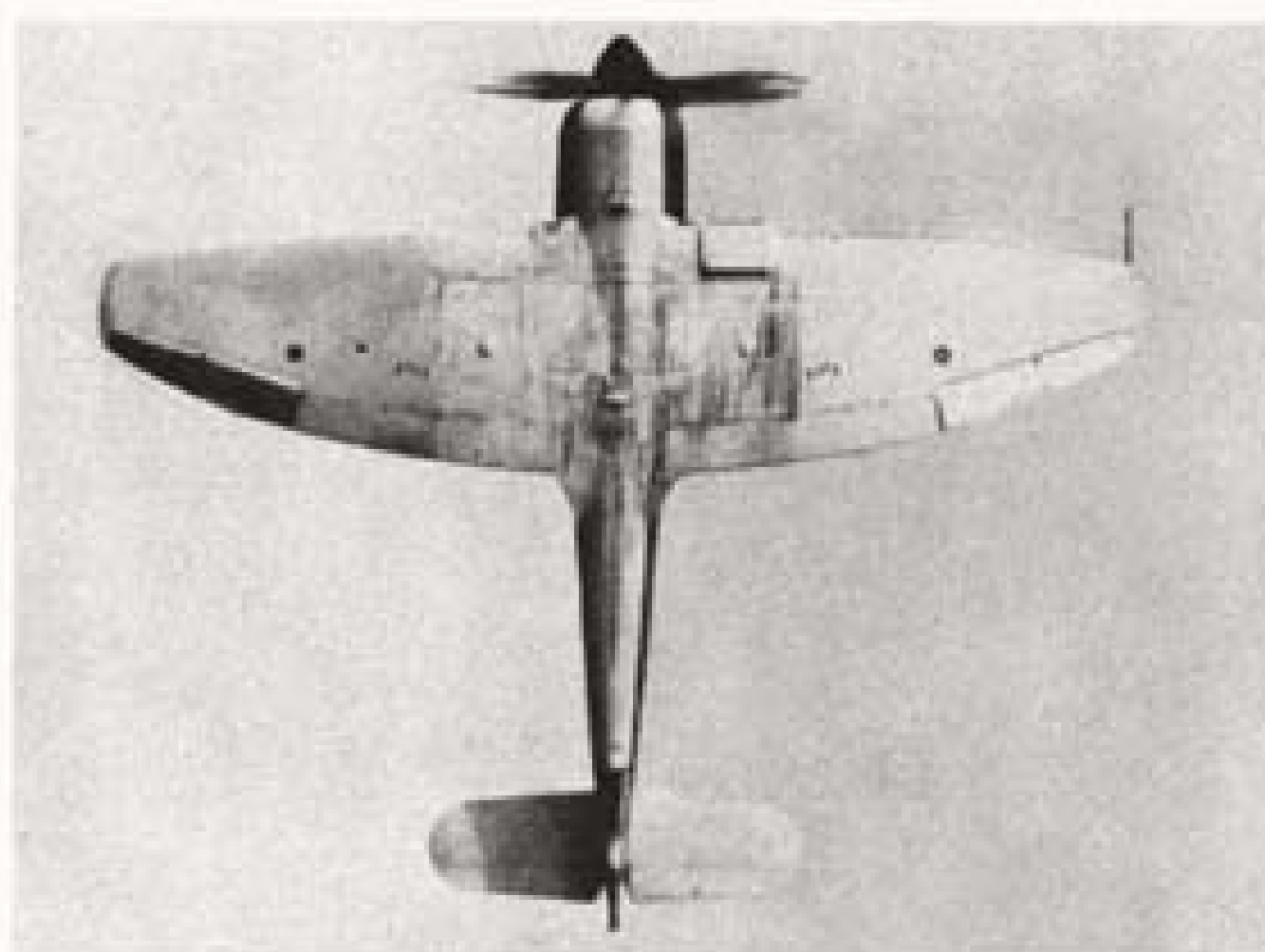
LENGTH: 34'6".

ENGINE: Centaurus 18; radial/2,500 h. p.

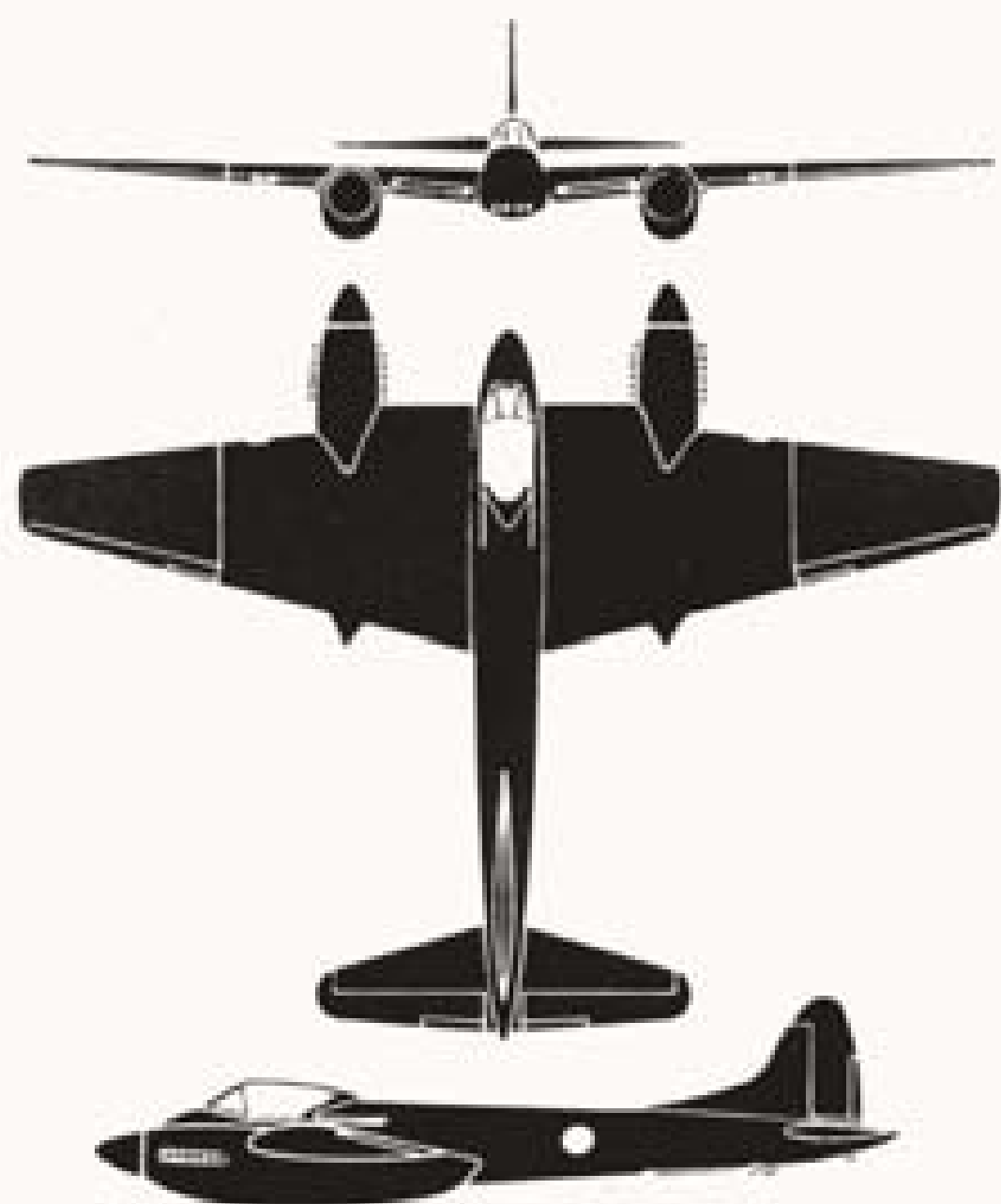
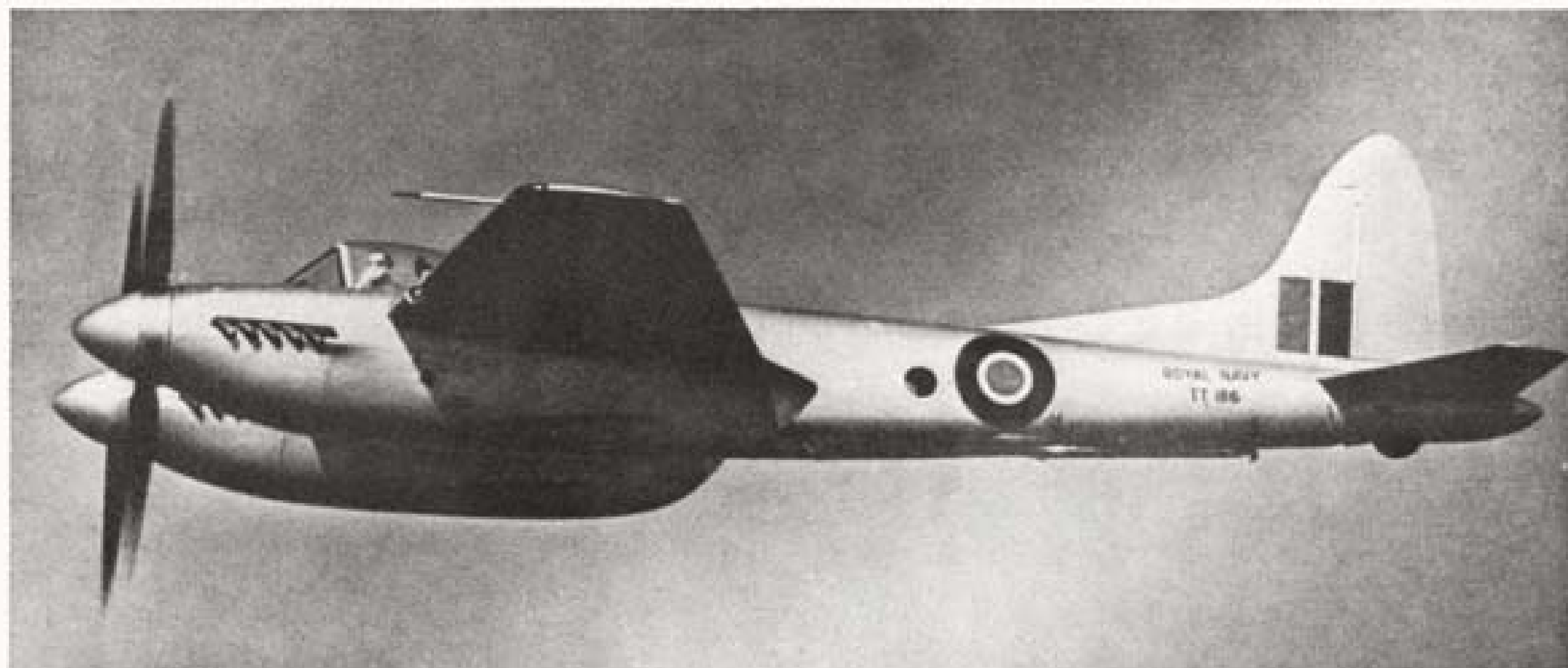
SPEED: 378 knots/24,500 ft.

RANGE: 590 nautical miles/248 knots.

ARMAMENT: 4 x 20 mm.; 8 x 3" rkt. or bomb load.







The Sea Hornet 20 is a single-seat, twin-engine, carrier based monoplane fighter. The wing is fitted to the fuselage well forward, and the engine nacelles extend forward of the fuselage. A retractable conventional type landing gear is fitted. There is a single tail. This aircraft is similar in appearance to the Hornet 3. A maximum bomb load of 2,000 pounds may be carried. There is also a night fighter version, N.F.21, with a prominent radar dome in the nose. The prototype Hornet fitted with arrester hook and nonfolding wings, made its first deck landing trials on the H.M.S. Ocean during August 1945.

SPAN: 45'0".

LENGTH: 36'9".

ENGINE: Merlin 130, 131; Vee in-line/1,670 h. p.

SPEED: 400 knots/17,000 ft.

RANGE: 700 nautical miles/231 knots.

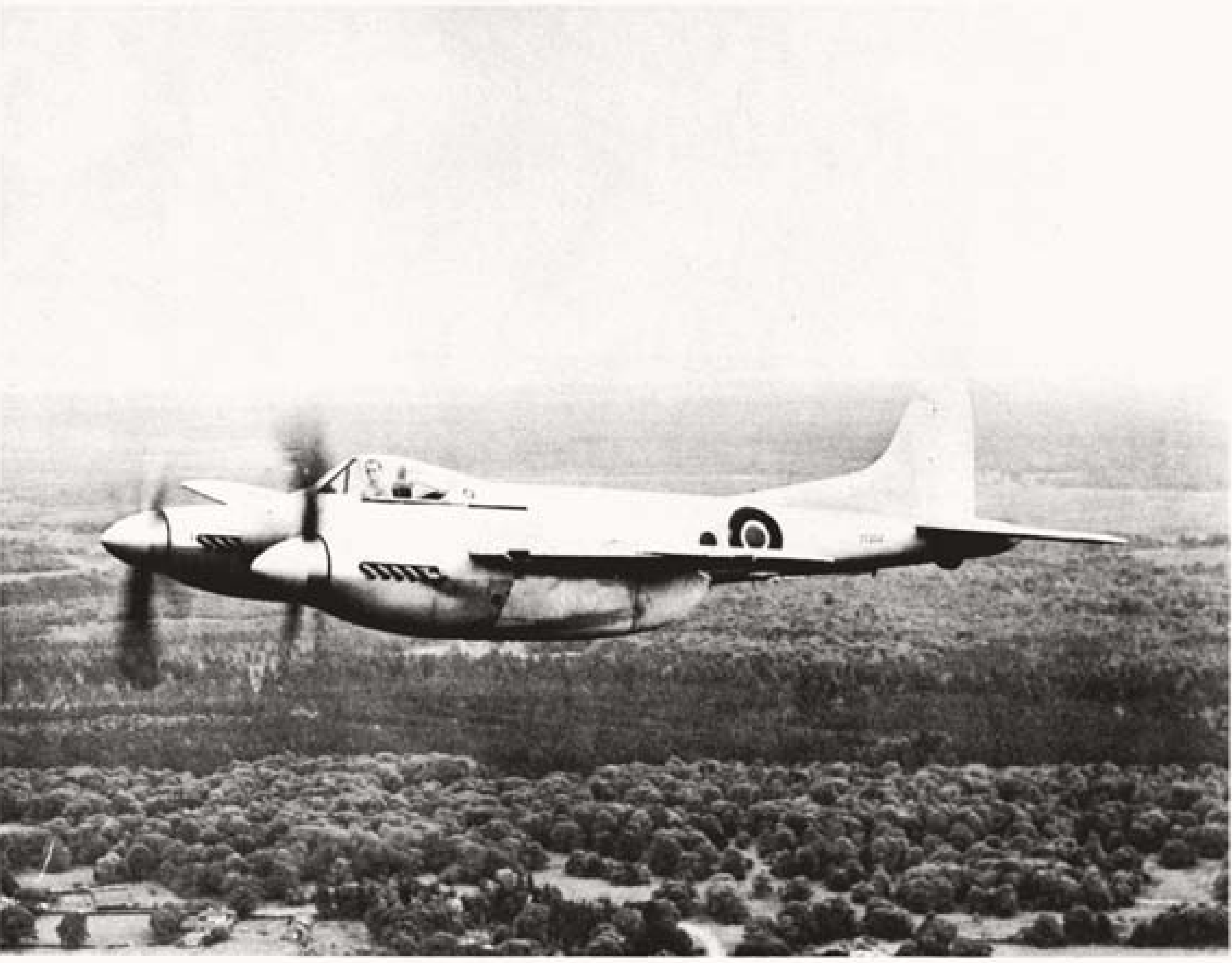
ARMAMENT: 4 x 20 mm.; 8 x 3" rcts. or bomb load.



DE HAVILLAND

RESTRICTED

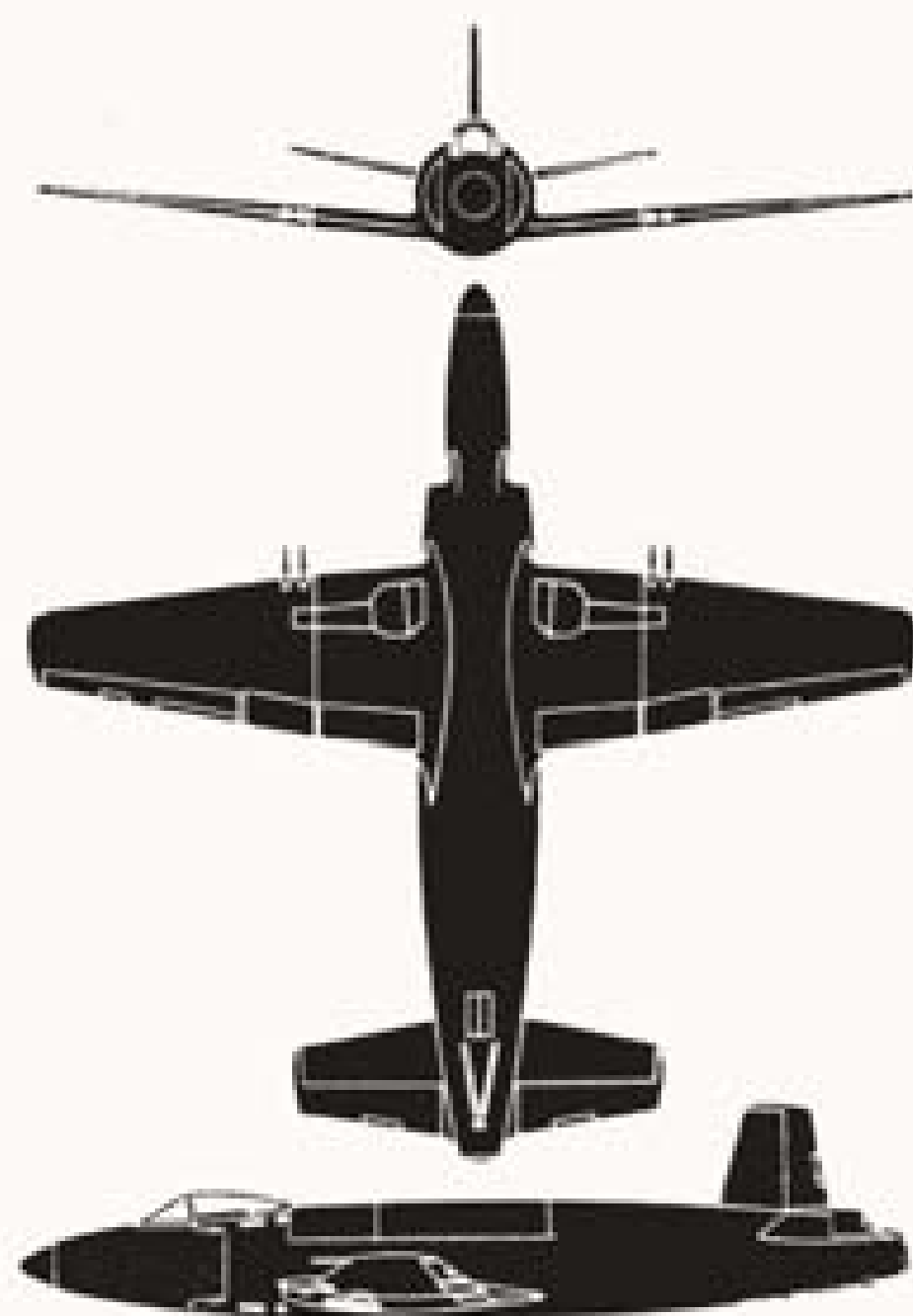
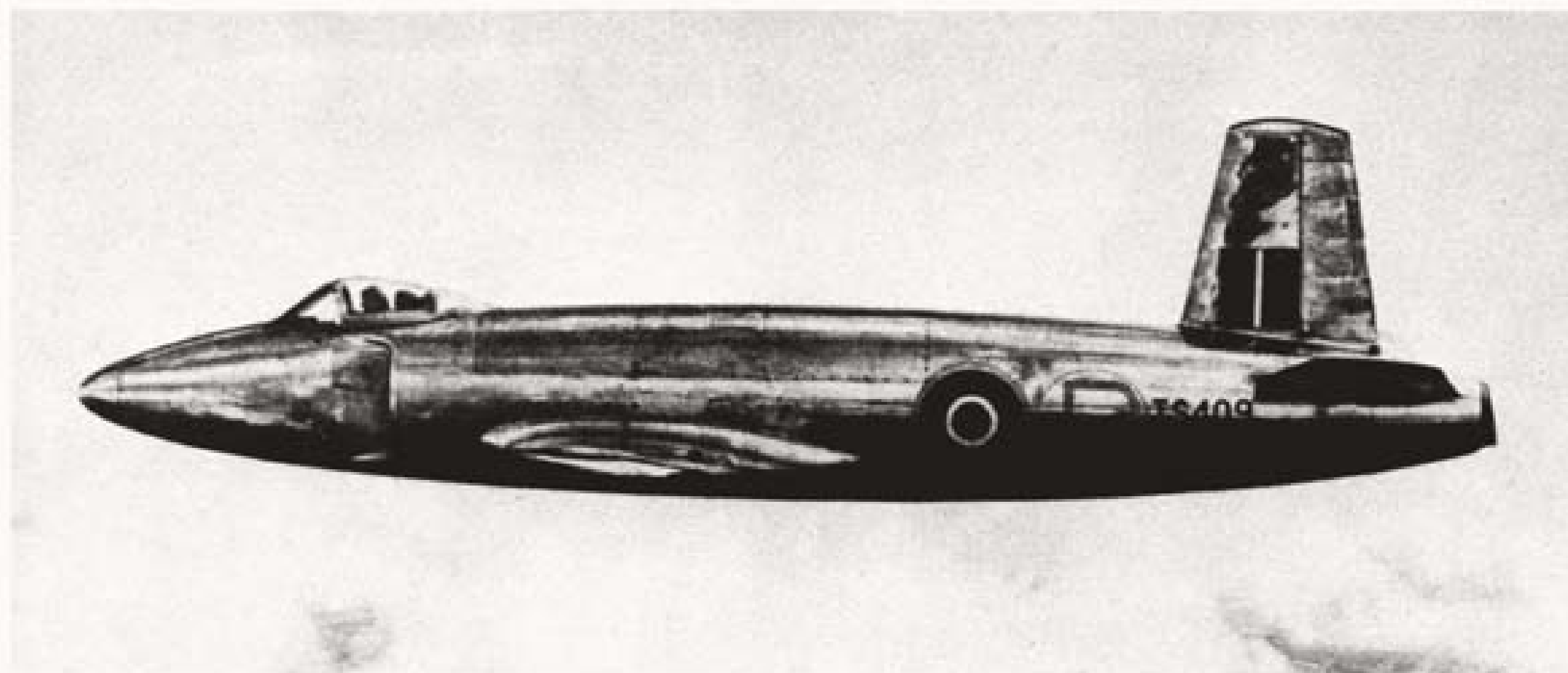
SEA HORNET 20



G.B.
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The Sea Attacker is a low-mid-wing jet-propelled single-seat fighter. A single turbo-jet is installed in a round fuselage with the jet intake on either side of the fuselage just forward of the leading edge of the wing. The exhaust is in the tail. The wings are evenly tapered with blunt tips. A stubby fin and rudder are forwardly placed. The stabilizer has dihedral and is evenly tapered with blunt tips. This aircraft is unusual in that it is fitted with a two-wheel landing gear, whereas all previous English jets have had tricycle landing gears. The Sea Attacker is a naval version of the E10/44 Attacker.

SPAN: 36'11".

LENGTH: 37'6".

ENGINE: Rolls-Royce Nene turbo-jet/15,000-lb. thrust.

SPEED: 520 knots/3,000 ft.

RANGE: 686 nautical miles/340 knots.

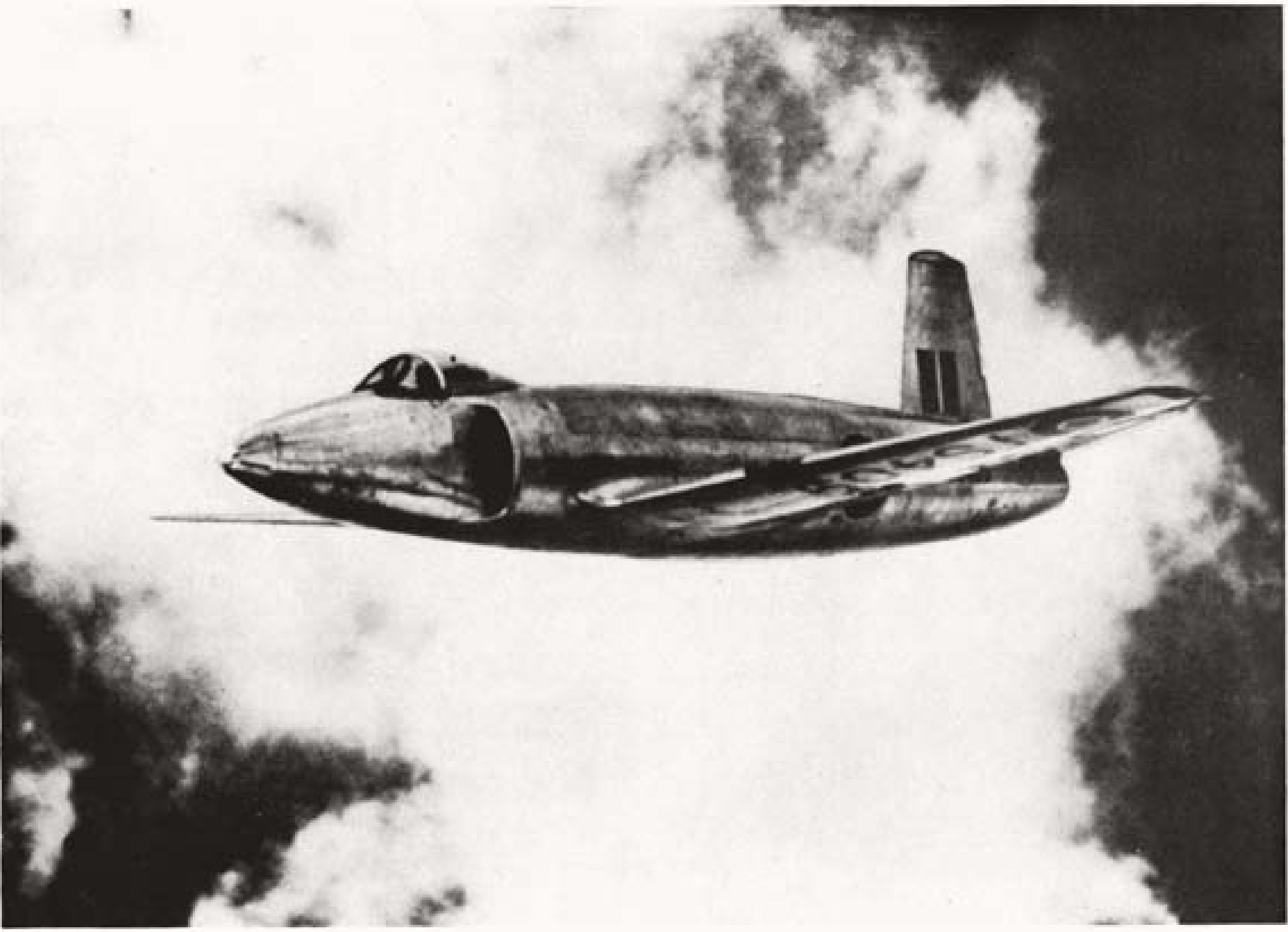
ARMAMENT: 4 x 20 mm.; 4 x 500-lb. bombs.



VICKERS-ARMSTRONGS

RESTRICTED

SEA ATTACKER



G.B.
MAY 1949

RESTRICTED

AFM 50.40
OPNAV 32P.1200

THE COMMONWEALTH OF AUSTRALIA

(The British Commonwealth of Nations)

The Royal Australian Air Force

The Royal Australian Air Force (R.A.A.F.) is an independent service equal in status to the Royal Australian Navy and the Commonwealth Military Forces and it is administered by the Department

of Air through the Air Board.

A member of the Australian Parliament is The Minister of State for Air. An Air Marshal is the Chief of the Air Staff.

Equipment

<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>	<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>
Light Bomber	Lincoln	A. V. Roe	G.B.	Fighter	Vampire	de Havilland	G.B.
	Liberator B-24 (PB4Y)	Convair	U.S.A.		(Cont'd) Kittyhawk F-40	Curtiss	U.S.A.
	Beaufort	Bristol	G.B.		Spitfire	Vickers-Armstrongs	G.B.
	Mosquito	de Havilland	G.B.	Reconnaissance	Mosquito	de Havilland	G.B.
	Hudson	Lockheed	U.S.A.		Catalina PBY (A-10)	Convair	U.S.A.
	Mitchell B-25 (PB)	North American	U.S.A.		Kingfisher OS2U	Chance Vought	U.S.A.
	Ventura PV-1 (B-34)	Lockheed	U.S.A.	Transport	Walrus	Vickers-Armstrongs	G.B.
Attack	Vengeance A-31, 35	Convair	U.S.A.		Dakota (Skytrain C-47; R4D)	Douglas	U.S.A.
	Fairey Battle	Fairey	G.B.		Viking	Vickers-Armstrongs	G.B.
Fighter	Sea Hornet	de Havilland	G.B.	Trainer	Wirraway	Commonwealth	Australia
	Hurricane	Hawker	G.B.		Anson	A. V. Roe	G.B.
	Beaufighter	Bristol	G.B.		Oxford	Airspeed	G.B.
	Mustang F-51	North American	U.S.A.	Communications and Utility	Tiger Moth	de Havilland	G.B.
	CA-15	Commonwealth	Australia		Proctor	Percival	G.B.
	Boomerang	Commonwealth	Australia		Auster	Auster	G.B.
					Norseman	C.C.F.	Canada

Australian Naval Aviation

The Air Arm is a Post War establishment of the Royal Australian Navy (R.A.N.) and is based on one Light Fleet Carrier. H.M.A.S. Sydney. The

H.M.A.S. Melbourne is under construction.

A Commodore is in charge of Australian Naval Aviation.

Equipment

<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>	<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>
Fighter	Sea Fury	Vickers-Armstrongs	G.B.	Reconnaissance	Fairey Firefly	Fairey	G.B.

THE DOMINION OF CANADA

(The British Commonwealth of Nations)

The Royal Canadian Air Force

The Royal Canadian Air Force (R.C.A.F.) is administered by the Department of National Defense, through the Minister of National Defense, who is advised by the Air Council.

A member of the Canadian Parliament is the Minister of National Defense and the President of the Air Council. An Air Marshal is the Chief of the Air Staff.

Equipment

<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>	<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>
Light Bomber	Lancaster	A. V. Roe	G.B.	Transport (Cont'd)	Dakota (Skytrain C-47; R4D)	Douglas	U.S.A.
	Mitchell B-25 (PBJ)	North American	U.S.A.	Trainer	Mosquito	de Havilland	G.B.
Fighter	Vampire	de Havilland	G.B.		Chipmunk	de Havilland	Canada
	Mustang F-51	North American	U.S.A.		Goose JRF	Grumman	U.S.A.
Reconnaissance	Canso PB2B (Cat- lina PBY)	de Havilland	Canada		Anson	A. V. Roe	G.B.
	Lancaster	A. V. Roe	G.B.		Harvard (Texan T-6; SNJ)	North American	U.S.A.
	Norseman	C.C.F.	Canada	Communications and Utility	Chipmunk	de Havilland	Canada
	Ventura PV-1 (B-34)	Lockheed	U.S.A.		Auster	Auster	G.B.
Transport	North Star (Sky- master Type C-54)	Canadair	Canada		Expeditor (Voyag- er C-45; JRB)	Beechcraft	U.S.A.

Canadian Naval Aviation

The Royal Canadian Navy (R.C.N.) retains an Air Section in its post-war organization. A Captain is the Director of the Naval Air Division.

There are two Air Groups which operate in turn from a Light Fleet Carrier, the H.M.C.S. Magnificent.

Equipment

<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>	<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>
Attack Fighter	Firefly	Fairey	G.B.	Trainer	Anson	A. V. Roe	G.B.
	Seafire	Vickers-Armstrongs	G.B.		Harvard (Texan T-6; SNJ)	North American	U.S.A.
	Seafury	Hawker	G.B.				

THE DOMINION OF INDIA

(The British Commonwealth of Nations)

The Royal Indian Air Force

In August 1947 the Royal Indian Air Force became an independent service, when self-government was granted to India.

An Air Marshal is the Chief of the Air Staff and the Officer Commanding the Air Force. He is directly responsible to the Government of India, with headquarters at Poona.

Equipment

<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>	<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>
Light Bomber	Liberators B-24; PB4Y	Convair	U.S.A.	Trainer	Harvard (Texan T-6; SNJ)	North American	U.S.A.
Fighter	Tempest	Hawker	G.B.		Percival Prentice	Percival	G.B.
	Spitfire	Vickers-Armstrongs	G.B.		Tiger Moth	de Havilland	G.B.
Reconnaissance	Devon	de Havilland	G.B.				
Transport	Dakota (Skytrain C-47; R4D)	Douglas	U.S.A.	Communications and Utility	Auster	Auster	G.B.
	Dove	de Havilland	G.B.				

THE DOMINION OF NEW ZEALAND

(The British Commonwealth of Nations)

The Royal New Zealand Air Force

The Royal New Zealand Air Force (R.N.Z.A.F.) is constituted as a separate branch of the Defense Forces of the Dominion and it is administered by the Ministry of Defense through the Air Board.

A Member of the New Zealand Parliament is the Minister of Defense and the President of the Air Board. An Air Vice Marshal is the Chief of the Air Staff and the Officer Commanding the Air Force.

Equipment

<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>	<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>
Light Bomber	Mosquito	de Havilland	G.B.	Transport	Lodestar C-60		
	Hudson	Lockheed	U.S.A.		(R50)	Lockheed	U.S.A.
Attack Fighter	Avenger TBF	Grumman	U.S.A.	(Continued)	Oxford	Airspeed	G.B.
	Corsair FG1	Goodyear	U.S.A.		Harvard (Texan		
	Mustang F51	North American	U.S.A.	Trainer	T-6; SNJ)	North American	U.S.A.
	Meteor MK 3	Gloster	G.B.		Mosquito	de Havilland	G.B.
Reconnaissance	Catalina PB2B				Tiger Moth	de Havilland	G.B.
	(PBY; A-10)	Boeing (Subsidiary)	Canada		Fox Moth	de Havilland	G.B.
Transport	Dakota (Skytrain			Communications and Utility	Auster	Auster	G.B.
	C-47; R4D)	Douglas	U.S.A.				

THE DOMINION OF PAKISTAN
(The British Commonwealth of Nations)

The Pakistan Air Force

The Pakistan Air Force was created in August, 1947 when self-government was granted to India.

An Air Vice Marshal is the Commander-in-Chief

and he is directly responsible to the Pakistan Government.

The headquarters of the Pakistan Air Force are at Peshawar.

Equipment

Type	Designation	Manufacturer	Country	Type	Designation	Manufacturer	Country
Light Bomber Fighter	Halifax	Handley Page	G.B.	Trainer	Auster	Auster	G.B.
	Tempest	Hawker	G.B.		Fox Moth	de Havilland	G.B.
	Spitfire	Vickers-Armstrongs	G.B.		Harvard (Texan		
Transport	Dakota (Skytrain				T-6; SNJ)	North American	U.S.A.
	C-47; R4D)	Douglas	U.S.A.		Tiger Moth	de Havilland	G.B.
	Bristol Freighter	Bristol	G.B.				
	Viking	Vickers-Armstrongs	G.B.				

UNION OF SOUTH AFRICA
(The British Commonwealth of Nations)

The South African Air Force

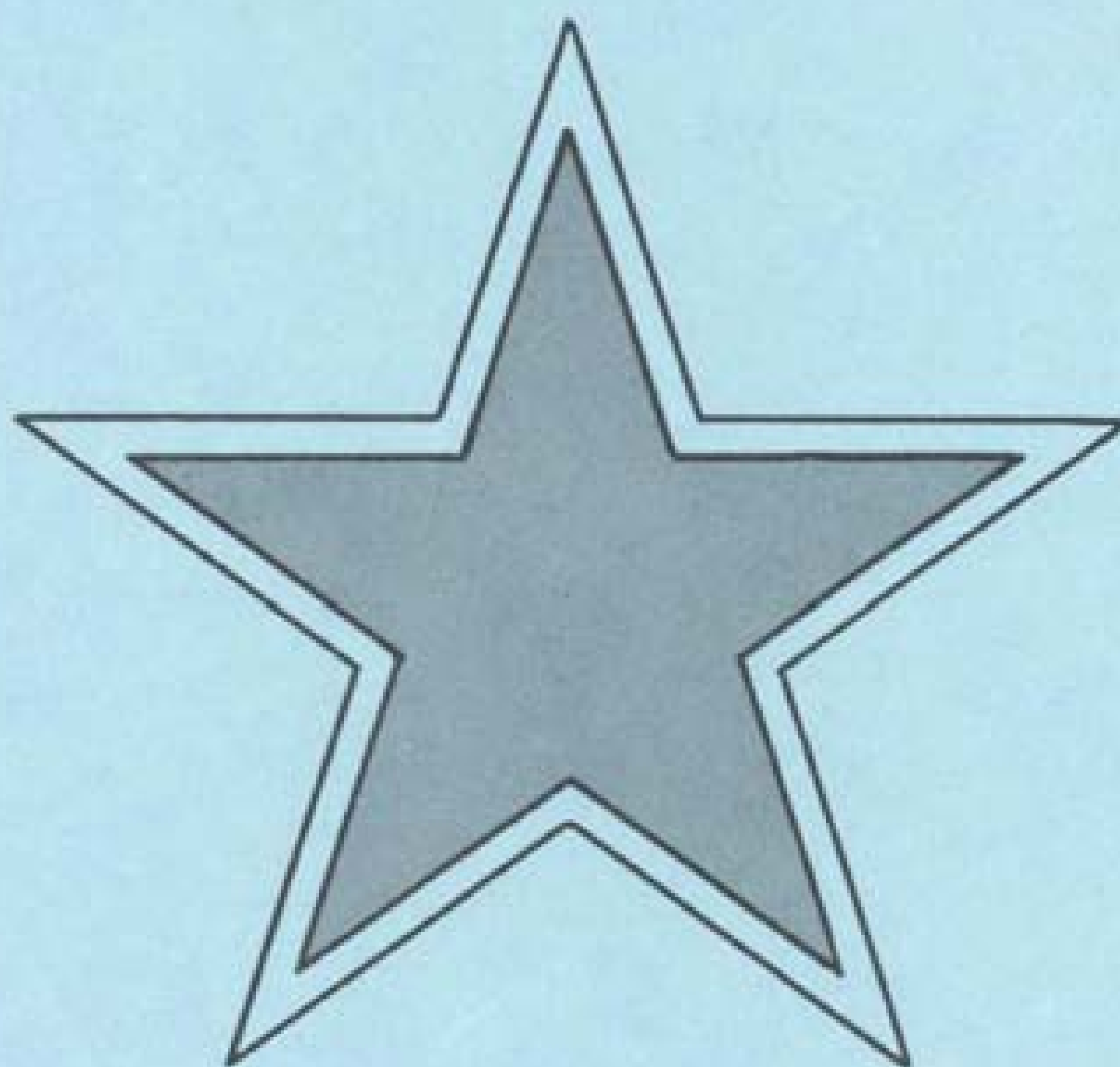
The South African Air Force is a branch of the South African Permanent Force and it is administered by the Minister of Defense through the Chief of the Union Defense Forces Staff.

A General is the Chief of the Union Defense Forces Staff. A Brigadier is the Director-General of the S.A.A.F., with headquarters at Roberts Heights, Pretoria.

Equipment

Type	Designation	Manufacturer	Country	Type	Designation	Manufacturer	Country
Light Bomber	Ventura PV-1			Transport	C-47; (R4D)	Douglas	U.S.A.
	(B-34)	Lockheed	U.S.A.		York	A. V. Roe	G.B.
	Anson	A. V. Roe	G.B.		Ventura PV-1		
	Sunderland	Short	G.B.	Trainer	(B-34)	Lockheed	U.S.A.
Fighter	Mosquito	de Havilland	G.B.		Harvard (Texan		
	Spitfire	Vickers-Armstrongs	G.B.		T-6; SNJ)	North American	U.S.A.
	Meteor	Gloster	G.B.	Communications and Utility	Tiger Moth	de Havilland	G.B.
Reconnaissance	Sunderland	Short	G.B.		Auster	Auster	G.B.
Transport	Dakota (Skytrain						

U.S.S.R.
AIRFORCE AND AIRCRAFT



U.S.S.R.

(The Union of Soviet Socialist Republics)

The Soviet Air Force

The Soviet Air Force consists of air force units, airport ground service units, signal units, air bases, and meteorological service. According to its assignment, the air force units are divided into fighter, dive-bomber, bomber, reconnaissance, artillery-liaison, communications, transport and medical elements. The Soviet Air Force itself is under the U. S. S. R. Ministry of Armed Forces, the Soviet equivalent of the United States National Military Establishment. As in the U. S., the U. S. S. R. Air Force is a separate branch of the armed services equal to the Army and Navy. For administrative purposes, the Soviet Air Force is subdivided into two functional branches: The Military Air Force (for cooperation with ground troops), and the Long Range Air Force (equivalent to the U. S. Strategic Bombing Force).

The Air Force of the Soviet Union is organized into Air Armies, each being composed of three Corps, further subdivided into three Divisions per Corps. Each Air Division is composed of three Air Regiments, three squadrons per regiment.

The naval air components of the Soviet Navy consist primarily of shore based aircraft as well as seaplanes and flying-boats. These components are administered by the respective naval commands. The naval air components are organized in Naval Air Divisions and Naval Air Regiments in the same way as the Military Air Force. The role of the naval components in World War II was primarily in operations supporting the ground forces and protecting naval shore installations. They are now engaged in training for naval escort duty, anti-shiping operations, and mine laying, and sea reconnaissance.

The Soviet Union today is said to have an Air Force of over 400,000 personnel and upwards of 14,000 operational aircraft, including several hundred jet fighters and at least 100 B-29 type bombers. The Air force is primarily trained and equipped for close cooperation with land armies, which is considered its main role in present U. S. S. R. plans. Its strategic bombing force is relatively small, and naval aviation has no aircraft carriers.

SOVIET AIRCRAFT DESIGNATIONS

Soviet aircraft and engines are designated by an abbreviation of the designer or designing com-

mittee, followed by a number which is not always in the correct chronological order. An obvious example is the YAK-3, which was developed from the YAK-9, both designed by Alexander Yakovlev, one of U.S.S.R.'s foremost aeronautical technicians.

The following list shows the more important designers by name in alphabetical order:

ANT—Andreas Nickolaievitch Tupolev
 BI—Berendjak and Issariev
 ER—Ermolaev
 IL—Ilyushin
 LA—Lavochkin
 LAAG—Lavochkin, Gorbunov and Gudkov
 LI—Lisitsin
 MI—Miassishchev
 MIG—Mikoyan and Gurevich
 PE—Petlyakov
 PO—Polikarpov
 SHCHE—Shcherbakov
 SU—Sukhoi
 TU—Tupolev
 YAK—Yakovlev

Soviet aircraft were previously designated according to the duties for which designed. The following list shows the old designations which may still be referred to in some of the older types:

I—Fighter
 BB—Short Range Bomber
 SB—Medium Bomber
 DB—Long Range Bomber
 TB—Heavy Bomber
 MT—Mining and Torpedo
 R—Reconnaissance
 PS—Transport
 MR—Reconnaissance Seaplane
 MBR—Short Range Reconnaissance Seaplane
 MDR—Long Range Reconnaissance Seaplane
 KOR—Shipborne
 U—Elementary Trainer
 UT—Advanced Trainer

U.S.S.R. (Continued)

SOVIET EQUIPMENT

Type	Designation	Manufacturer	Country	Type	Designation	Manufacturer	Country
Bomber	PE-2, 8	Petlyakov	U.S.S.R.	Reconnaissance	PO-2	Polikarpov	U.S.S.R.
	TU-2	Tupolev	U.S.S.R.		MBR-2 (Naval)	Blochavindin	U.S.S.R.
	IL-4	Ilyushin	U.S.S.R.		GST (Catalina Type)		
	DB-3	Ilyushin	U.S.S.R.	(PBY) (A-10)	State Factory	U.S.S.R.	
	SU-2	Sukhoi	U.S.S.R.	MDR-6 (Naval)	Blochavindin	U.S.S.R.	
	USSR B-29 type	Tupolev	U.S.S.R.	Transport	IL-12, 18	Ilyushin	U.S.S.R.
Attack	IL-2, 10 (Stormovik)	Ilyushin	U.S.S.R.		YAK-6, 8, 12, 14, 16	Yakovlev	U.S.S.R.
					LI-2 or PS-84 (Skytrain type)		
				C-47, R4D)	Musalov	U.S.S.R.	
Fighter	YAK-3, 5, 7B, 9, 15	Yakovlev	U.S.S.R.		MI-6	Miassishchev	U.S.S.R.
	LA-5, 7, 9, 11	Lavochkin	U.S.S.R.		SHCHE-2	Shcherbakov	U.S.S.R.
	MIG-9, 11	Mikoyan & Gurevich	U.S.S.R.		TU-70	Tupolev	U.S.S.R.
	LAGG-3	Lav. Gorb. & Gud.	U.S.S.R.	Trainers	YAK-7, 11, 18	Yakovlev	U.S.S.R.
	PE-3	Petlyakov	U.S.S.R.		UT-2	Yakovlev	U.S.S.R.

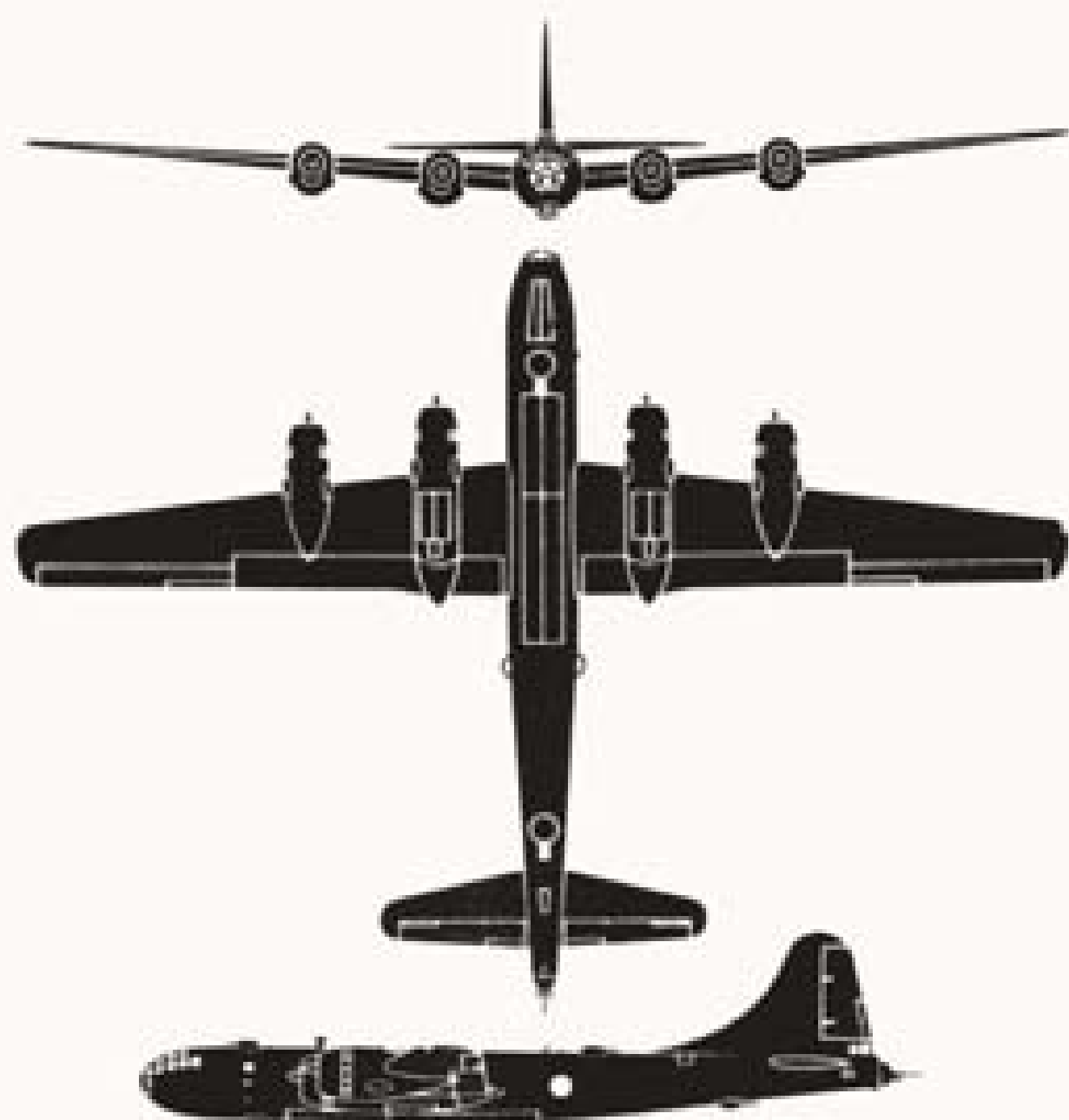
FOREIGN EQUIPMENT

American, British and German types presently available in the U. S. S. R.

<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>	<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>
Light Bomber	Mitchel B-25 (PBJ)	North American	U.S.A.	Fighter (Continued)	Fw 190A-1	Focke-Wulf	Germany
	Ju 287	Junkers	Germany		Ta 152H	Focke-Wulf	Germany
Attack Fighter	Havoc A-20 (BD)	Douglas	U.S.A.		He 162	Heinkel	Germany
	Spitfire 2, 5	Vickers-Armstrongs	G.B.	Reconnaissance	Ar 234C	Arado	Germany
	Hurricane 2B	Hawker	G.B.		Catalina PBY (A-10)	Convair	U.S.A.
	Aircobra F-39	Bell	U.S.A.		Bv 138 (Naval)	Blohm & Voss	Germany
	Warhawk F-40	Curtiss	U.S.A.		Do 18E (Naval)	Dornier	Germany
	Thunderbolt F-47	Republic	U.S.A.	Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Kingcobra F-63	Bell	U.S.A.		Ju 390	Junkers	Germany
	Me 262	Messerschmitt	Germany	Trainer	Texan T-6 (SNJ)	North American	U.S.A.
	Me 109	Messerschmitt	Germany				
	Me 163C	Messerschmitt	Germany				



The U. S. S. R. B-29, probable Soviet designation TU-4, is a four-engine, low-wing bomber. This aircraft is apparently an identical copy of the U. S. B-29 Superfortress, several examples of which were confiscated by the Soviets after being forced to land in Soviet occupied territory before the end of the war. From the captured B-29's the Soviets have also produced a 72 seat pressurized passenger transport designated the TU-70. The redesign of the B-29 was produced by the versatile Andrei Tupolev, the co-founder of the U. S. S. R. aviation industry.



SPAN: 141'3".

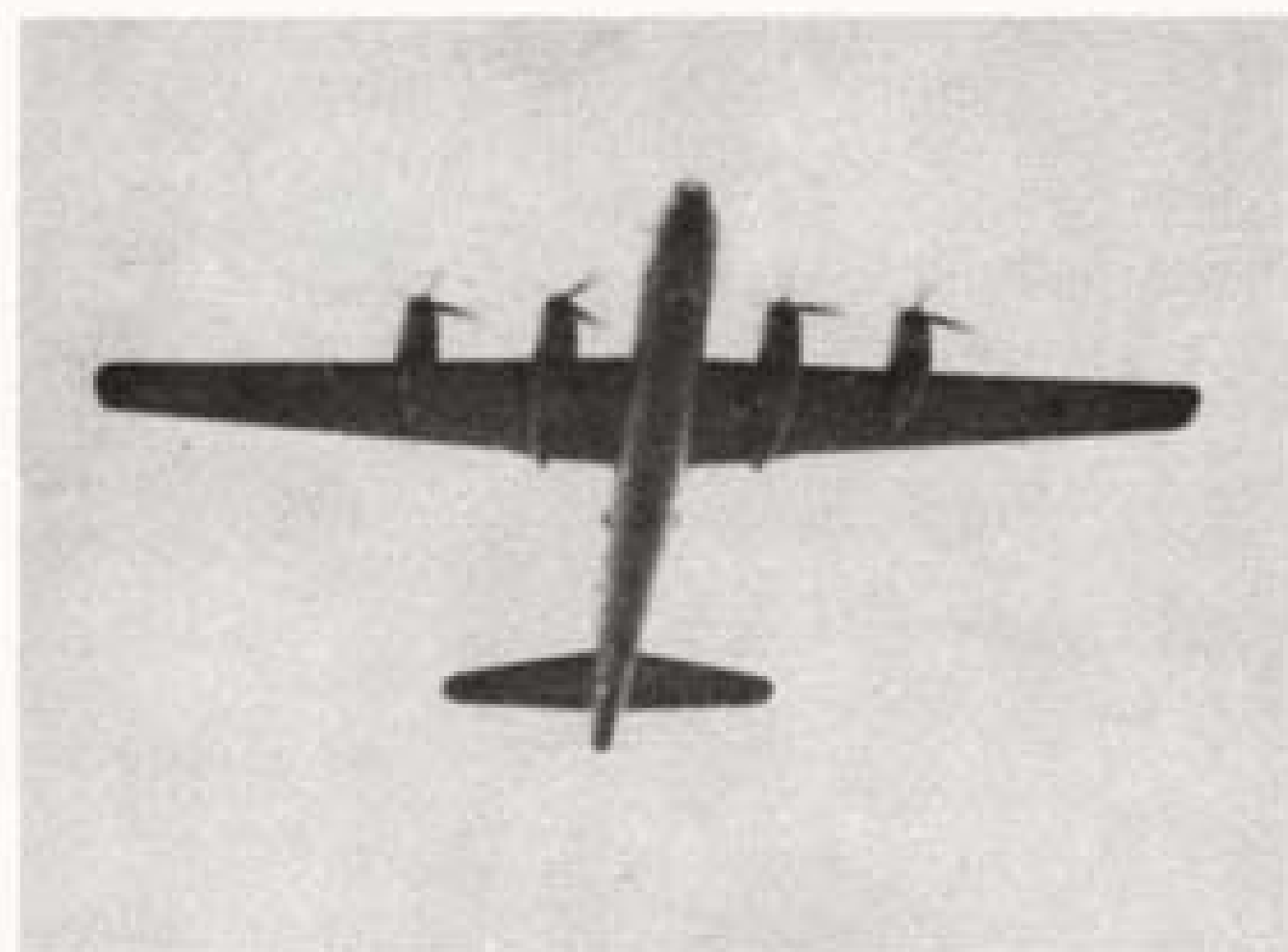
LENGTH: 99'0".

ENGINE: Ash-90; radial/2,200 h. p.

SPEED: 320 knots/30,000 ft.

RANGE: 3,925 nautical miles/195 knots.

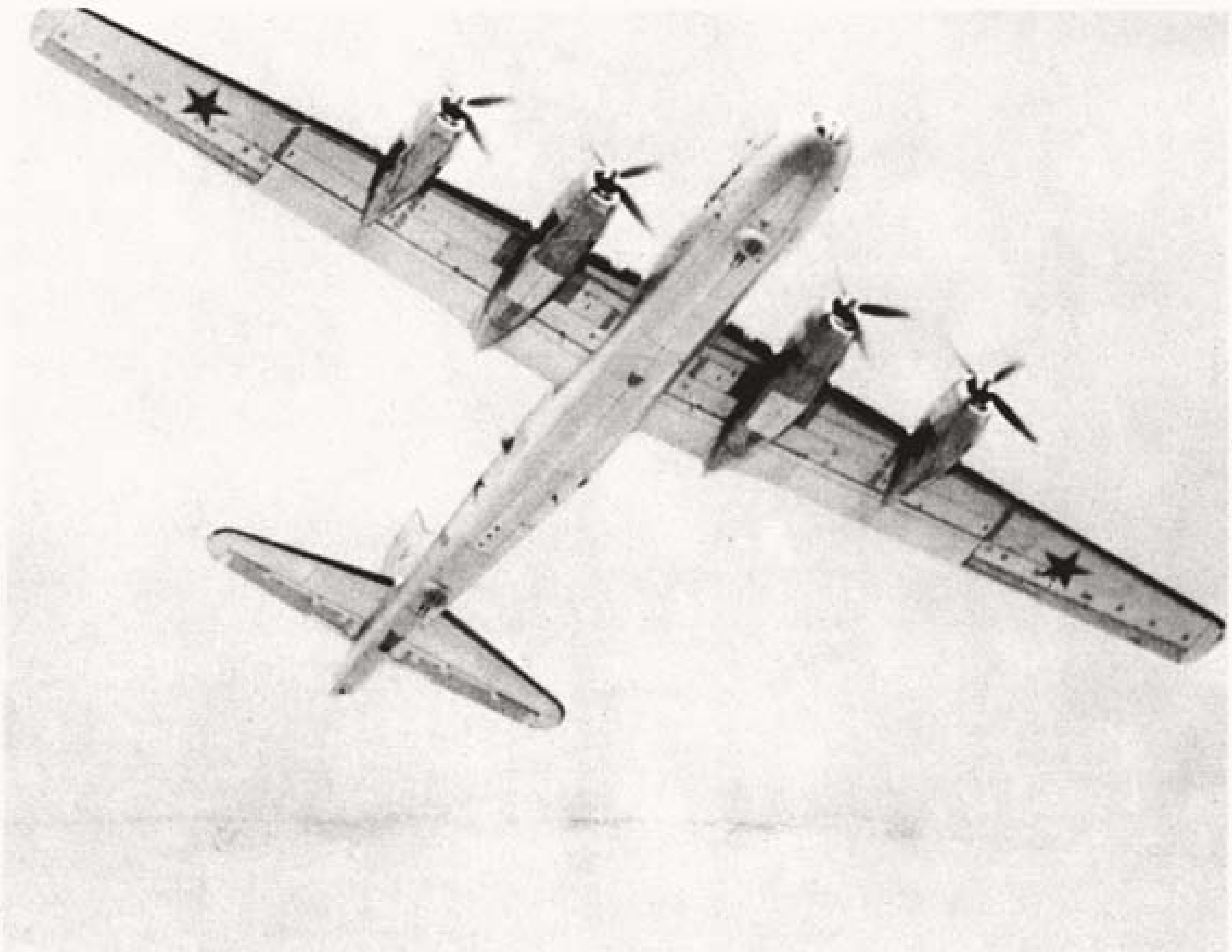
ARMAMENT: 11 x 12.7 mm.



TUPOLEV

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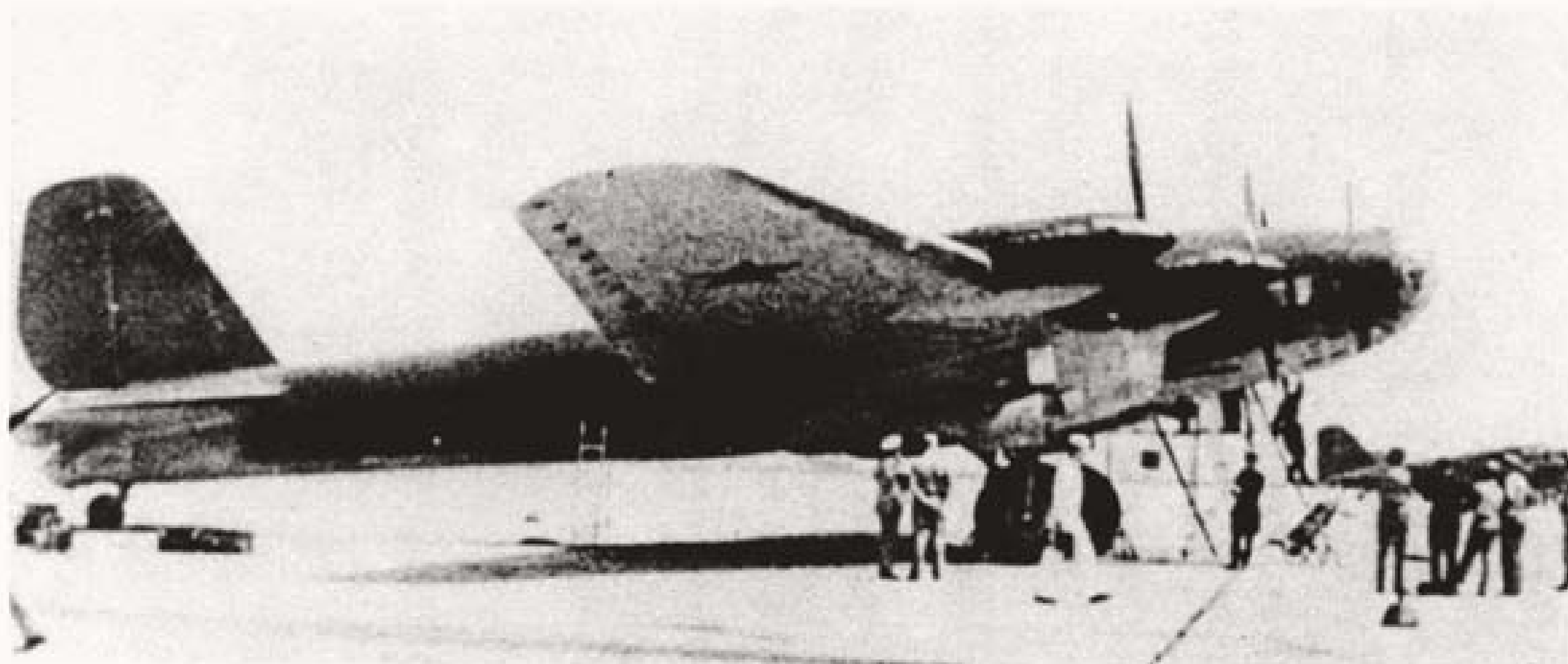
B-29 TYPE



USSR
MAY 1949

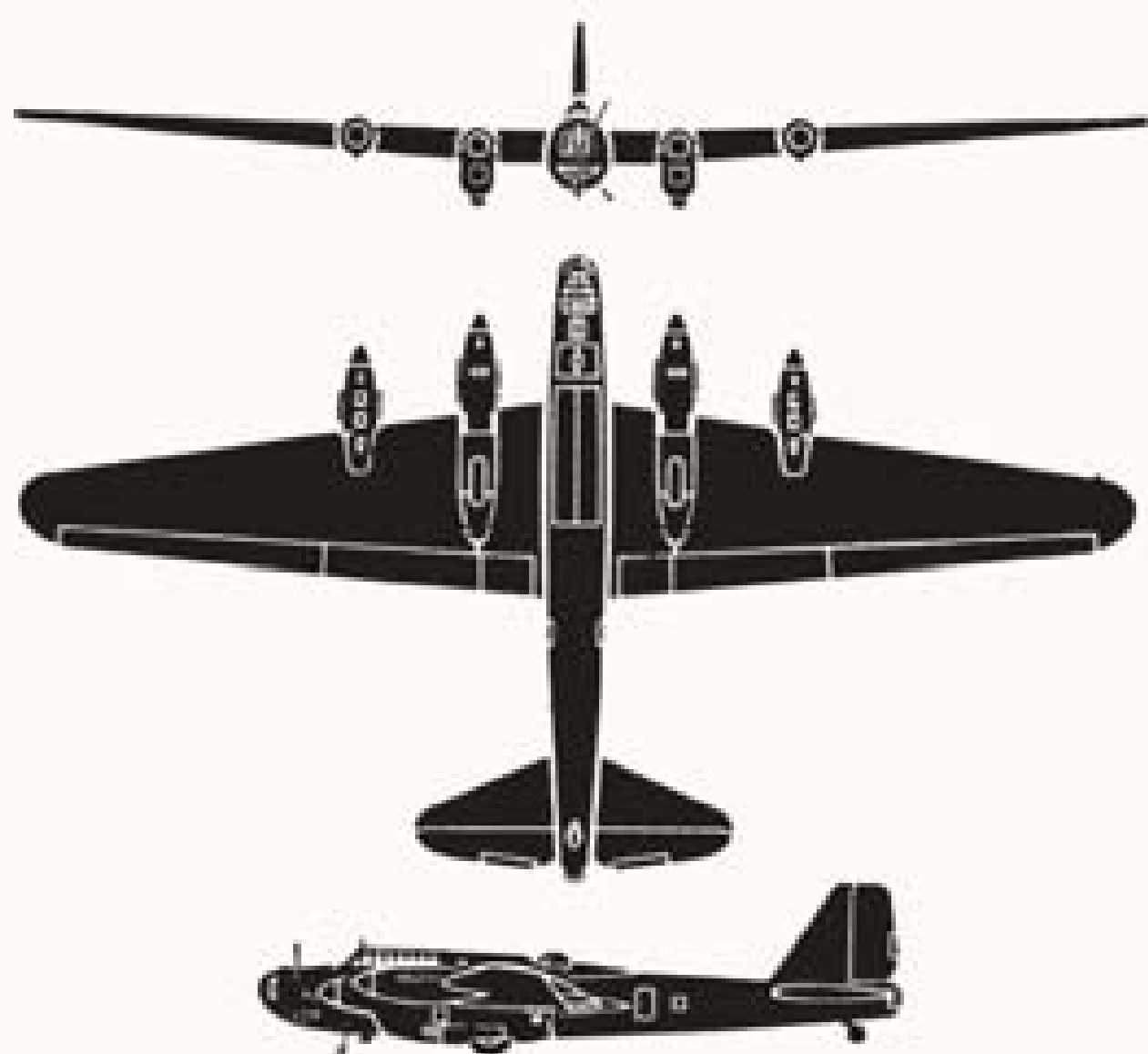
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AFM 50-40
OPNAV 38P-1200



The PE-8, a redesign of the TB-7 by V. Petlyakov is a four-engine long range heavy bomber. The engines are in-line and project well forward of even tapering wings. The inboard engines have very deep nacelles differing from the small round outboard nacelles, and house a conventional retracting landing gear. A dorsal gun turret is just aft of a raised greenhouse. The stabilizer is tapered with round tips, while the single fin and rudder is tall and angular. The PE-8 was Soviet's best known long range bomber in World War II and was used in raids over Berlin. The TB-6B, an earlier version, was used in prewar Polar expeditions. Later models are fitted with radial engines.

SPAN: 129'10". LENGTH: 76'5".
 ENGINE: Ash-82; radial/1,600 h. p.
 SPEED: 260 knots/20,000 ft.
 RANGE: 2,710 nautical miles/180 knots.
 ARMAMENT: 4 x 12.7 mm.; 2 x 20 mm.; 2 x 7.62 mm.



PETLYAKOV

RESTRICTED

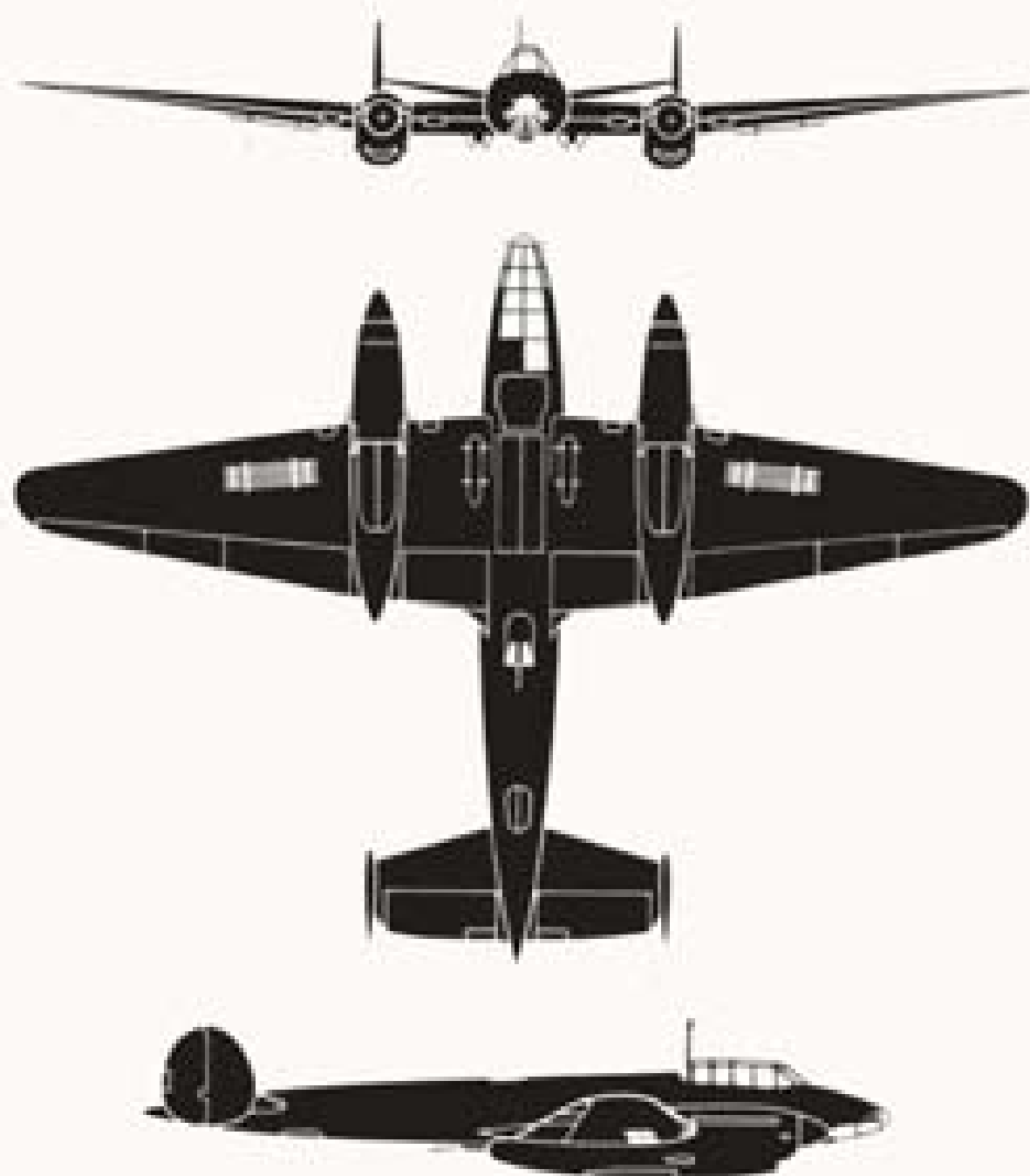
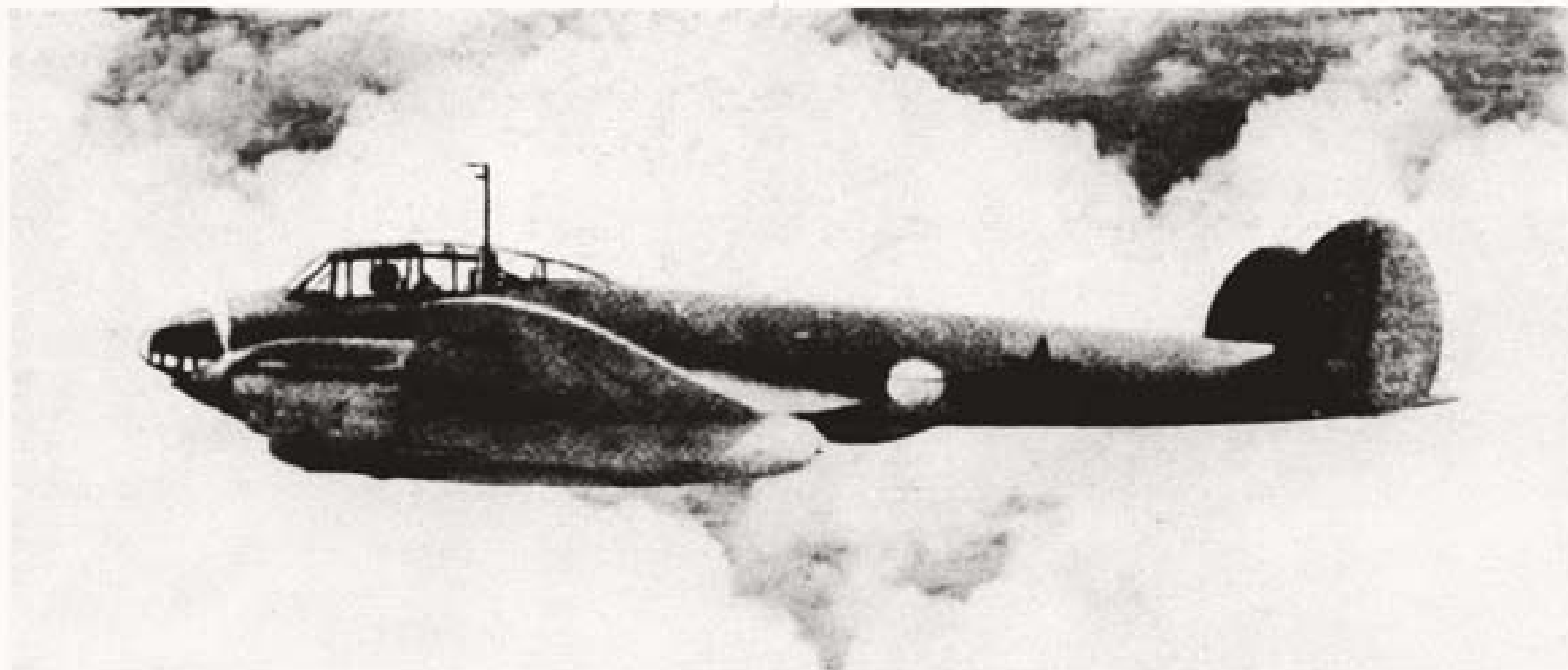
PE-8



USSR
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The PE-2 is a twin-engine, low-wing bomber and attack monoplane. The wing center section is almost rectangular and the outer sections taper to rounded tips. The fuselage is slim and the lower section of the nose has transparent panelling. A transparent cockpit inclosure is placed forward of the leading edge. The stabilizer has pronounced dihedral and there are twin ovoid fins. Both engine nacelles extend aft of trailing edge. The landing gear retracts into nacelles and a tailwheel also retracts. Maximum bomb load is 2,200 pounds. There is a long range reconnaissance fighter version, the PE-3, with solid nose and crew reduced from three to two.

SPAN: 56'1". **LENGTH:** 41'5".

ENGINE: VK-105R; Vee in-line/1,085 h. p.

SPEED: 290 knots/16,400 ft.

RANGE: 540 nautical miles/185 knots.

ARMAMENT: 2 x 7.6 mm.; 3 x 12.7 mm.



PETLYAKOV

RESTRICTED

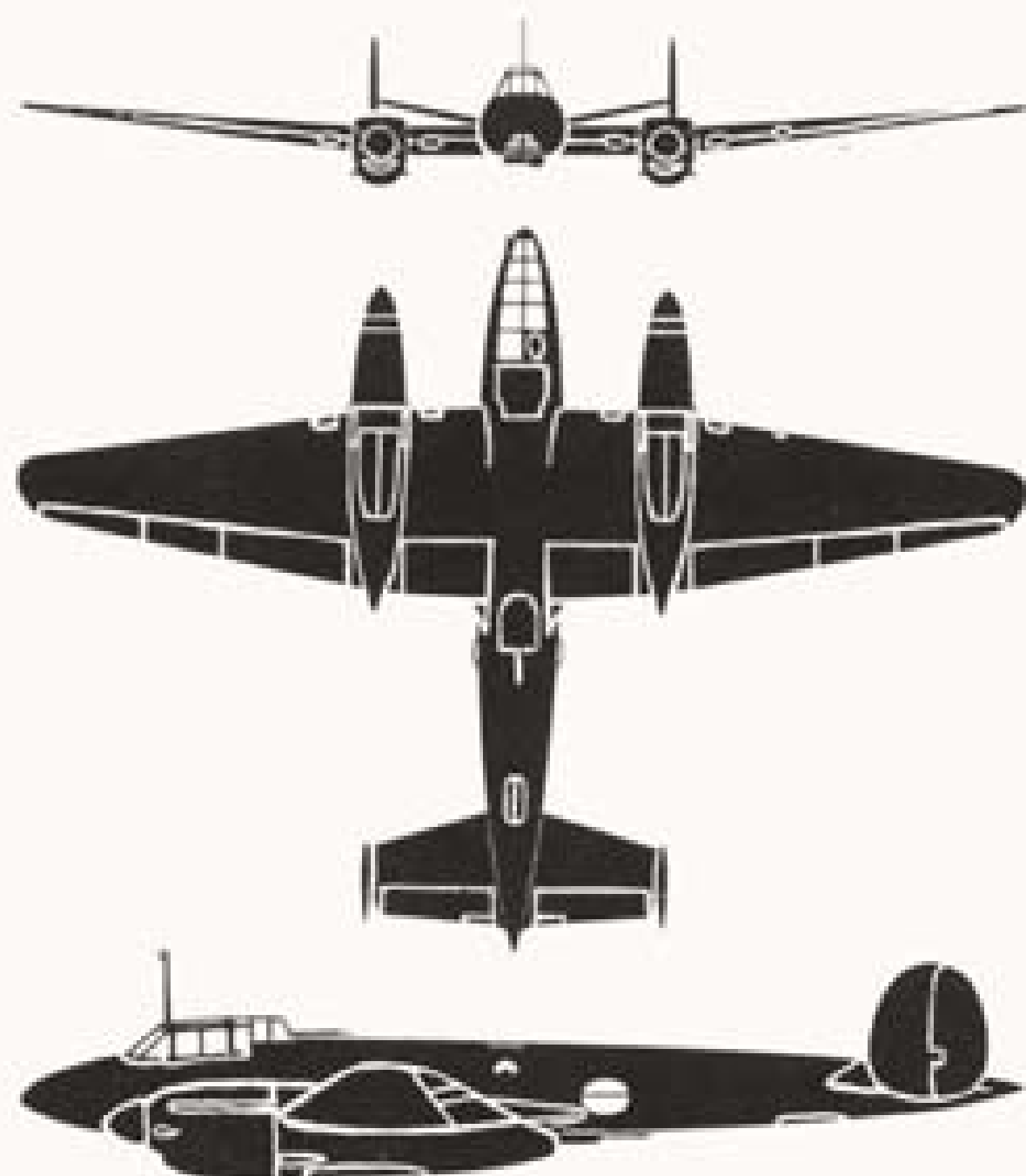
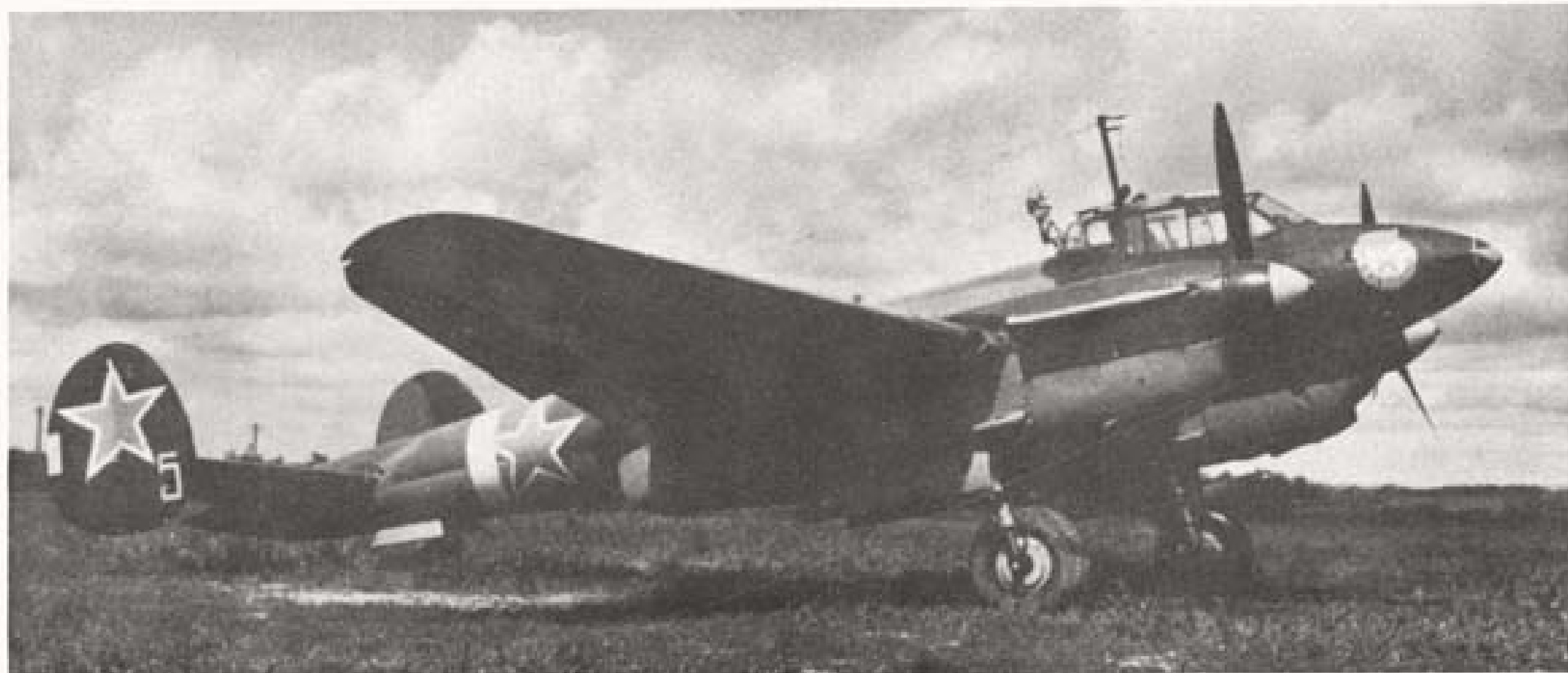
PE-2



USSR
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The PE-3 is a long range reconnaissance, fighter version of the PE-2, with the crew reduced from three to two. It is a twin-engine, low-wing monoplane. The wing has a parallel center section and sharply tapered outer section, with elliptical tips. The fuselage is slim, and a prominent cockpit is placed forward of the wing's leading edge. The stabilizer has pronounced dihedral and there are twin ovoid fins and rudders. The landing gear retracts into the nacelles; the tailwheel also retracts. A bomb load up to 2,200 pounds may be carried and in each nacelle there is an incendiary bomb carrier.

SPAN: 56'1".

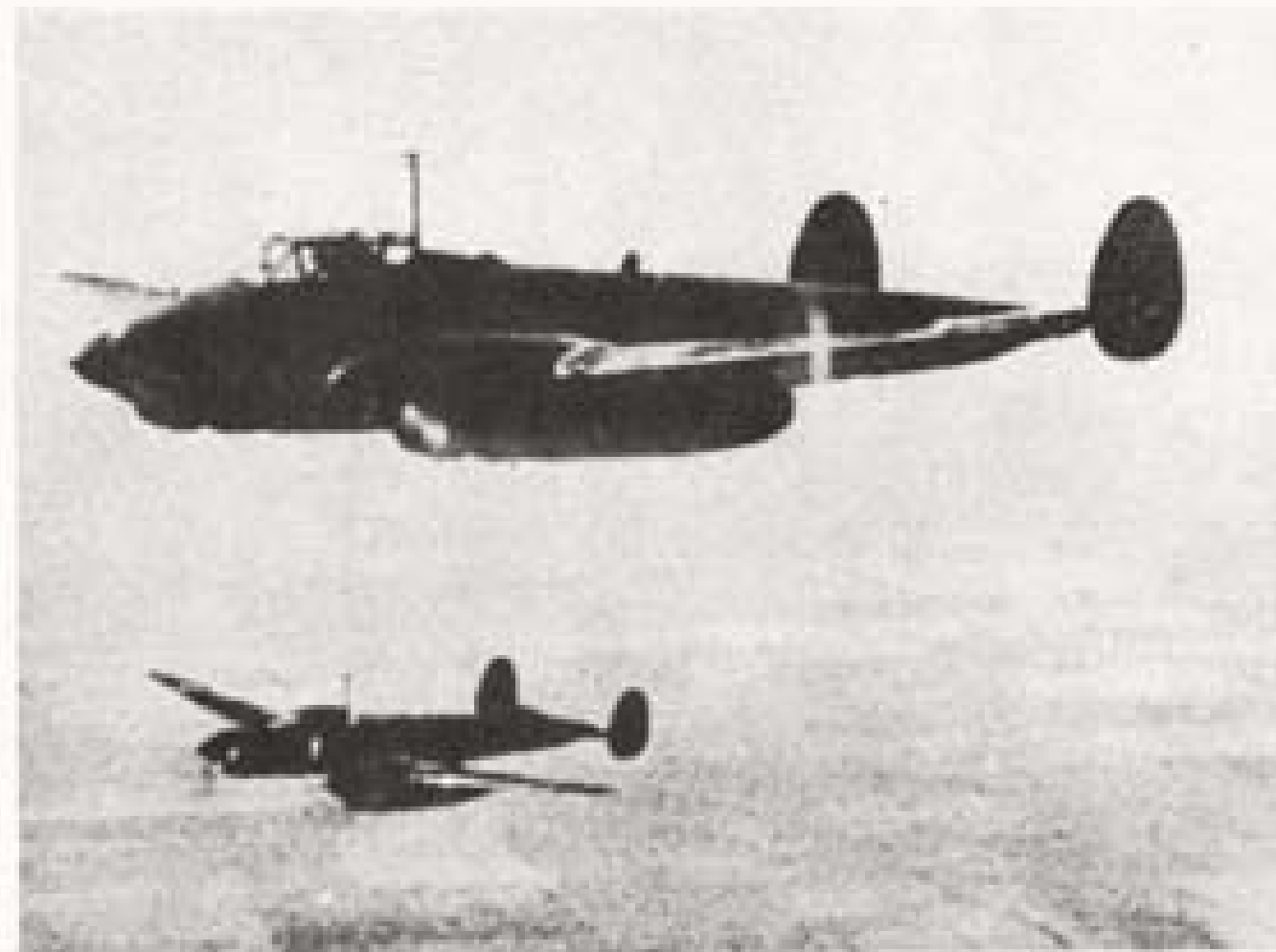
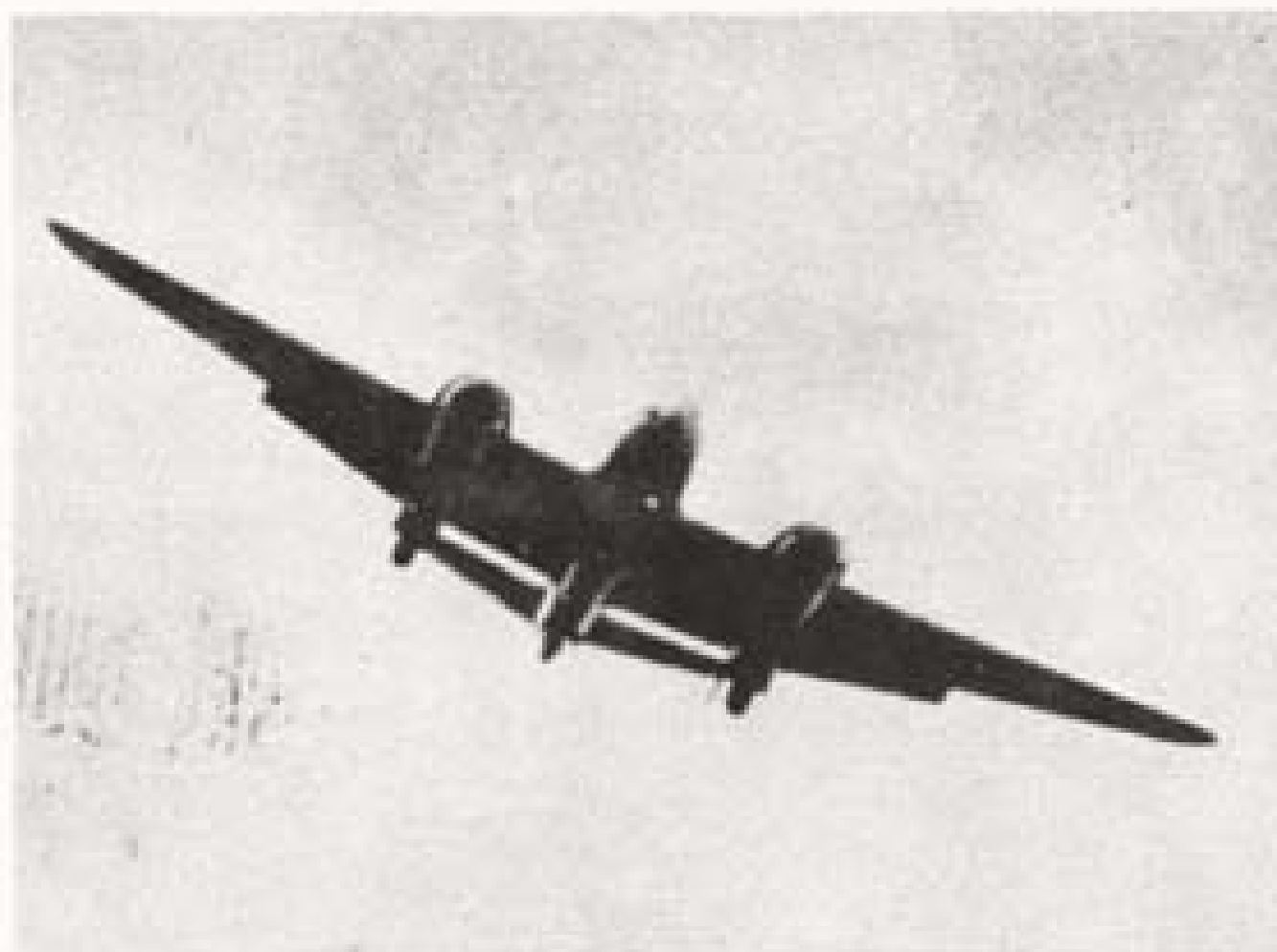
LENGTH: 41'5".

ENGINE: VK-105R; Vee in-line/1,085 h. p.

SPEED: 290 knots/16,400 ft.

RANGE: 750 nautical miles/175 knots.

ARMAMENT: 3 x 12.7 mm.; 1 x 7.6 mm.



PETLYAKOV

RESTRICTED

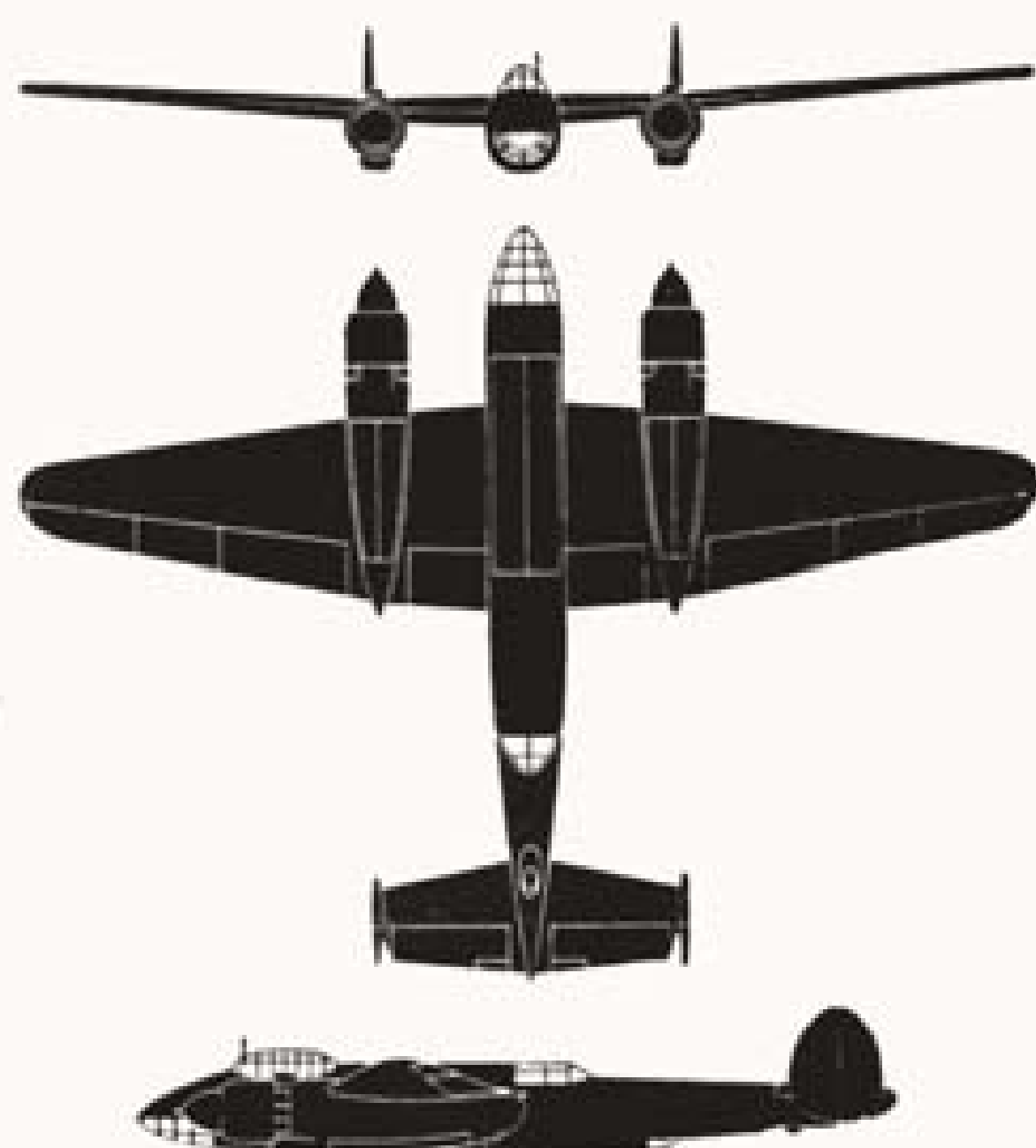
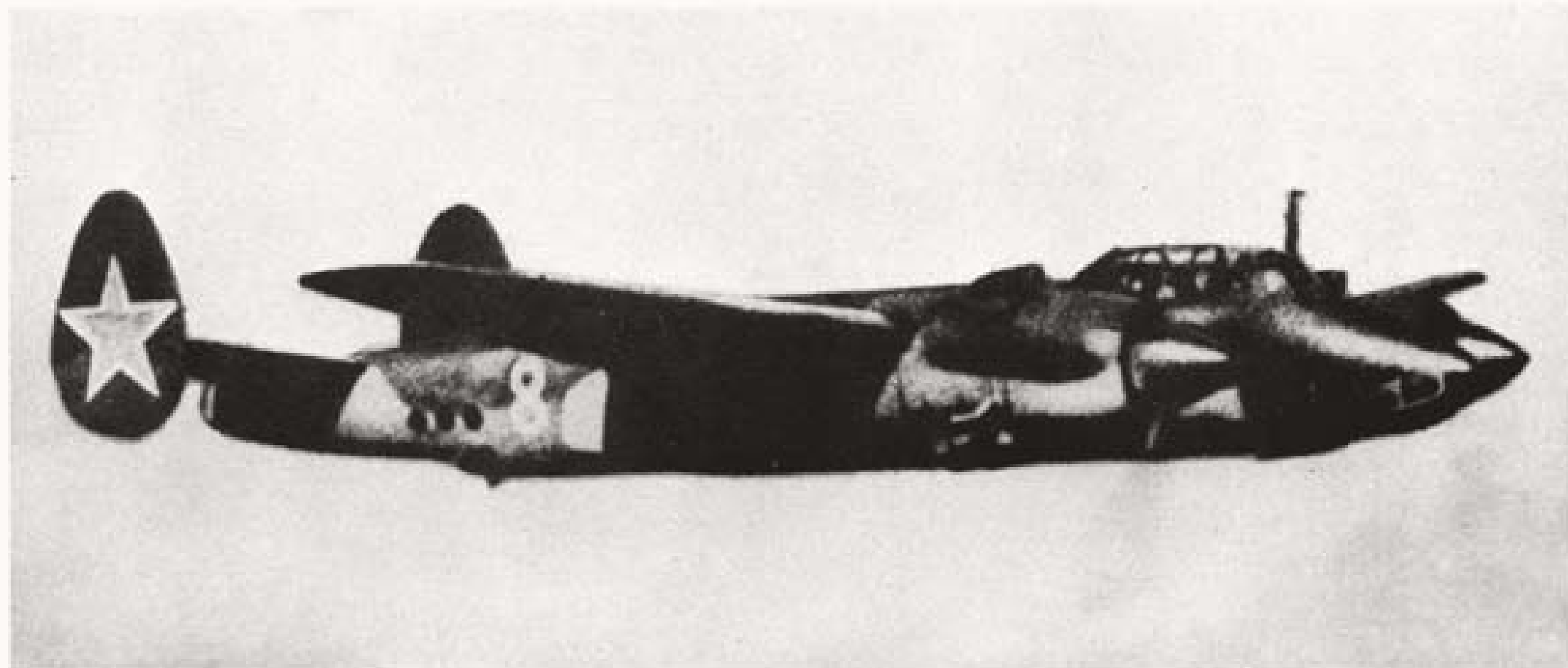
PE-3



USSR
MAY 1949

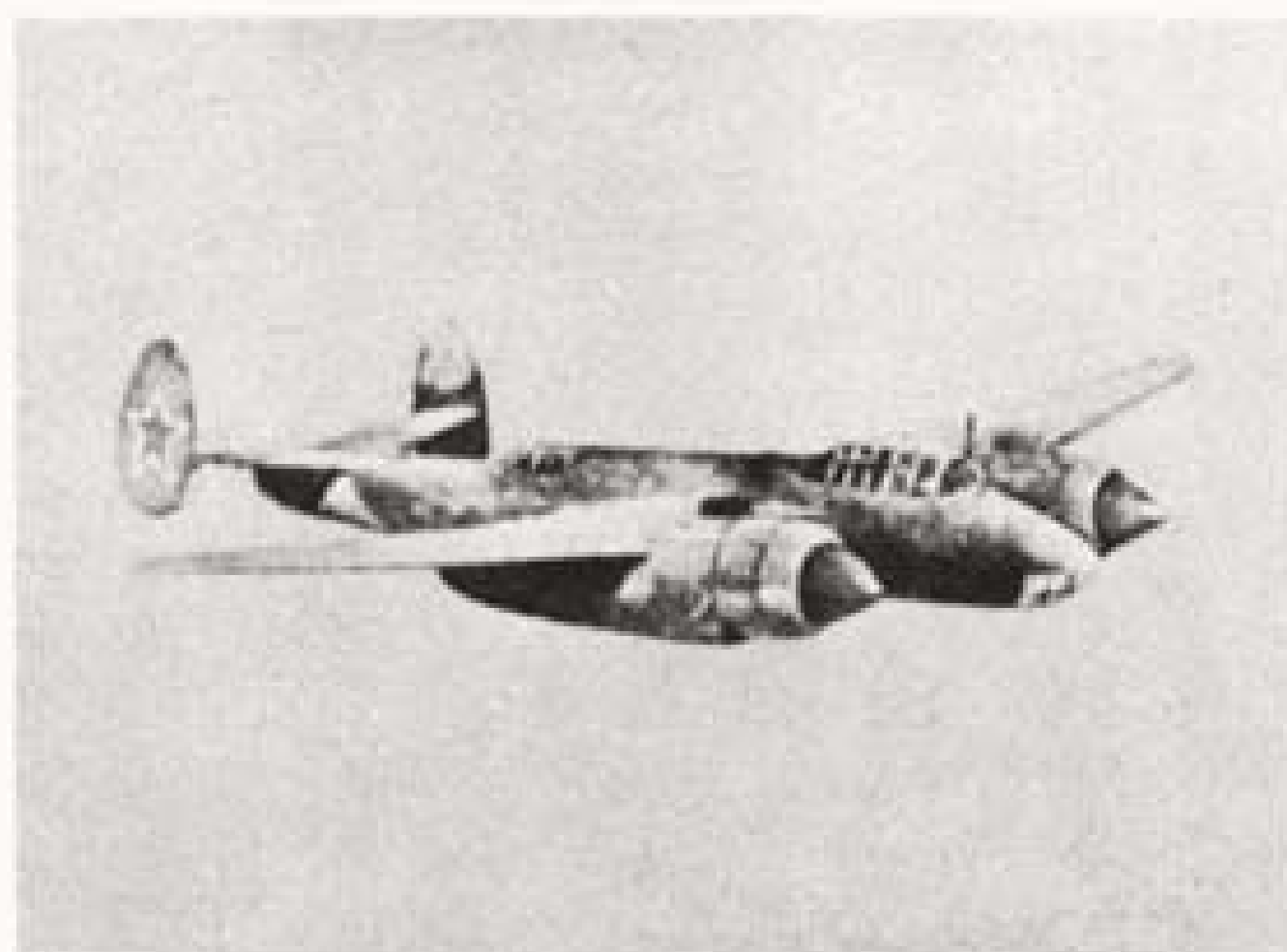
RESTRICTED

AFM 50-40
OPNAV 32P-1800



The TU-2 is a twin-engine, high shoulder-wing bomber and attack monoplane. Both engines are hung low in the wings in long slender nacelles. The air scoop is prominent on top of the engines. A large propeller spinner is fitted. The fuselage has a deep oval-shape and appears very slender with a sharply pointed nose. There is pronounced dihedral in the stabilizer and the twin fins and rudders are egg-shaped. A gunner's position is located on the dorsal side of the fuselage behind the wing and on the ventral side forward of the stabilizer. Normal bomb load is approximately 3,300 pounds.

SPAN: 61'10". **LENGTH:** 45'3".
ENGINE: Ash-82 FNW; radial/1,825 h. p.
SPEED: 310 knots/16,000 ft.
RANGE: 1,000 nautical miles/200 knots.
ARMAMENT: 2 x 20 mm.; 3 x 12.7 mm.



TUPOLEV

RESTRICTED

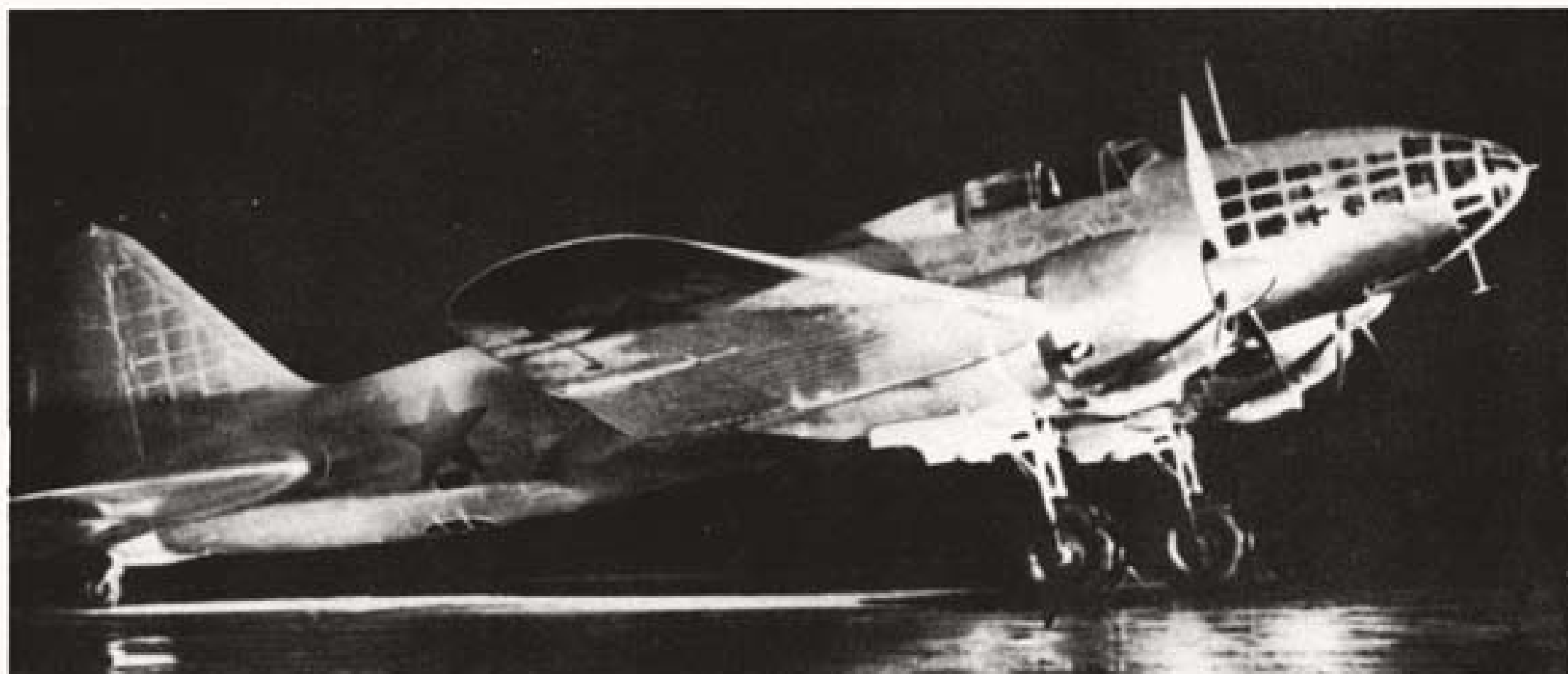
TU-2



USSR
MAY 1949

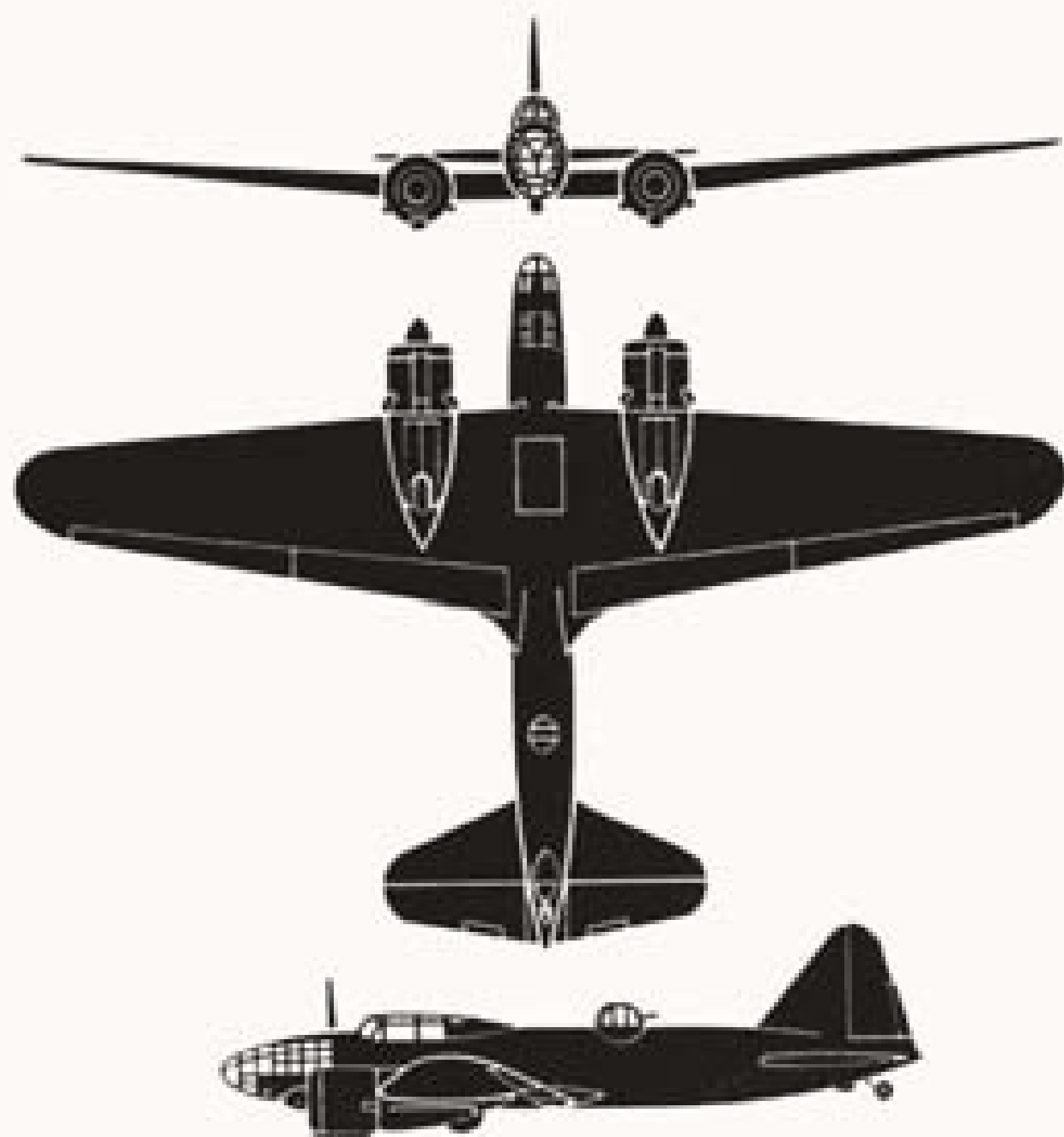
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AFM 50-40
OPNAV 32P-1200

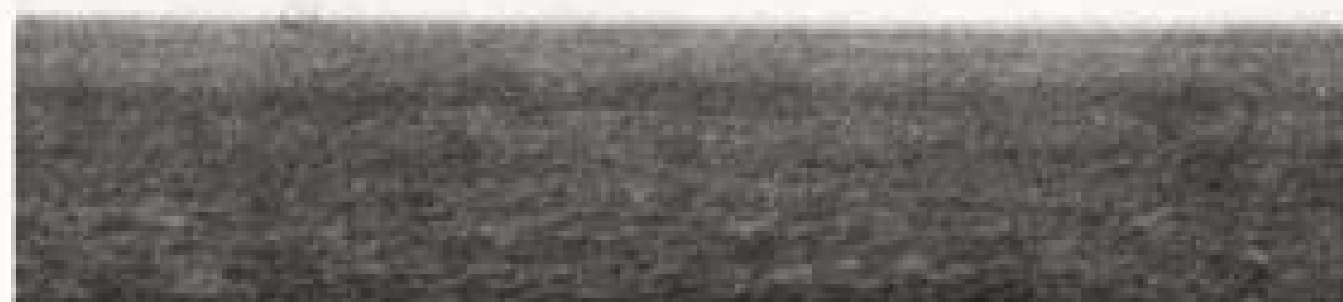
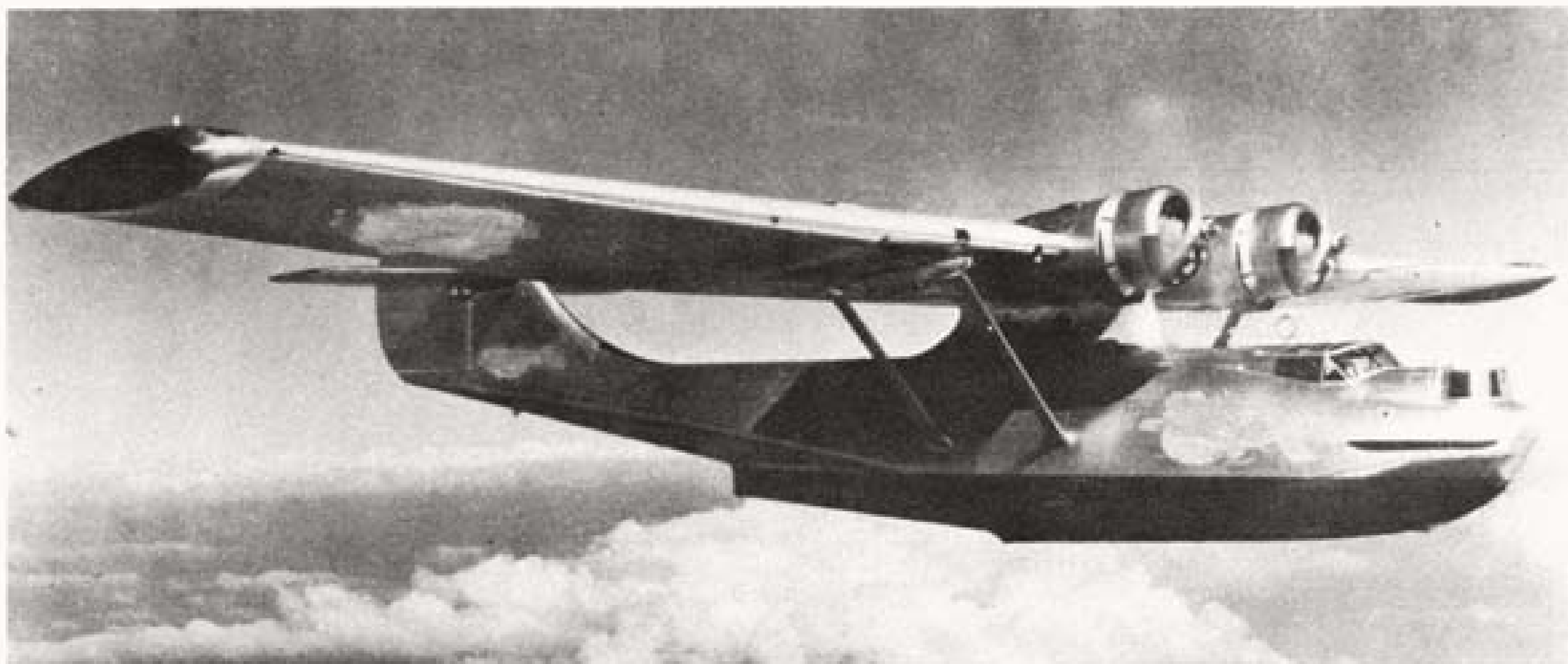


The IL-4, an improved version of the DB-3F, is a twin-engine, low-wing, long range bomber and torpedo carrier. The engines are radial, fairing into a tapering wing with rounded tips. The large wing root fillets are characteristic of many Soviet types. There is a transparent nose forward of the raised cockpit canopy. A round turret is centered between the cockpit and a forward tapering fin. The stabilizer is tapered with rounded tips. Of interest is Ilyushins' TSKB-26, a twin-engined, low-wing transport modeled after the DC-2, which flew from Moscow to Miscou Island, New Brunswick, in April 1939. This aircraft eventually evolved into the IL-4.

SPAN: 70'2". LENGTH: 48'6".
 ENGINE: M-88B; radial/1,085 h. p.
 SPEED: 240 knots/22,300 ft.
 RANGE: 625 nautical miles/145 knots.
 ARMAMENT: 2 x 7.6 mm; 1 x 12.7 mm.







The GST is the U. S. PBV-5 "Catalina" built under license in the U. S. S. R. The meaning of the designation GST is unknown. It is a twin-engine, parasol-wing, flying-boat. The wing center section is parallel in chord, supported above the hull on a streamlined superstructure and is braced to the hull by parallel struts. The outer panels have slight taper to square tips. Lateral stabilizing floats retract outward to form end caps at the wing tips. The hull is a two-step type with semi-circular top. A stabilizer is carried high on the single fin. The PBV-5 was also built in Canada by a subsidiary of Boeing and named the Canso.

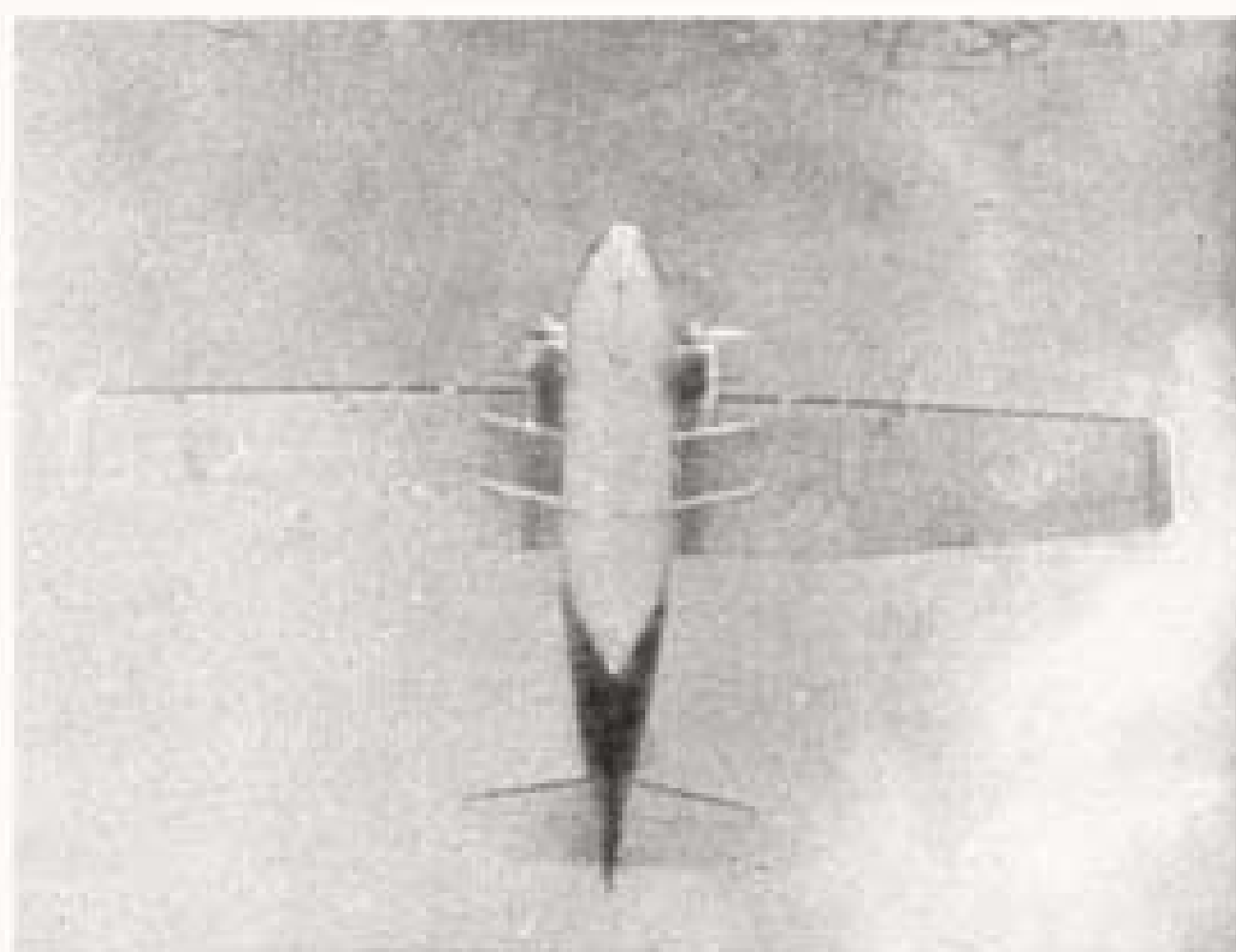
SPAN: 104'0". LENGTH: 63'10".

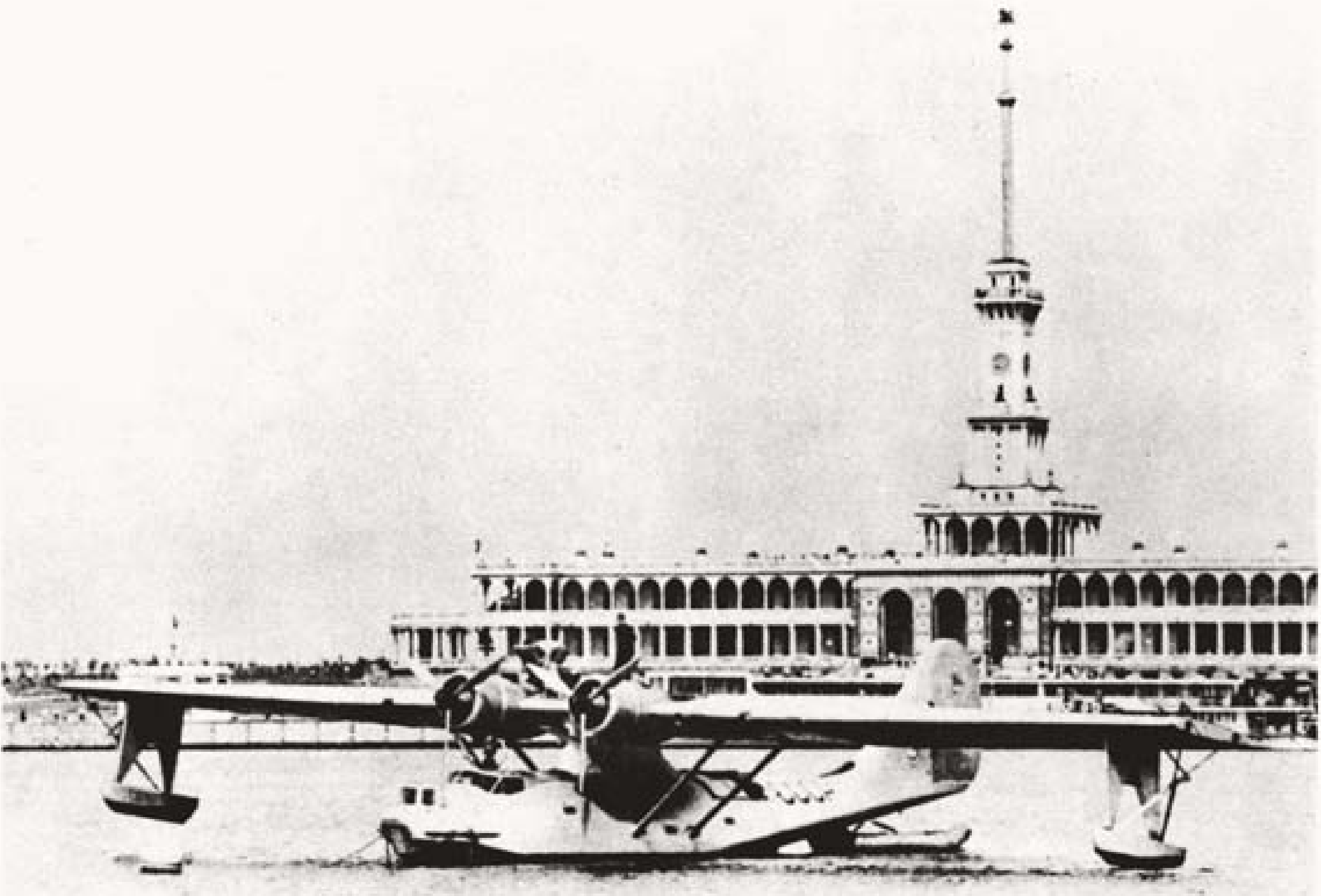
ENGINE: Ash-62 IR; radial/985 h. p.

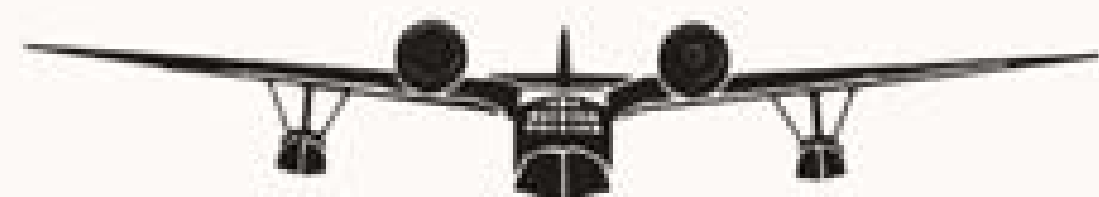
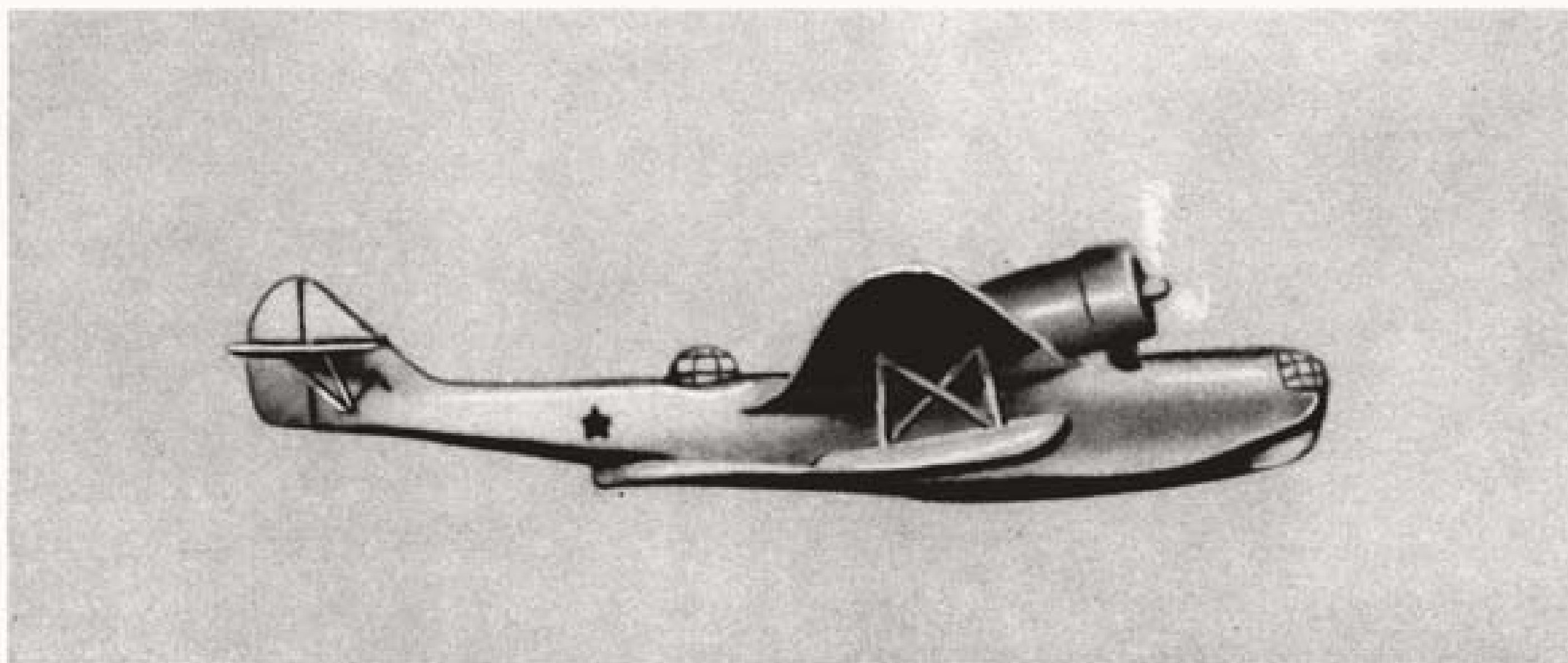
SPEED: 160 knots/10,000 ft.

RANGE: 2,300 nautical miles/100 knots.

ARMAMENT: 5 x 7.6 mm.; flexible.







The MDR-6 is a twin-engine, long range, reconnaissance flying-boat. The high cantilever wing tapers on the leading and trailing edges with sharp dihedral on the center section and less dihedral on the outer sections. The hull is a two-step type with braced single-step stabilizing floats attached about halfway between the hull and the wing tips. The two radial engines are mounted on the leading edge of the wing. An enclosed cockpit is located forward of the leading edge with a bow gun turret and a dorsal gun turret aft of the wing's trailing edge.

SPAN: 64'0".

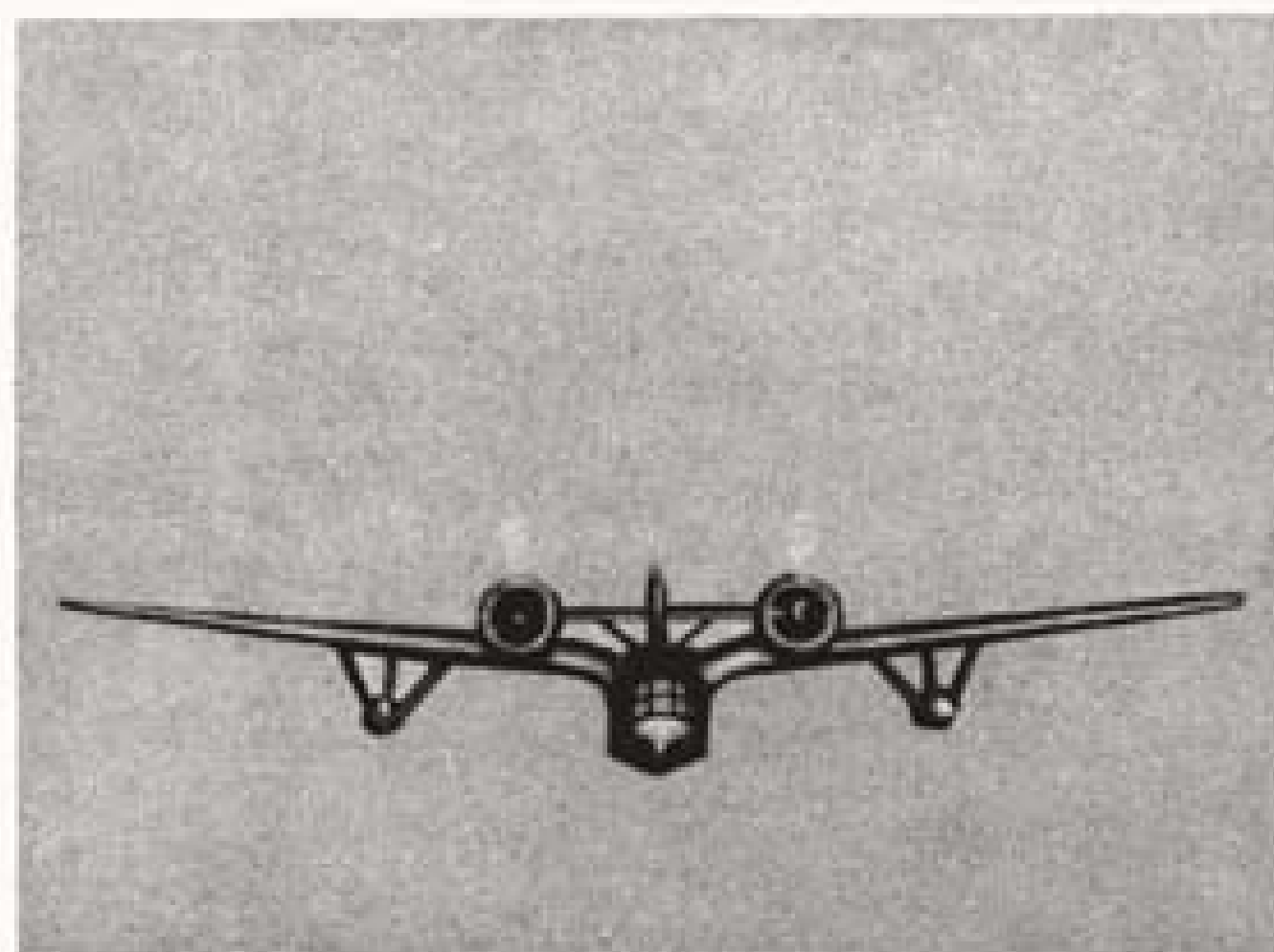
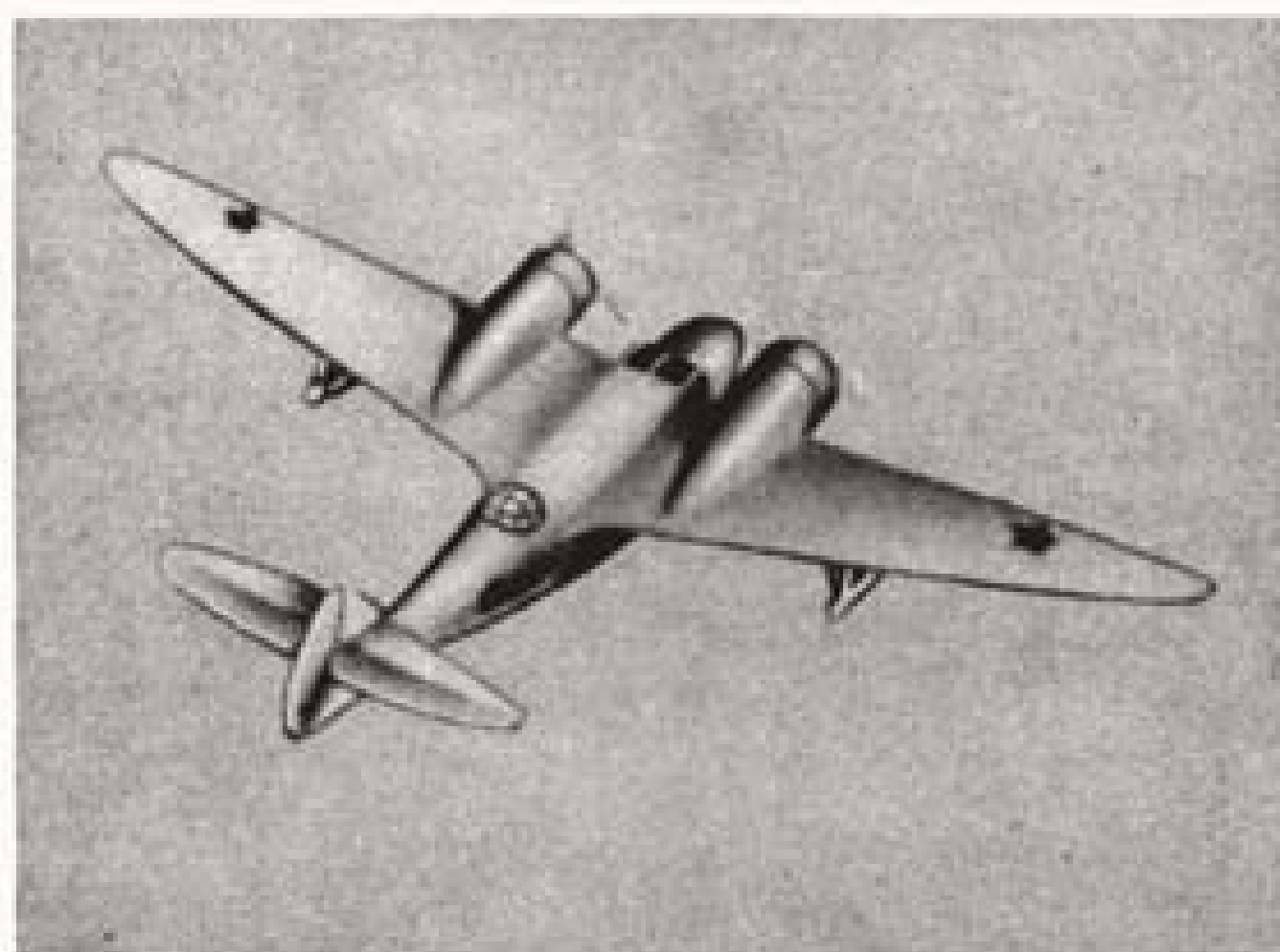
LENGTH: 49'2".

ENGINE: Ash-62 IR; radial/985 h. p.

SPEED: 190 knots/10,000 ft.

RANGE: 1,035 nautical miles/135 knots.

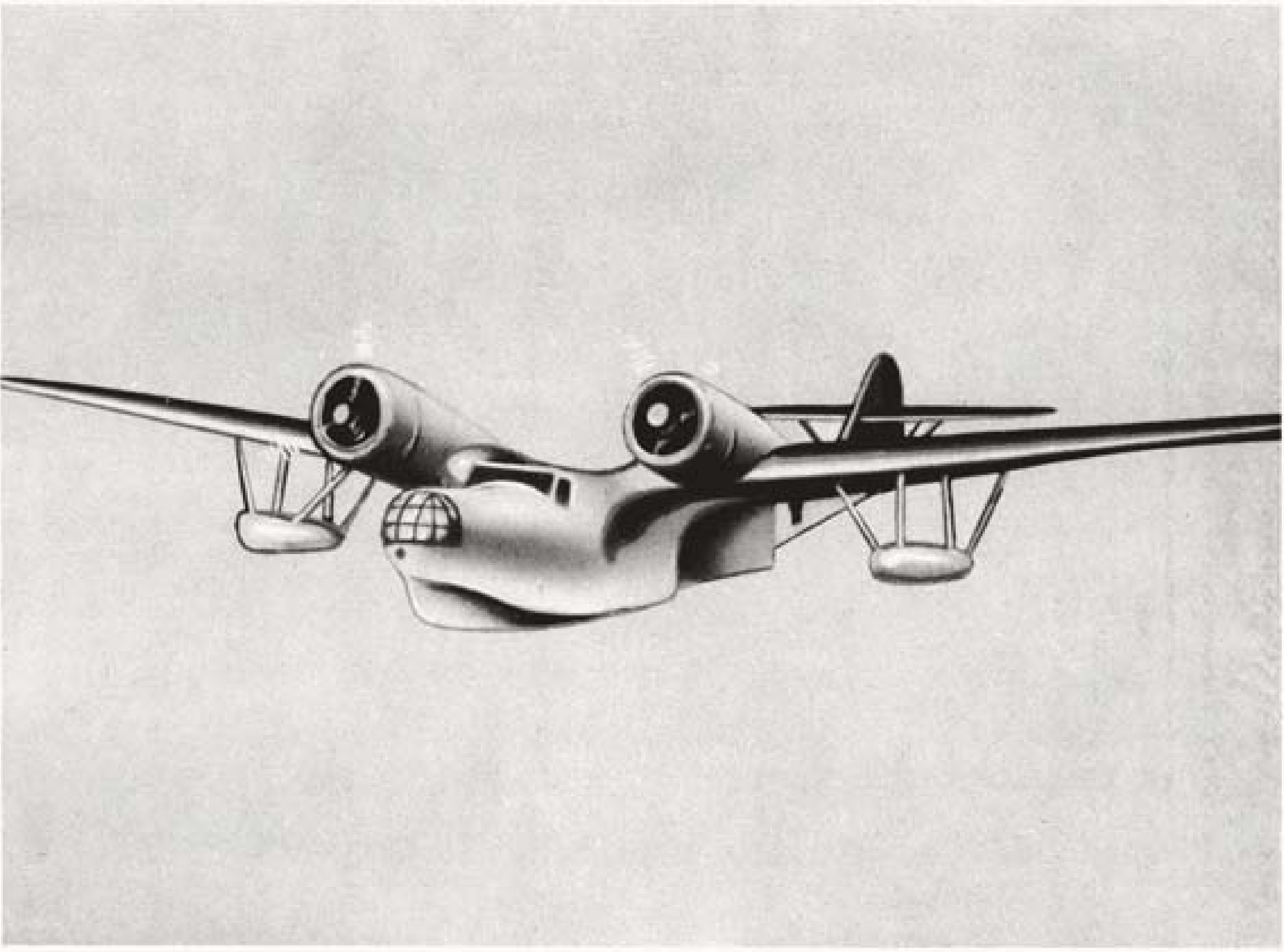
ARMAMENT: 4 x 7.62 mm.



BLOCHAYINDIN

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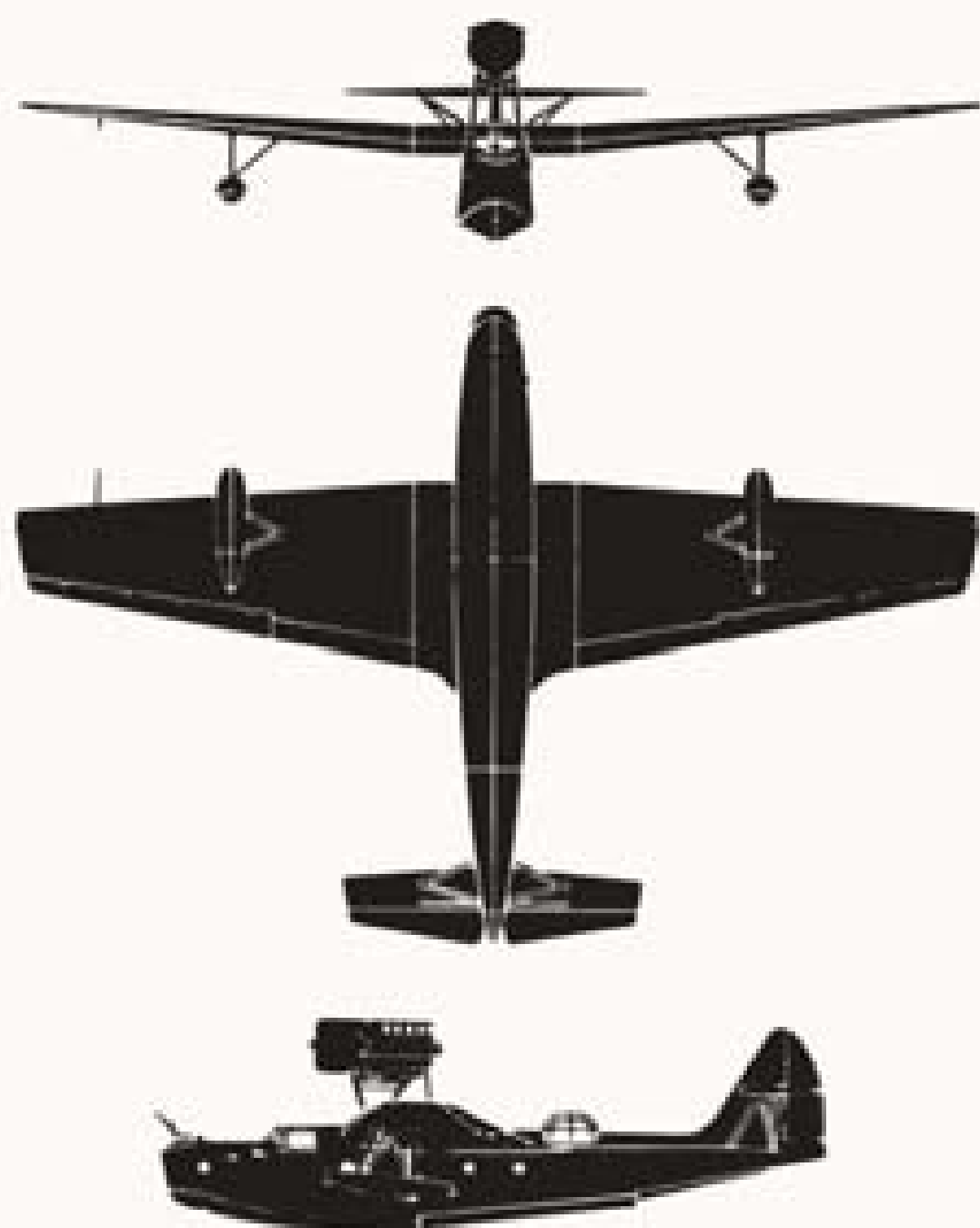
MDR-6



**USSR
MAY 1949**

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**AFM 50-40
OPNAV 39P-1200**



The MBR-2 is a single-engine, flying boat monoplane. The wing is tapered moderately to square tips. The hull is of the two-step type. The strut-braced stabilizer is mounted on a single fin. The cockpit is placed forward of the wing and the engine nacelle is carried above the wing on "N" struts. One engine drives a pusher propeller. Lateral stabilizing floats are fitted on struts under the wing. There is a bow gun ring turret and a dorsal turret which are probably manually operated. The MBR-2 is employed as a reconnaissance bomber.

SPAN: 64'0".

LENGTH: 50'9".

ENGINE: AM-34RNA; Vee in-line/810 h. p.

SPEED: 135 knots/6,550 ft.

RANGE: 810 nautical miles/95 knots.

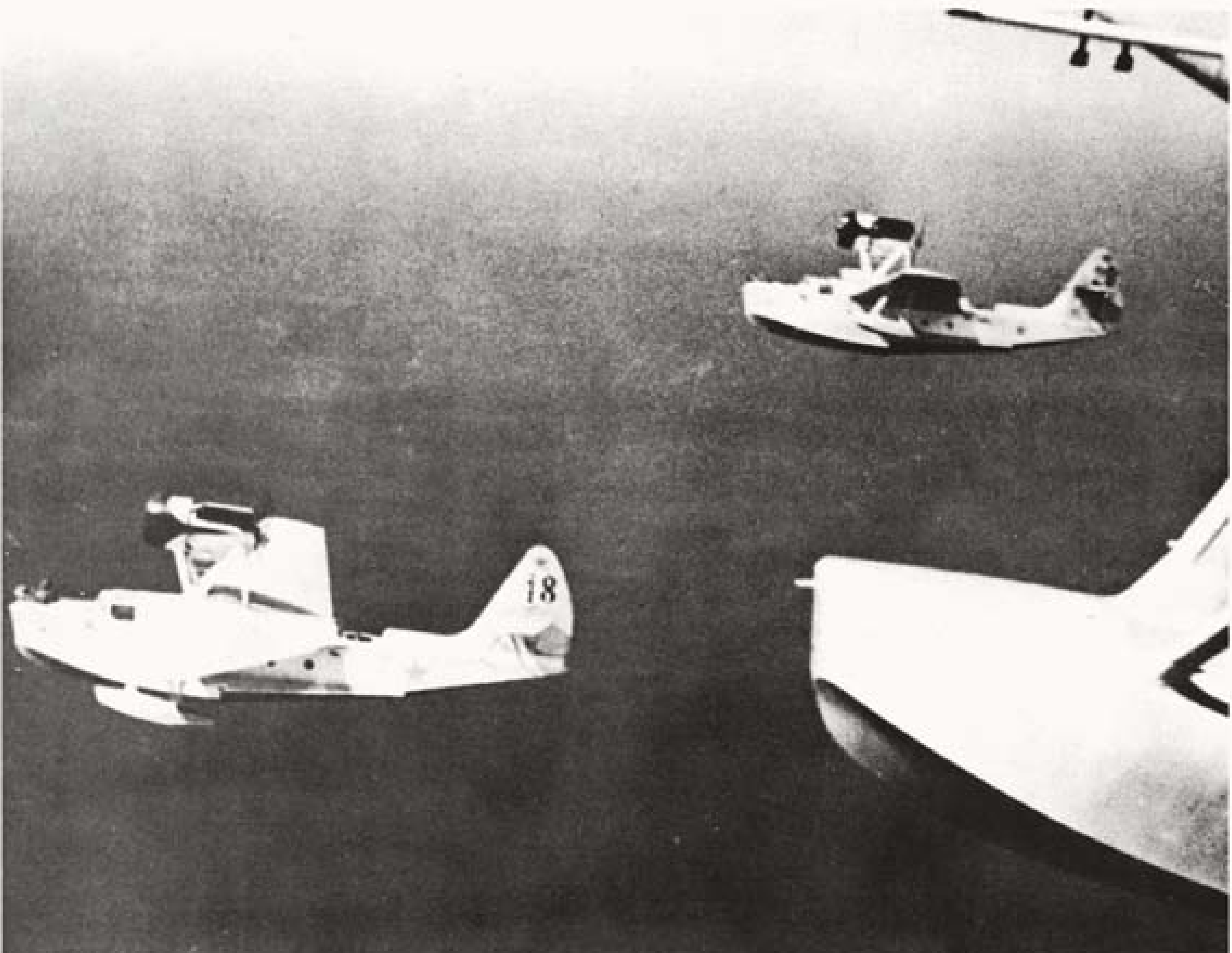
ARMAMENT: 2 x 7.6 mm.; flexible.



BLOCHAYINDIN

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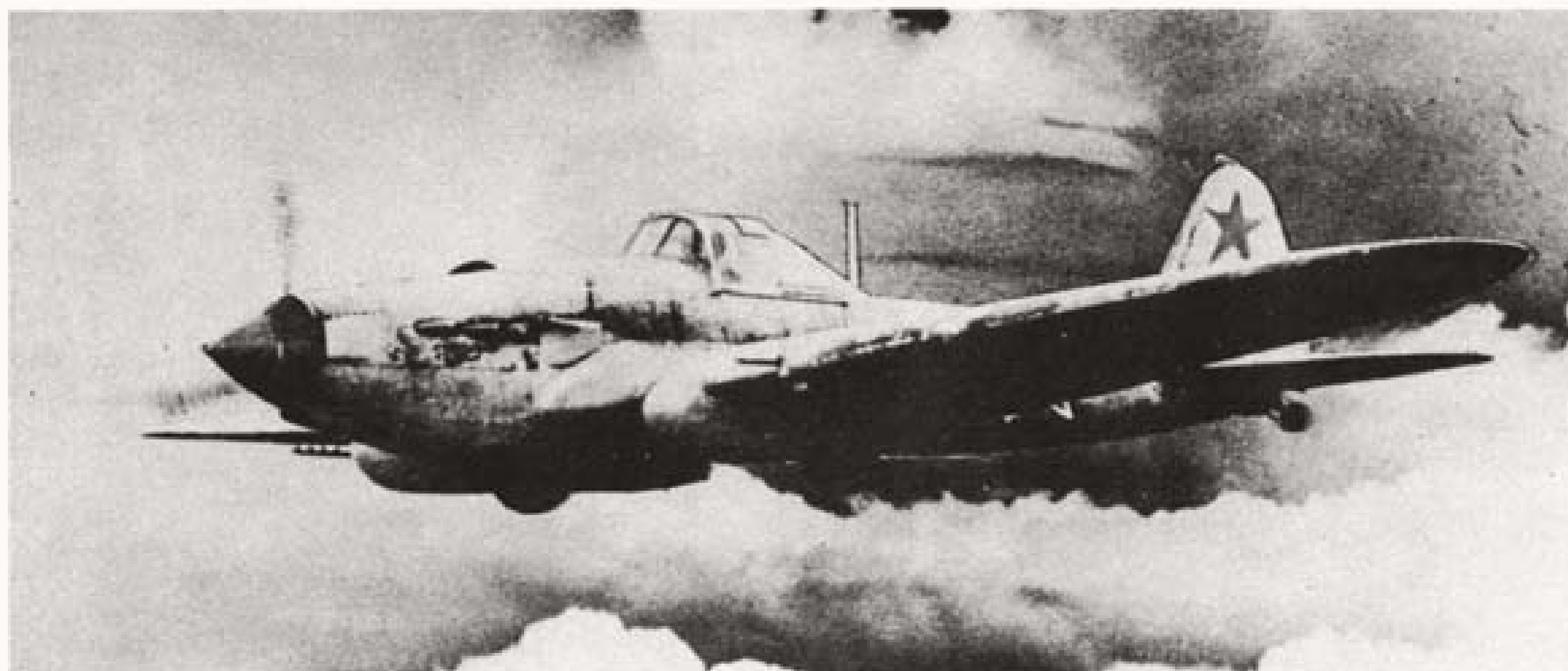
MBR-2



USSR
MAY 1949

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AFM 50-40
OPNAV 32P-1200



The Stormovik IL-2 is a single-engine, low-wing monoplane. The wings taper to rounded tips. The fuselage is of small cross section with a pointed nose. The cockpit is very prominent and there is a single fin and rudder. The landing gear retracts rearward into large fairings beneath the wing; tailwheel is fixed. Later versions of this aircraft have a rear gun position in the cockpit and carry a crew of two. The IL-2 is an assault bomber and is said to be so heavily armored for strafing work that light cannon fire has small effect on its sides. It was in its element when flying low, attacking German tank and mechanized columns.

SPAN: 47'10".

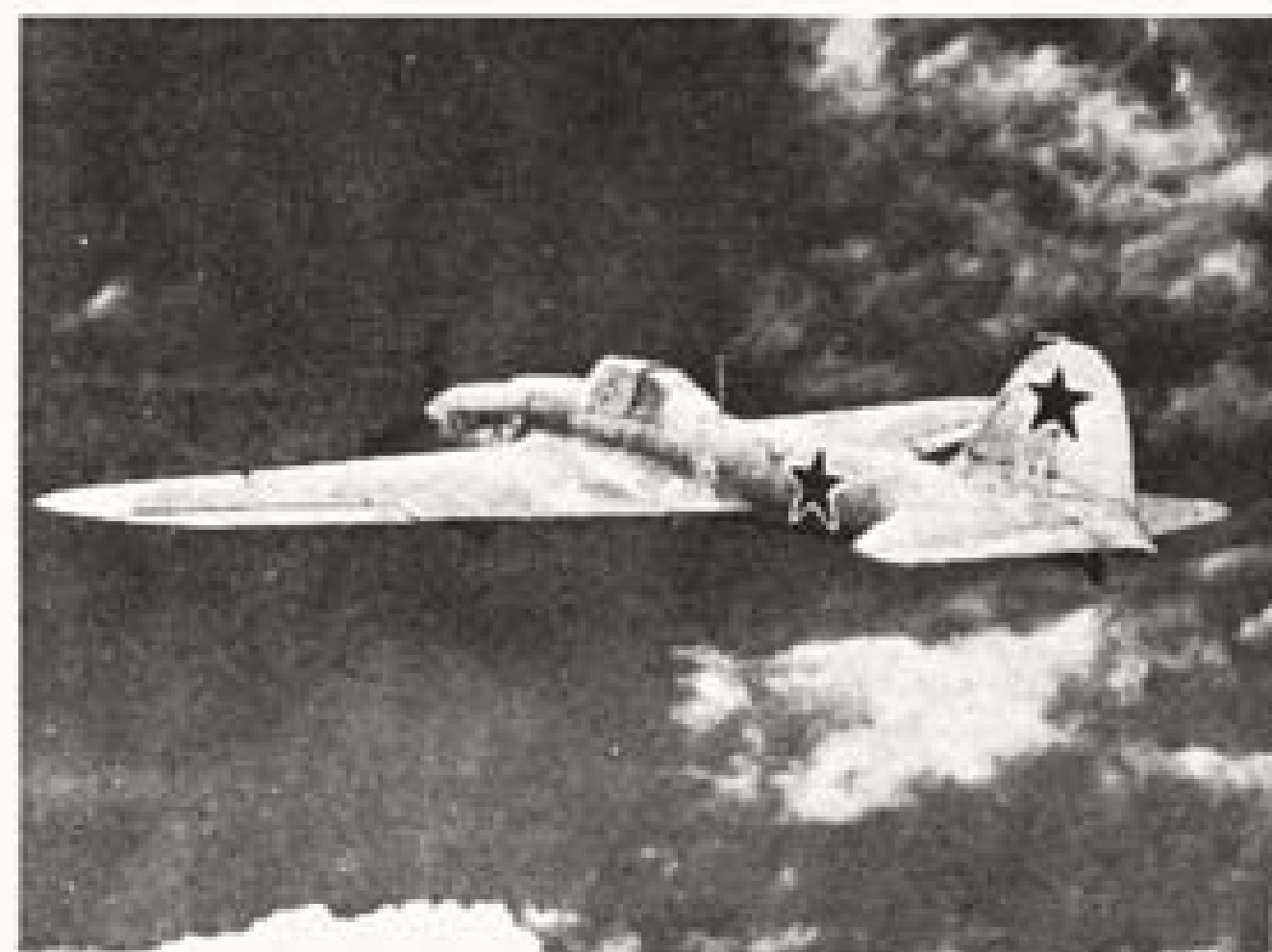
LENGTH: 38'2".

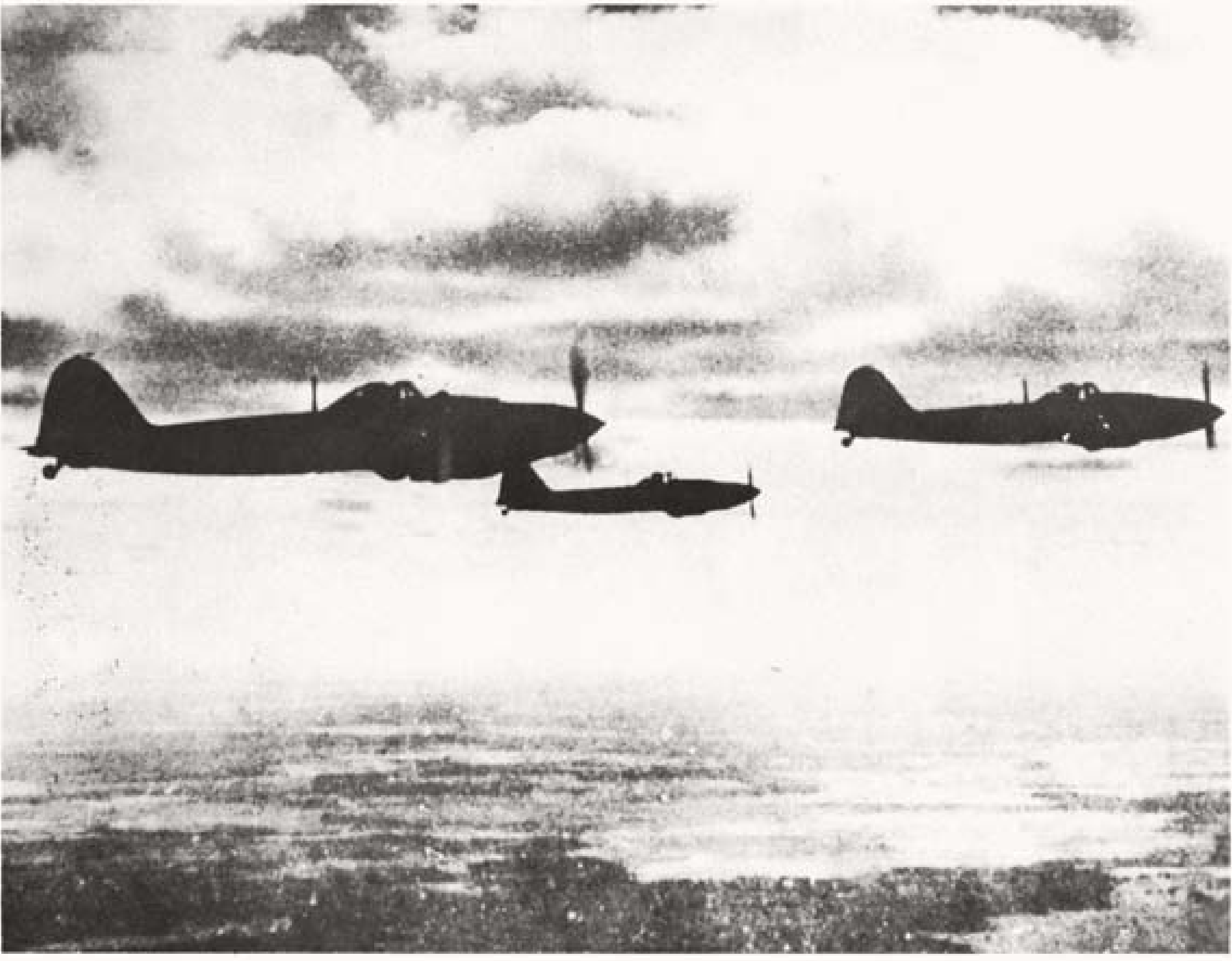
ENGINE: AM-38F; Vee in-line/1,675 h. p.

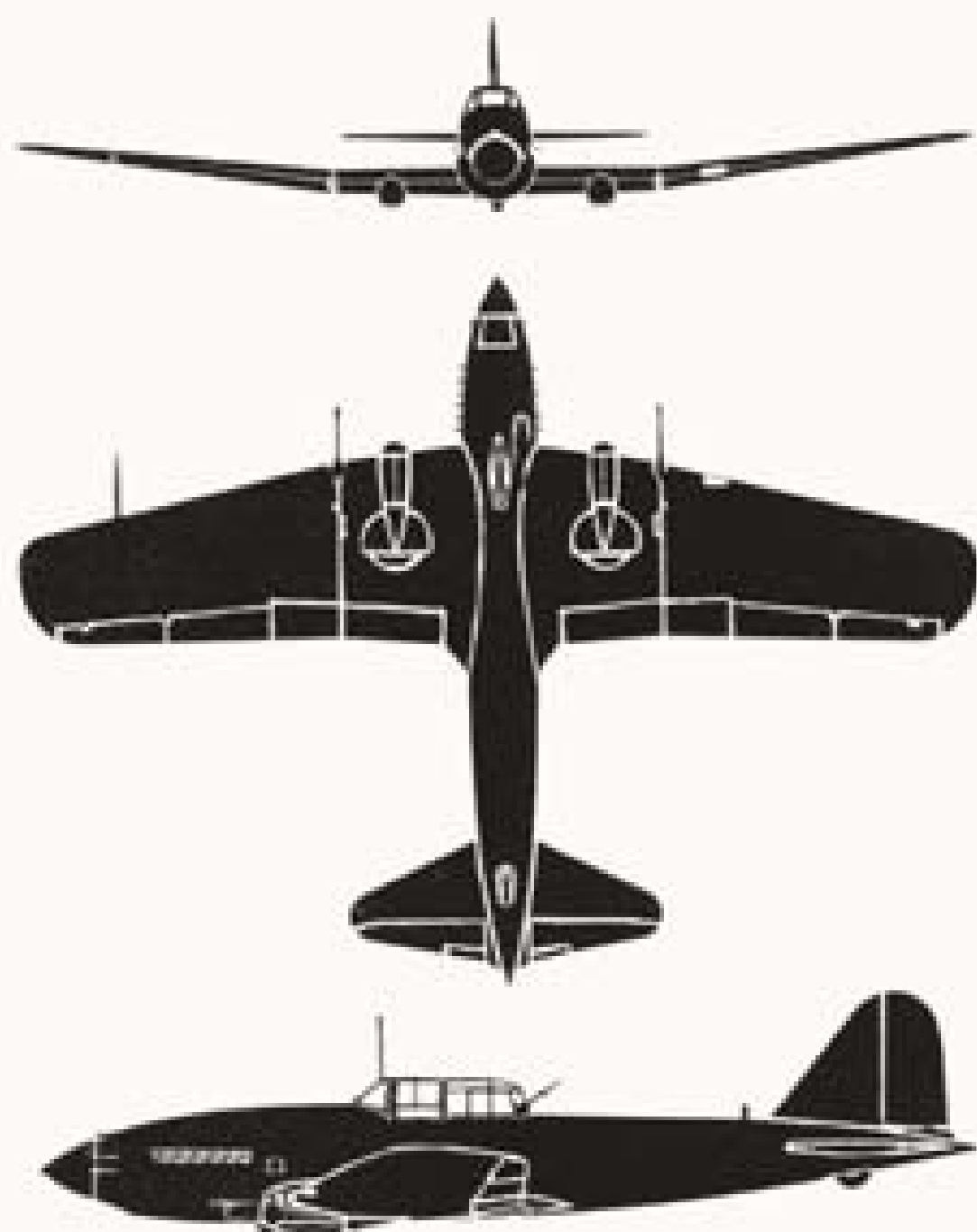
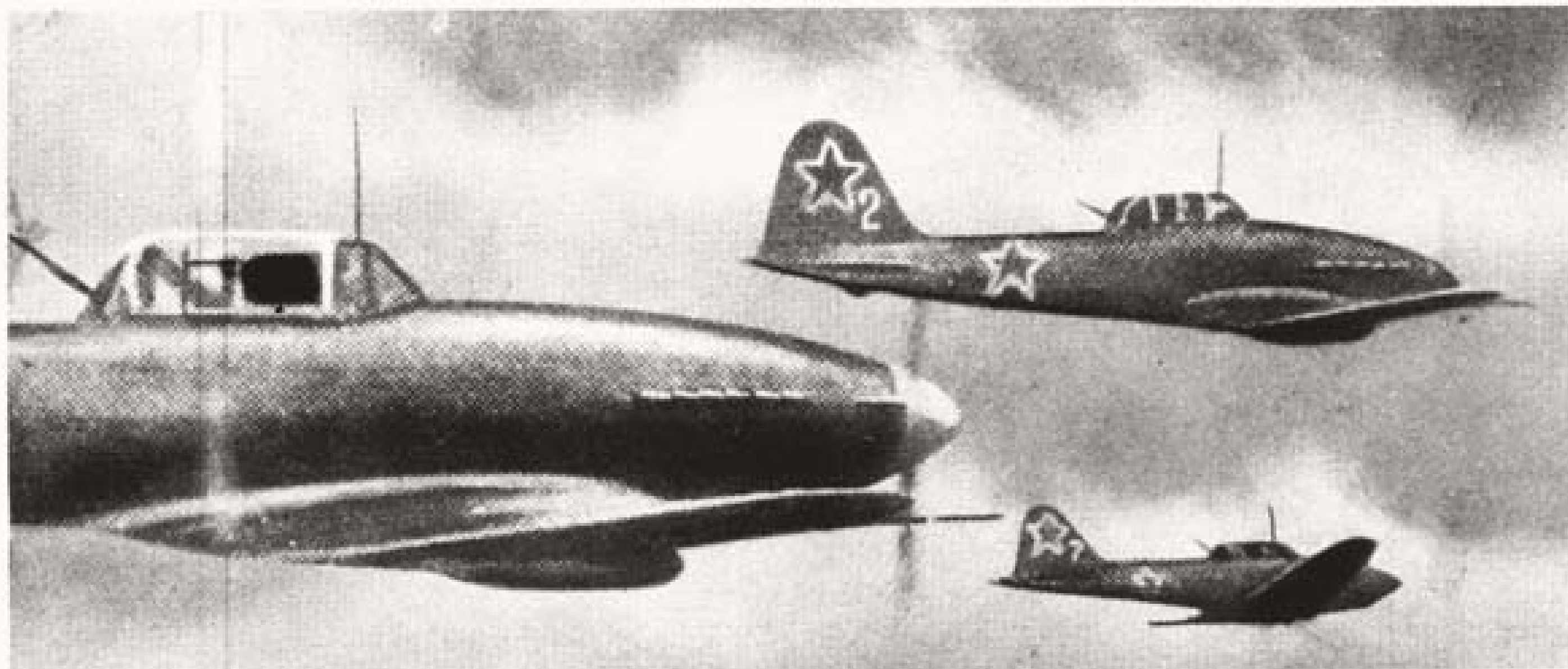
SPEED: 240 knots/7,900 ft.

RANGE: 392 nautical miles/151 knots.

ARMAMENT: 2 x 7.6 mm.; 2 x 23 mm.; 1 x 12.7 mm/8 x 132 mm. rkts.



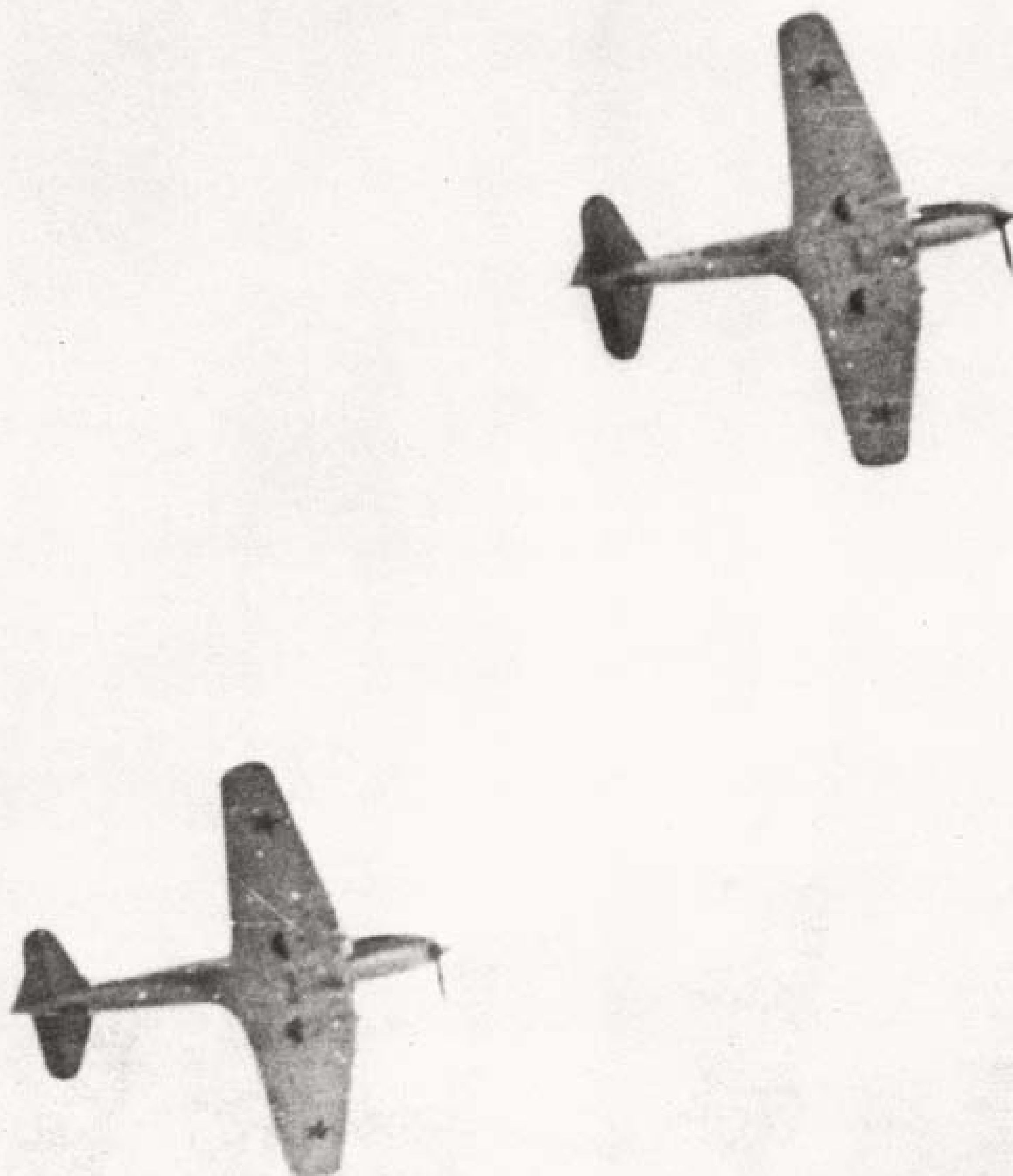


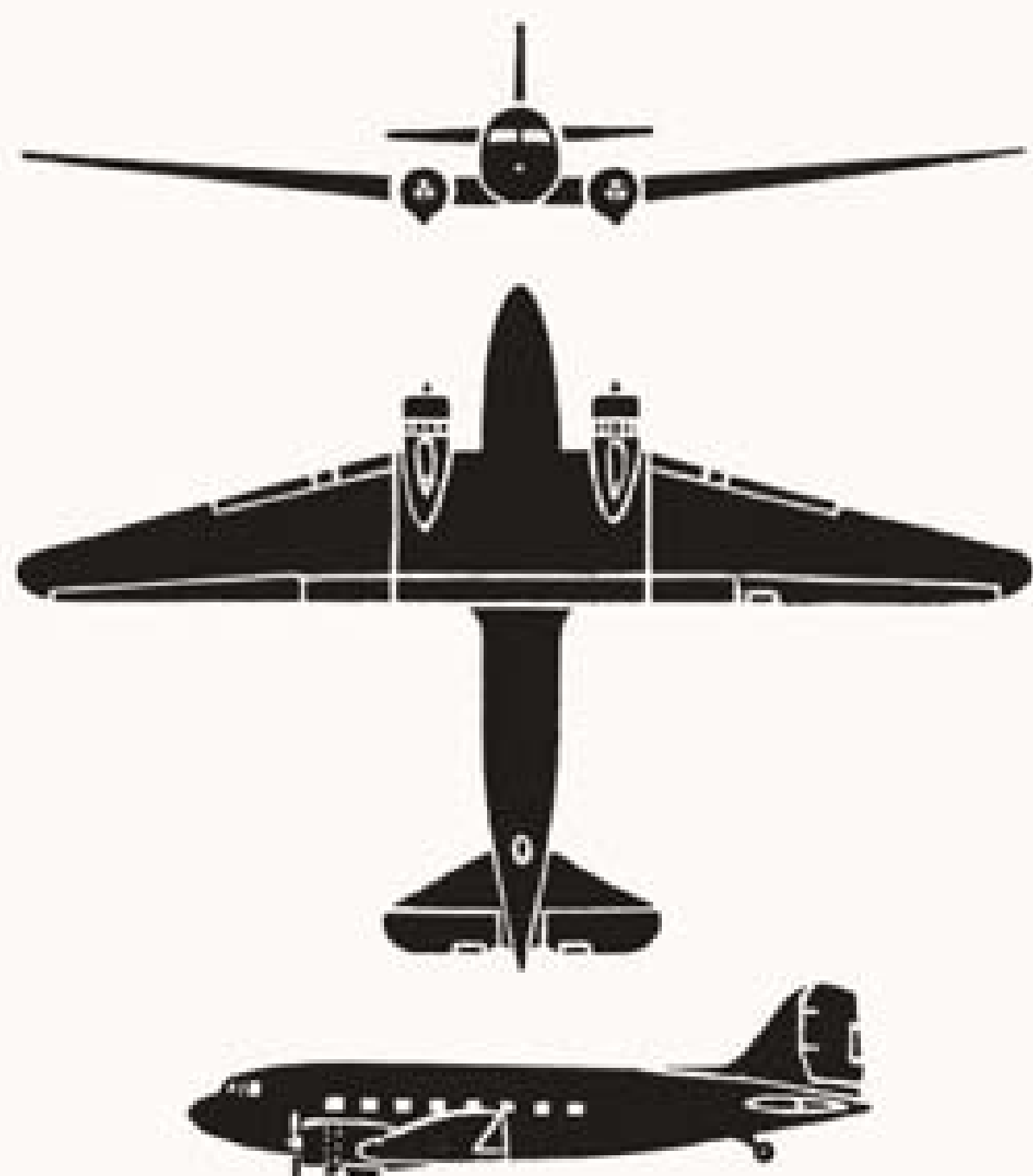


The IL-10 is a single-engine, low-wing, close support and reconnaissance monoplane. The fuselage is oval and of all metal construction. The outer section of the wing has a slightly swept-back leading edge. The trailing edge sweeps forward from the root fillets and the wing tips are almost square. The tail unit includes a cantilever stabilizer with short taper on leading edge and a single fin and rudder. It has a single 12 cylinder "V" type, liquid-cooled engine. Landing gear is retractable and conventional. It is a two-place airplane and is basically similar to the IL-2, the famous Stormovik, from which it was developed.

SPAN: 45'4". LENGTH: 37'0".
 ENGINE: AM-42F; Vee in-line/2,000 h. p.
 SPEED: 270 knots/6,000 ft.
 RANGE: 420 nautical miles/160 knots.
 ARMAMENT: 2 x 23 mm.; 2 x 12.7; 1 x 20 mm/
 8 x 132 mm. rkts.







The LI-2 (PS-84) is a twin-engined, low-wing transport monoplane. Wing tapers to rounded tips. There is a single fin and rudder. Landing gear is retractable. It has a capacity of 5,000 pounds of freight or 21 passengers and a crew of 3. The LI-2 is the U. S. S. R. version of the U. S. DC-3 transport. This aircraft was originally designated PS-84. During World War II, a large number of C-47 Skytrains were supplied to Soviet under Lend-Lease. In addition to being the standard Soviet troop and paratroop transport, LI-2 is also widely used as a passenger airliner by Aeroflot.

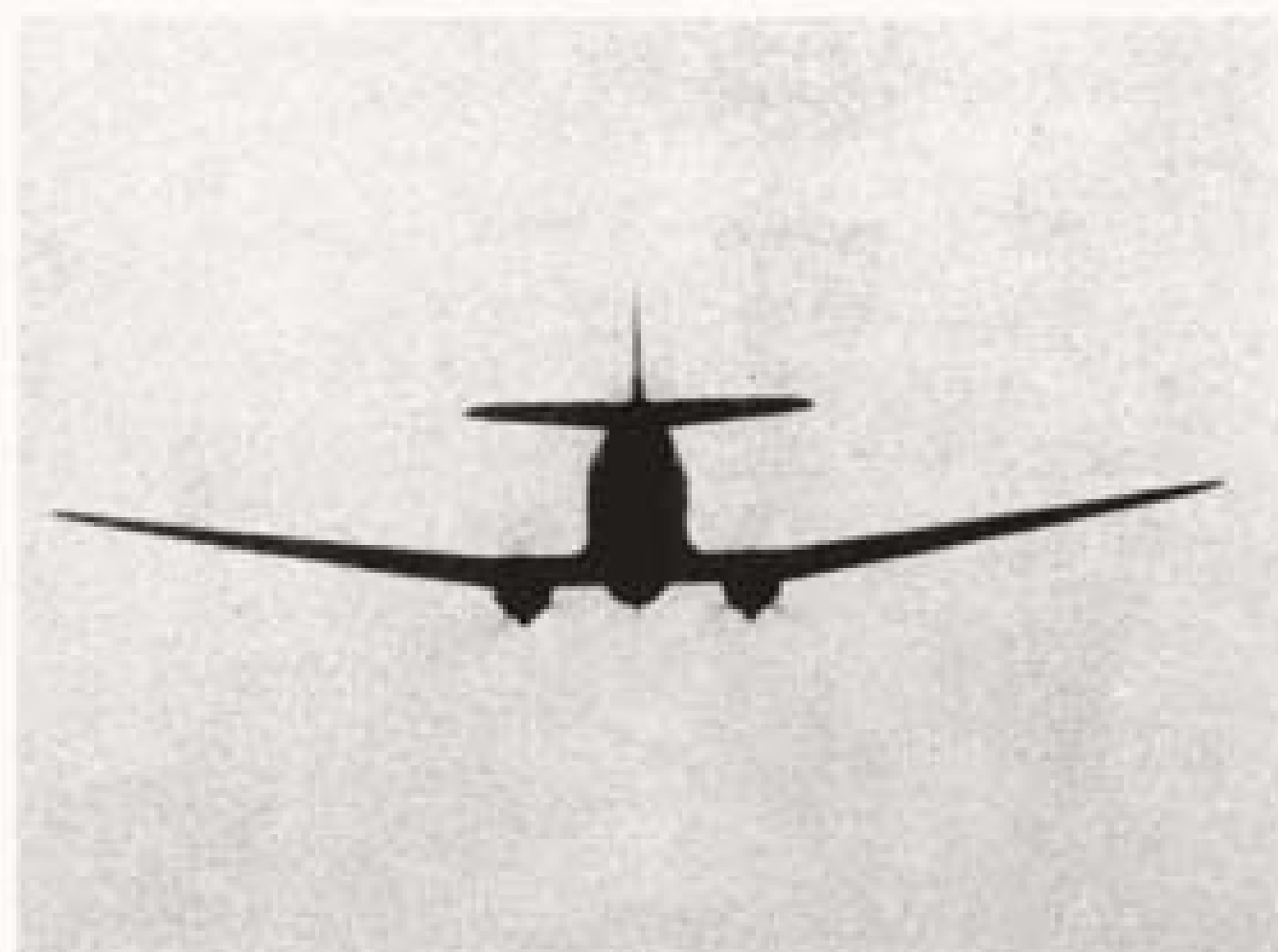
SPAN: 95'0". **LENGTH:** 64'6".

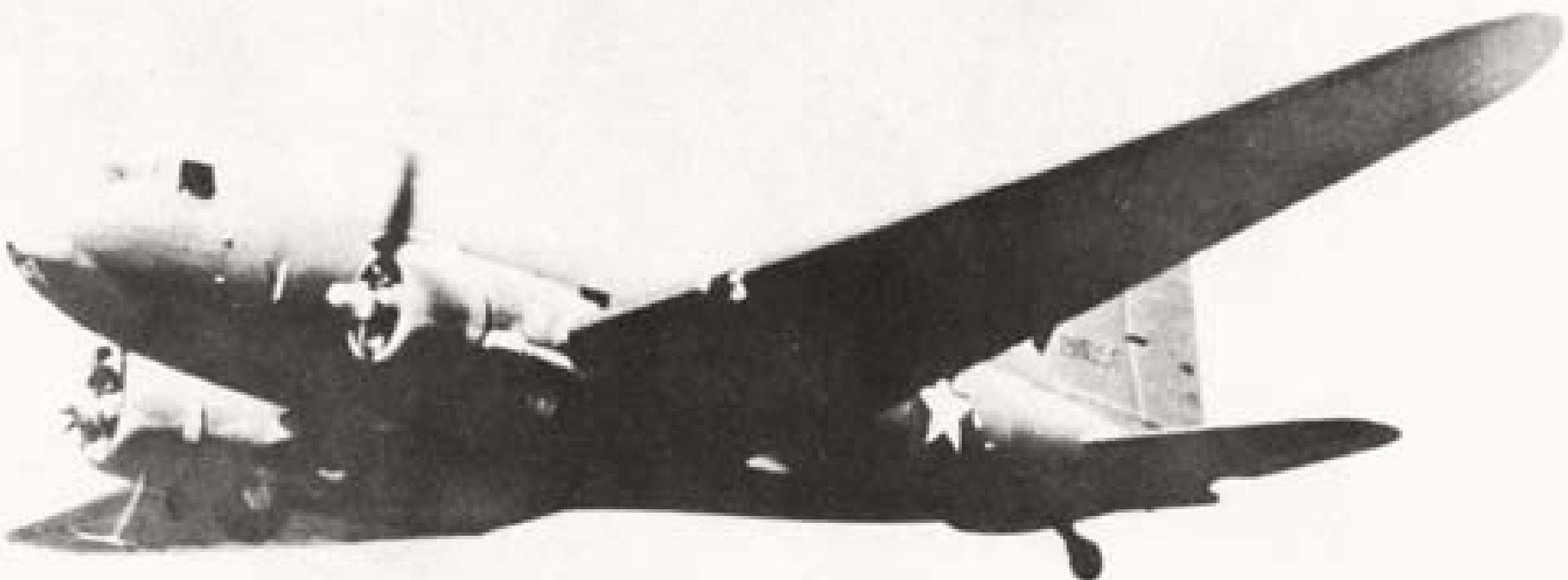
ENGINE: Ash-621 IR; radial/960 h. p.

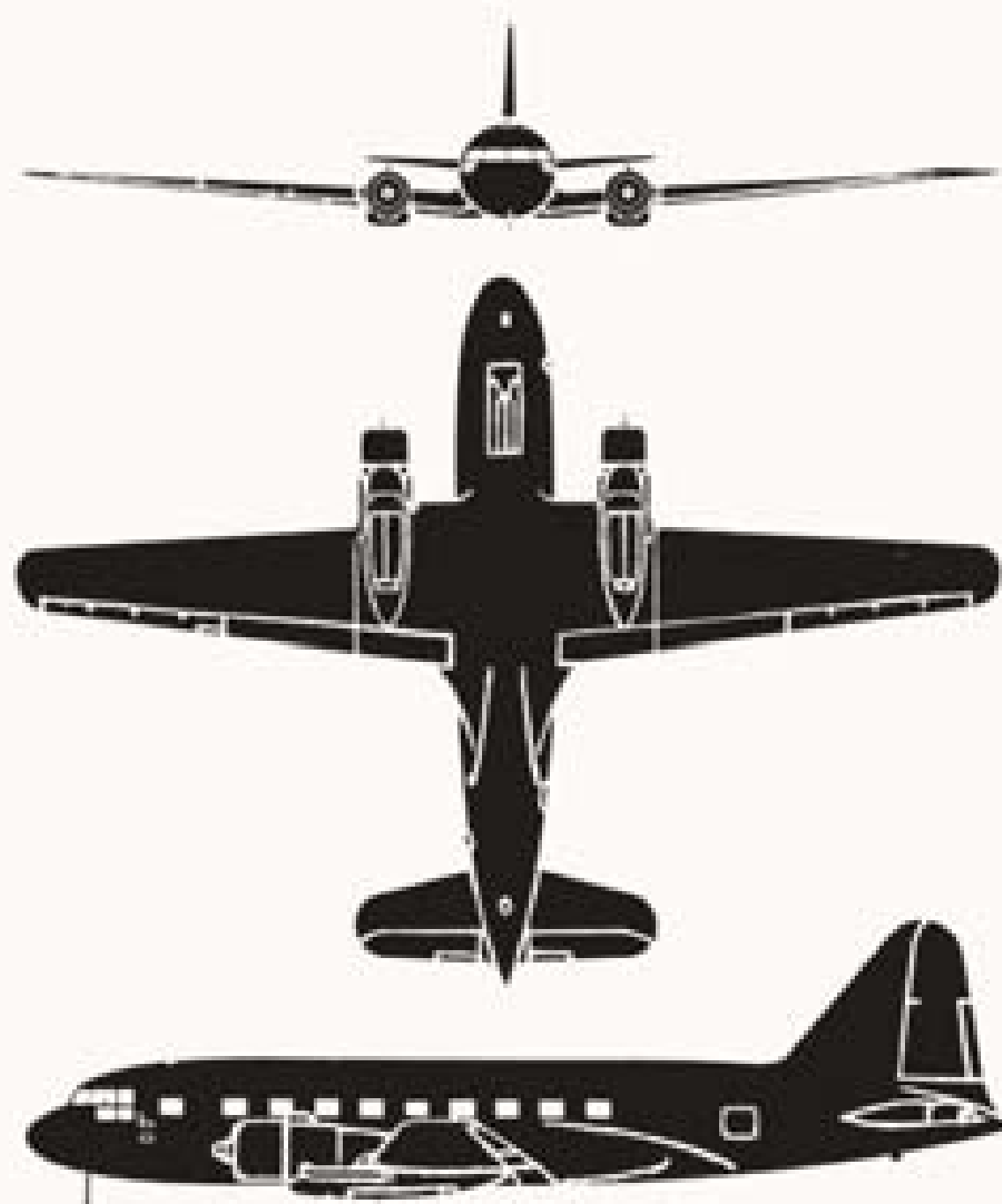
SPEED: 180 knots/5,000 ft.

RANGE: 1,460 nautical miles/120 knots.

ARMAMENT: Normally none.







The IL-12 is a twin-engine, low-wing monoplane transport. The wing has positive dihedral; and its center section is rectangular while the outer sections are trapezoidal with rounded tips. It has a single tail and retractable tricycle landing gear. The main wheels are dual and the nose wheel is single. The IL-12 has a capacity of 27 passengers or 19 paratroops. Designed by Ilyushin, the plane is similar to the C-47, but the IL-12 wing is placed farther aft than the C-47. First public appearance of the IL-12 was at Tushino Airport, Moscow on August 18, 1946.

SPAN: 104'0".

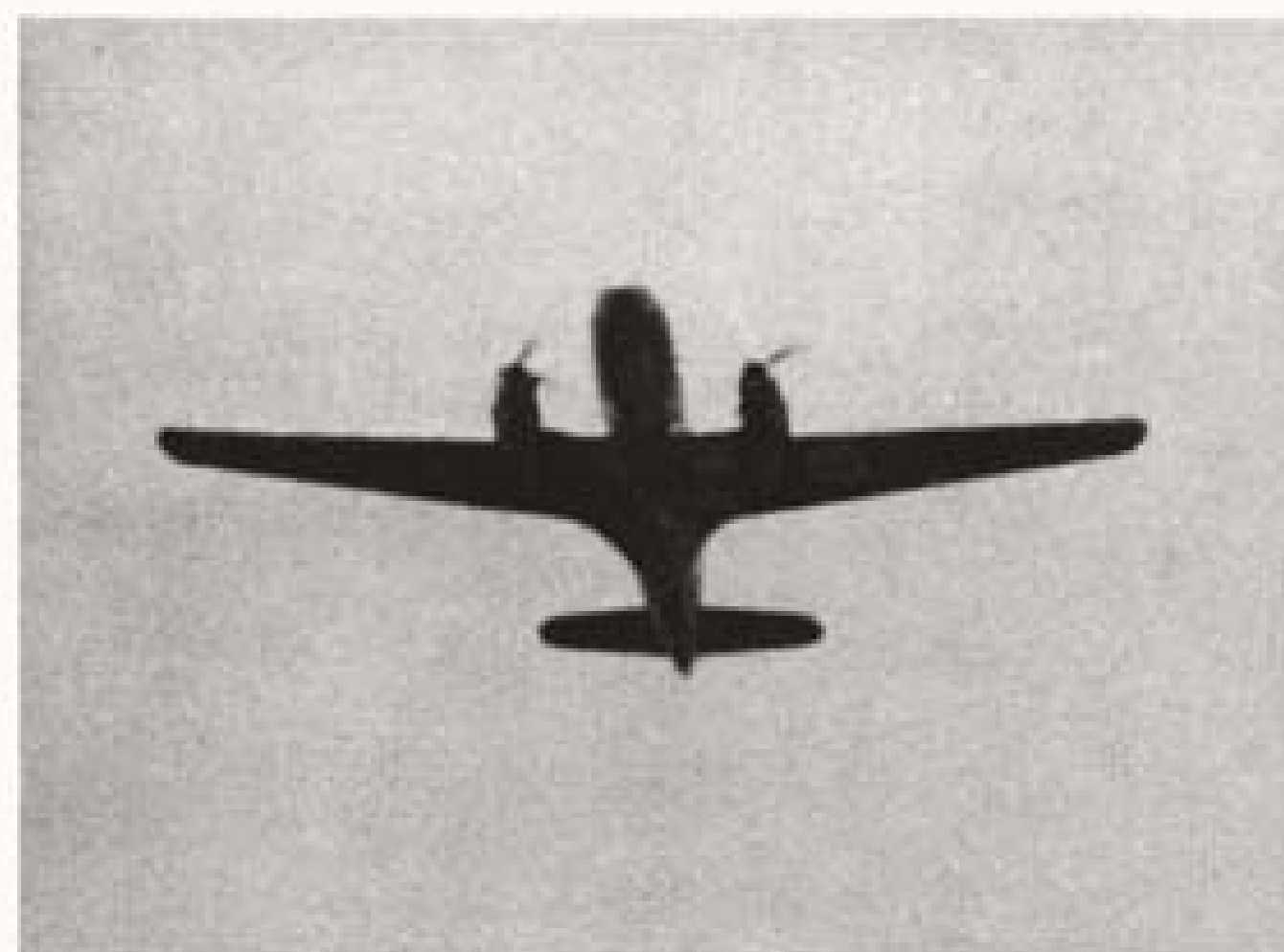
LENGTH: 69'10".

ENGINE: Ash-82; radial/1,680 h. p.

SPEED: 220 knots/8,800 ft.

RANGE: 1,080 nautical miles/164 knots.

ARMAMENT: None.



ILYUSHIN

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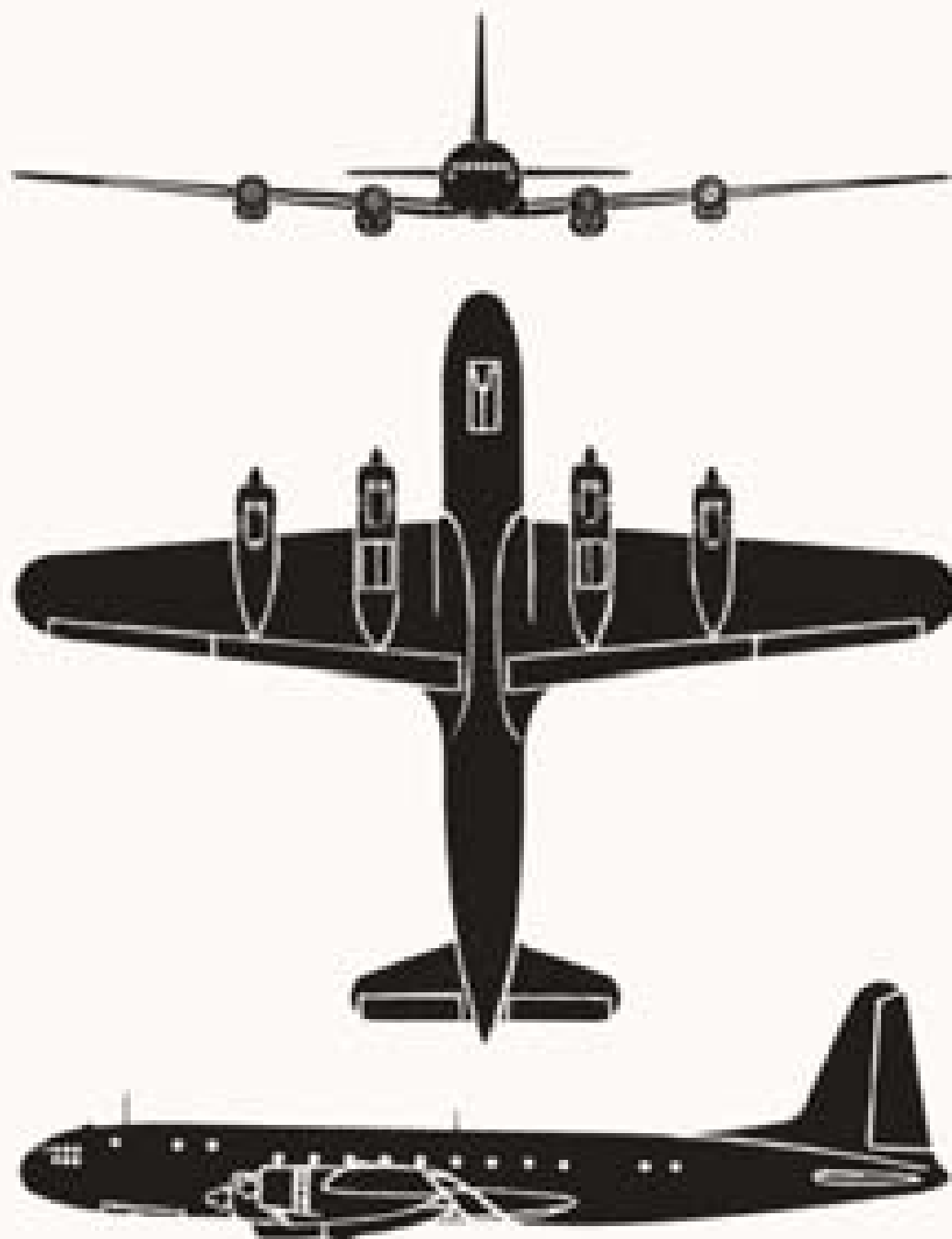
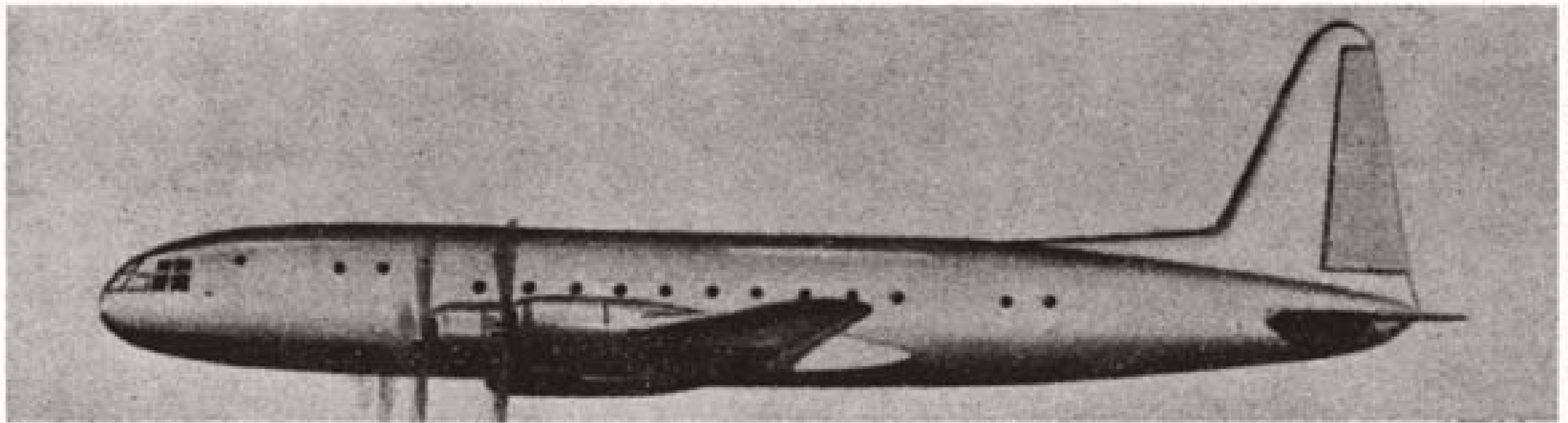
IL-12



**USSR
MAY 1949**

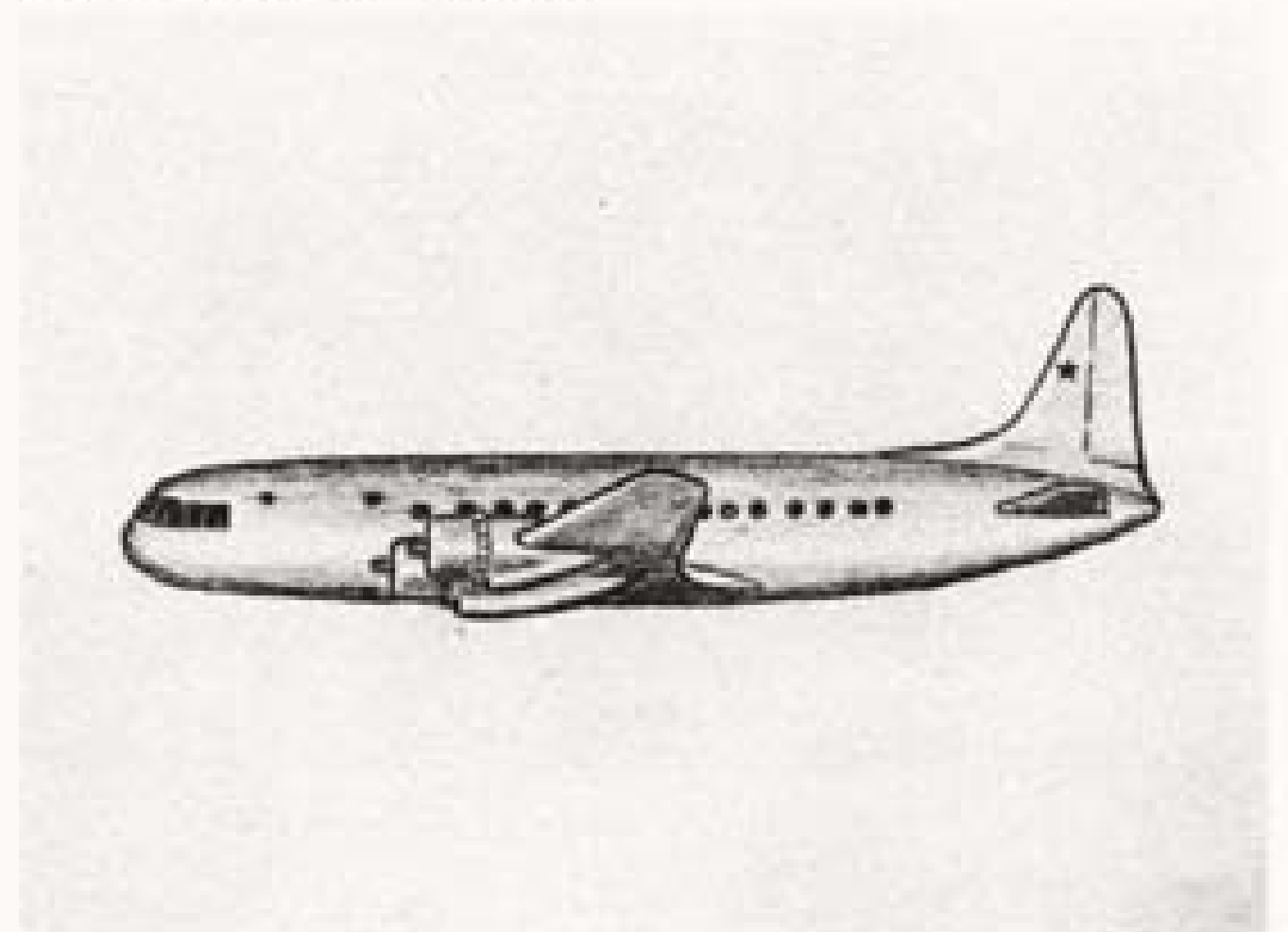
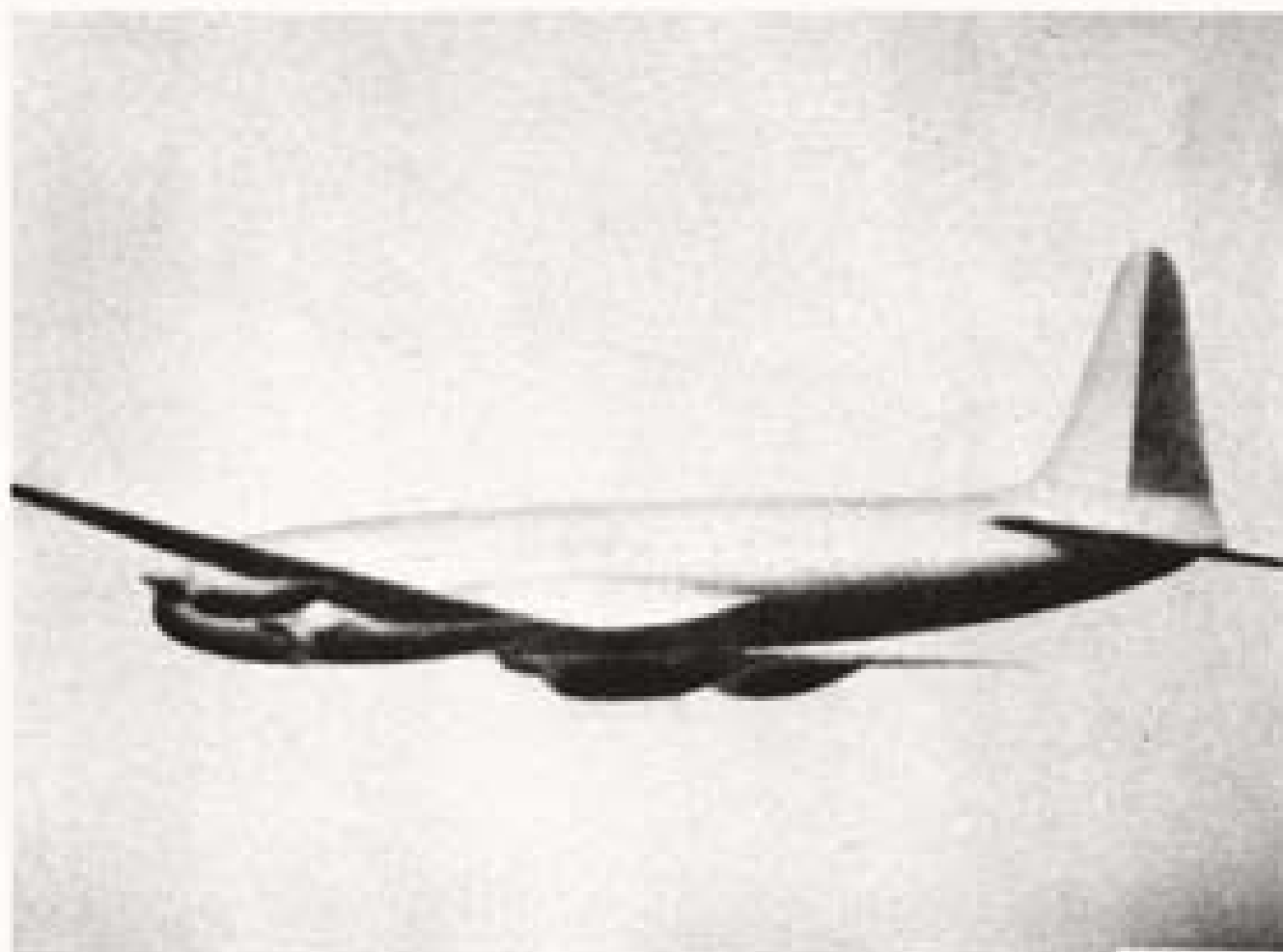
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**AFM 50-40
OPNAV 32P-1200**

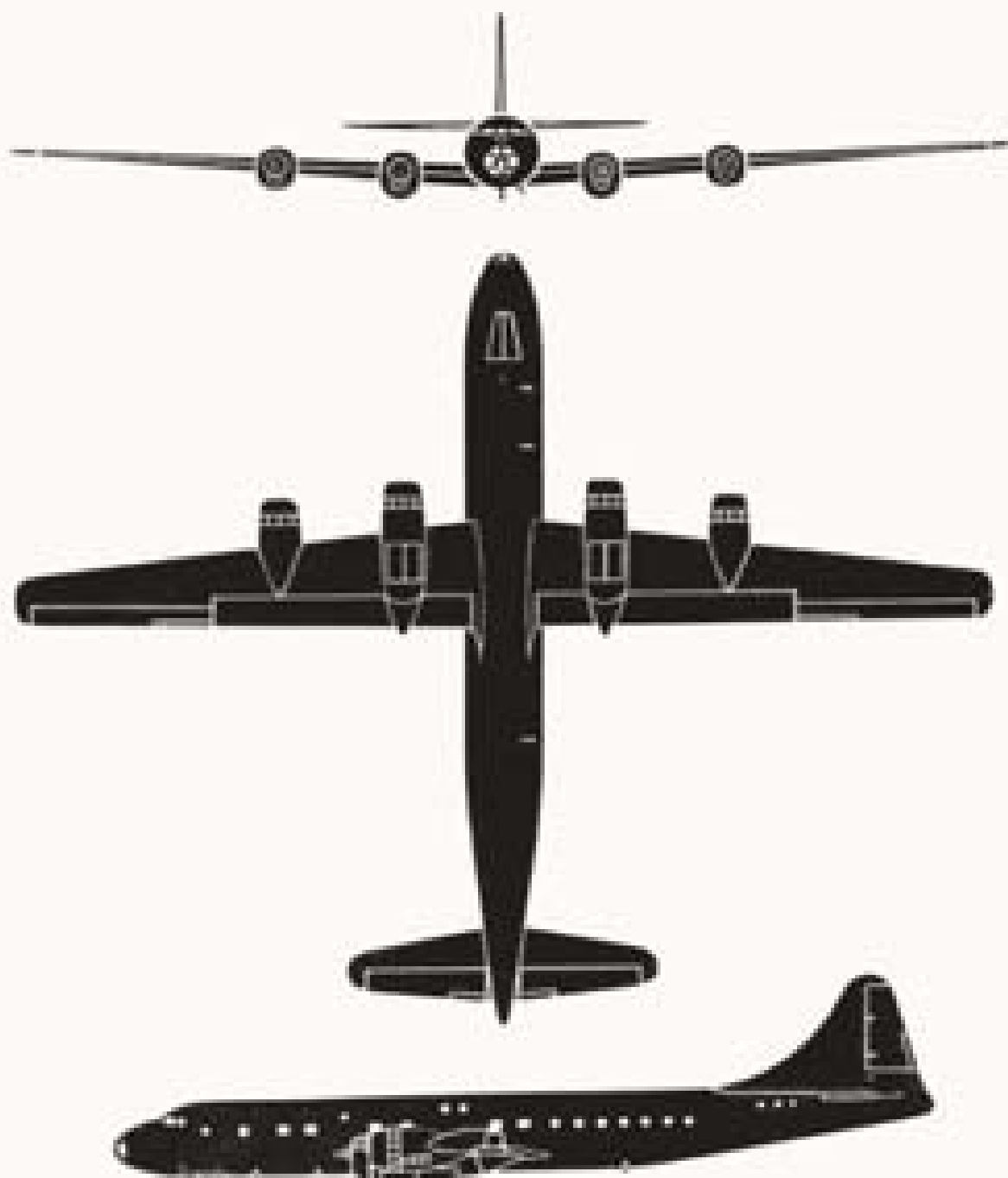
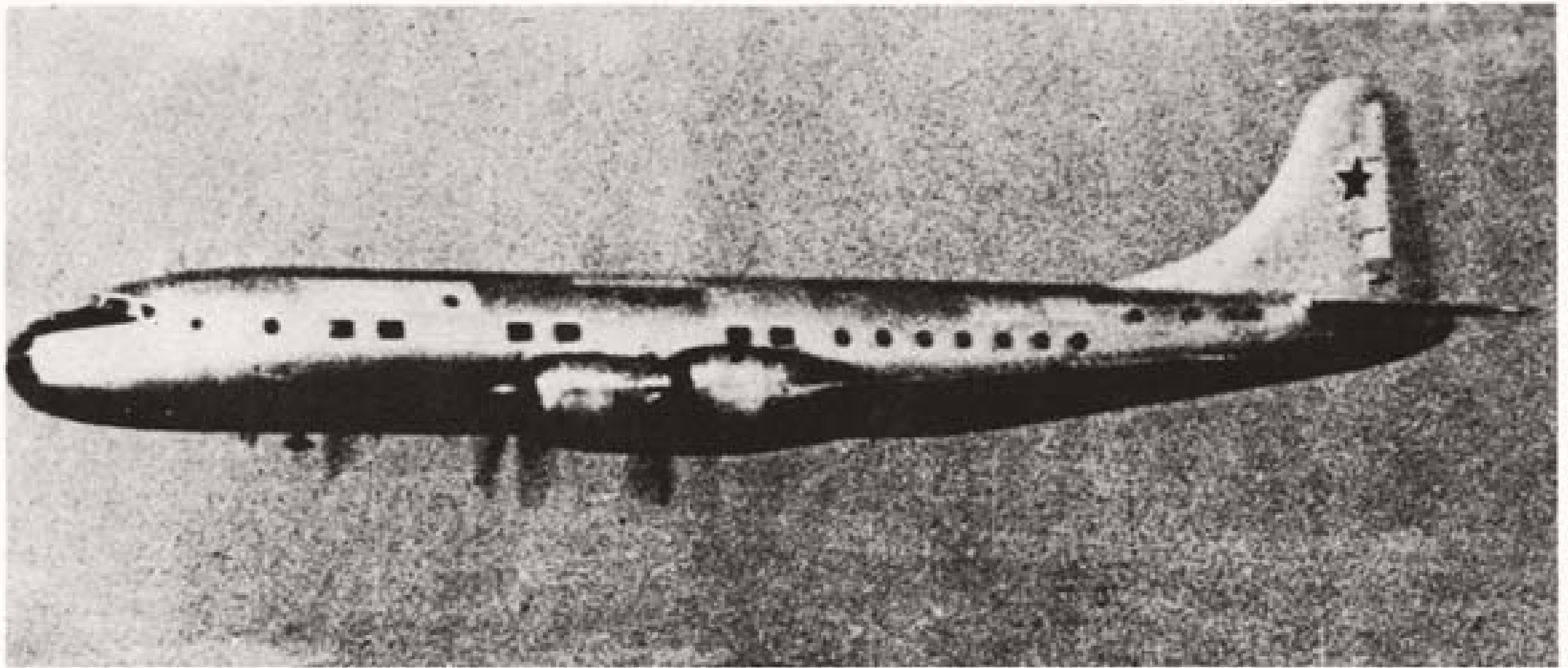


The IL-18 is a four-engine, low-wing transport. The fuselage is cigar-shaped with no prominent windshield. The wing root is faired into the fuselage with the fairing extending aft of the trailing edge of the wing. The wing tapers on the leading and the trailing edge to relatively narrow chord wing tips. There is a single tail. It is fitted with a retractable tricycle landing gear with dual wheels. The IL-18 has a capacity of 66 passengers and a crew of 6. Superficially the IL-18 resembles the British Avro Tudor 7 and is evidently a scaled-up model of the Soviet twin-engine transport, the IL-12.

SPAN: 131'0". LENGTH: 100'0".
ENGINE: Ash-82 FNV; radial/1,825 h. p.
SPEED: 270 knots/20,000 ft.
RANGE: 2,000 nautical miles/175 knots.
ARMAMENT: None.







The TU-70 is a four-engine, low mid-wing transport that resembles the B-29 in configuration. The design is obviously based on the B-29 bomber, several examples of which were confiscated by the Soviet after being forced to land in Soviet occupied territory before the war ended. The fuselage of the TU-70 is longer and mounted higher on the wing, and incorporates a step-down pilot's windscreen. Soviet plants are also producing a complete copy of the B-29, as a bomber. The redesign of the B-29 was produced by the versatile Andrei Tupolev, the co-founder of the U. S. S. R. aviation industry. The TU-70 has a capacity of 72 passengers.

SPAN: 141'3". **LENGTH:** 119'0".
ENGINE: Ash-90; radial/2,320 h. p.
SPEED: 260 knots/sea level.
RANGE: 3,000 nautical miles/195 knots.
ARMAMENT: None.



TUPOLEV

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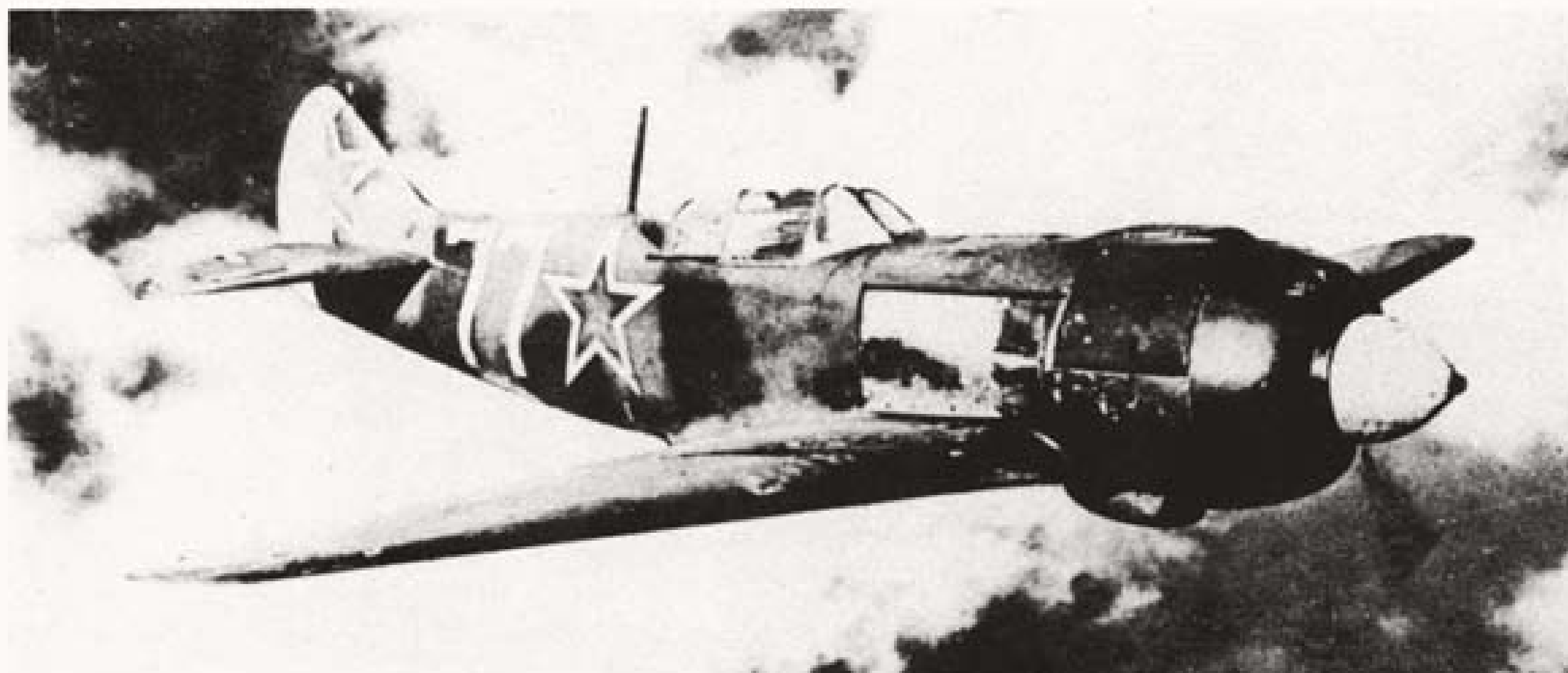
TU-70



USSR
MAY 1949

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AFM 50-40
OPNAV 32P-1200



The LA-5 is a single-seat, low-wing, fighter plane with a single radial engine. The wing is in three sections comprising a normal center section with two outer sections having a pronounced taper on the leading and trailing edges. Both wing tips are round. The fuselage is of triangular section with wooden longerons and birch frames and a skin of diagonal plywood strips. There is an enclosed cockpit above the trailing edge of the wing. A single fin and rounded, full length rudder is integral with the fuselage. The landing gear is retractable conventional type. The LA-5 is in service with the Soviet and the Czechoslovak Air Forces.

SPAN: 32'2".

LENGTH: 27'10".

ENGINE: Ash-82; radial/1,680 h. p.

SPEED: 320 knots/16,400 ft.

RANGE: 390 nautical miles/210 knots.

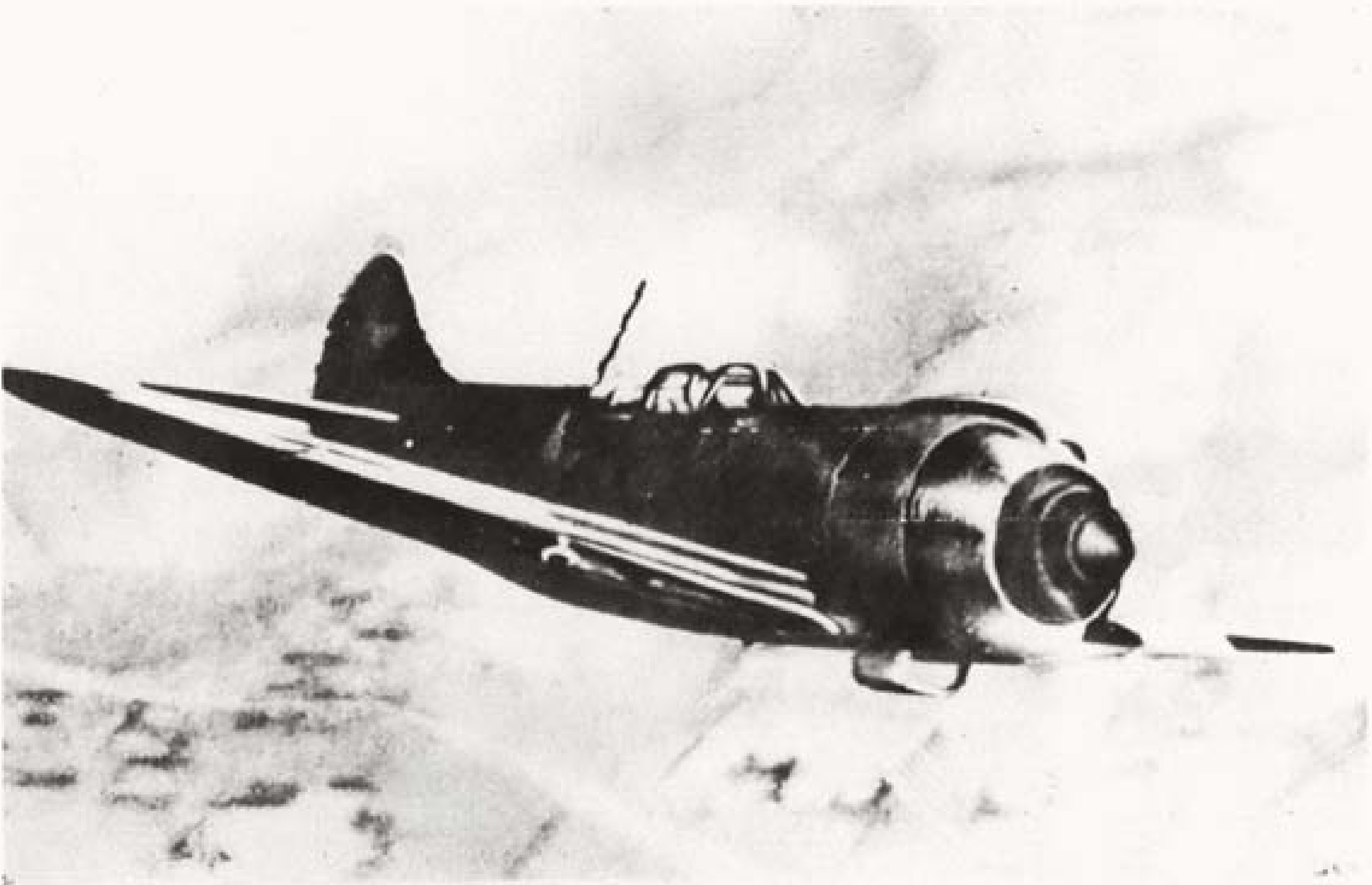
ARMAMENT: 2 x 20 mm/6 x 132 mm. rkts.



LAVOCHKIN

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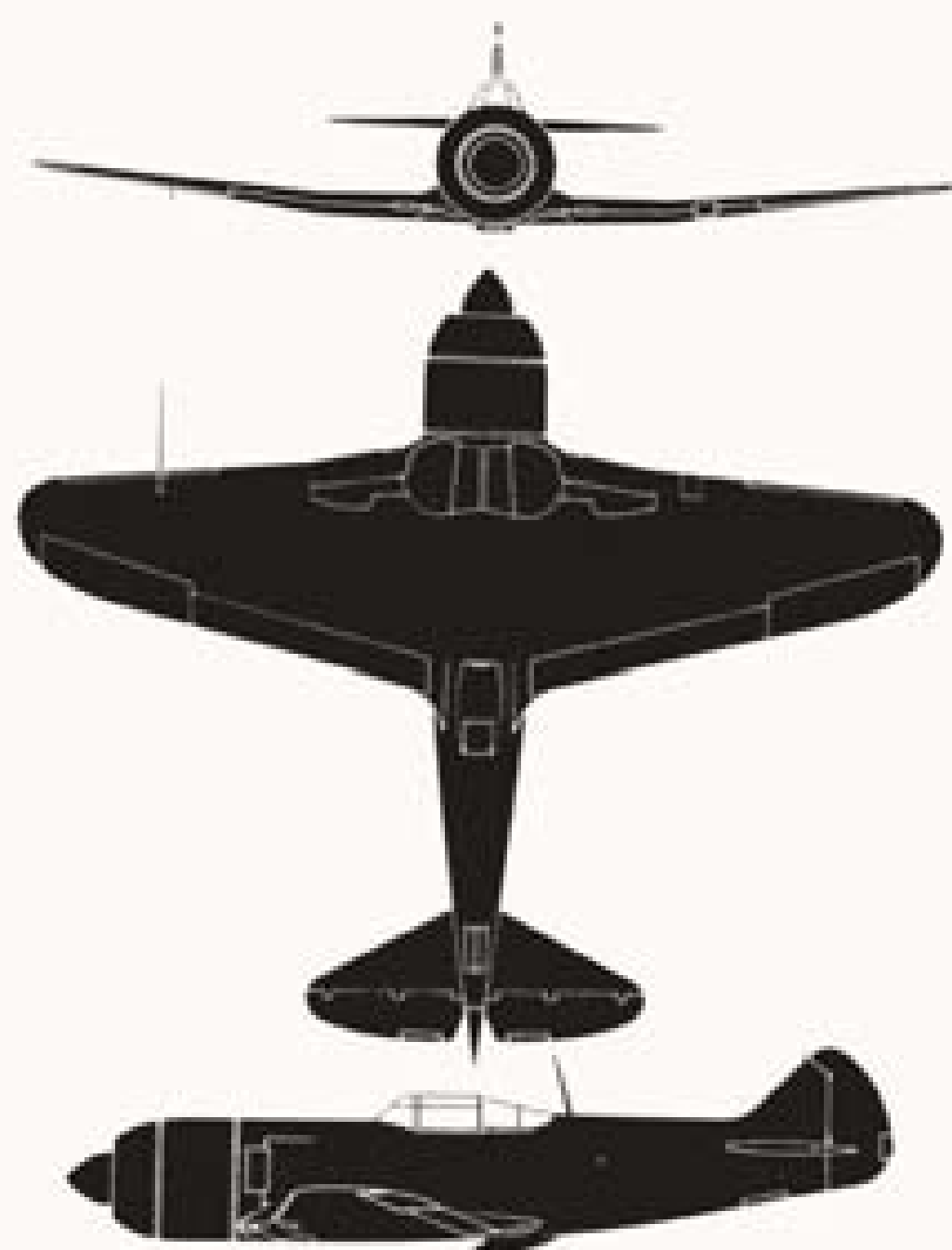
LA-5



USSR
MAY 1949

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AFM 50-40
OPNAV 32P-1200



The LA-7 is a low-wing, single-seat, fighter monoplane with a single radial engine. The fuselage is of circular section and the wing is in three sections, comprising a center section with two outer sections having dihedral and taper on leading and trailing edges to well rounded tips. It has a single fin and rather full length rudder. The pilot's cockpit is over the trailing edge of the wing. The landing gear is a retractable conventional type. A large spinner is a distinguishing feature. The LA-7 was developed from the LA-5 and is now in service with the Soviet and Czechoslovak Air Forces. A rocket-assisted version is also a feature on more recent models.

SPAN: 32'2".

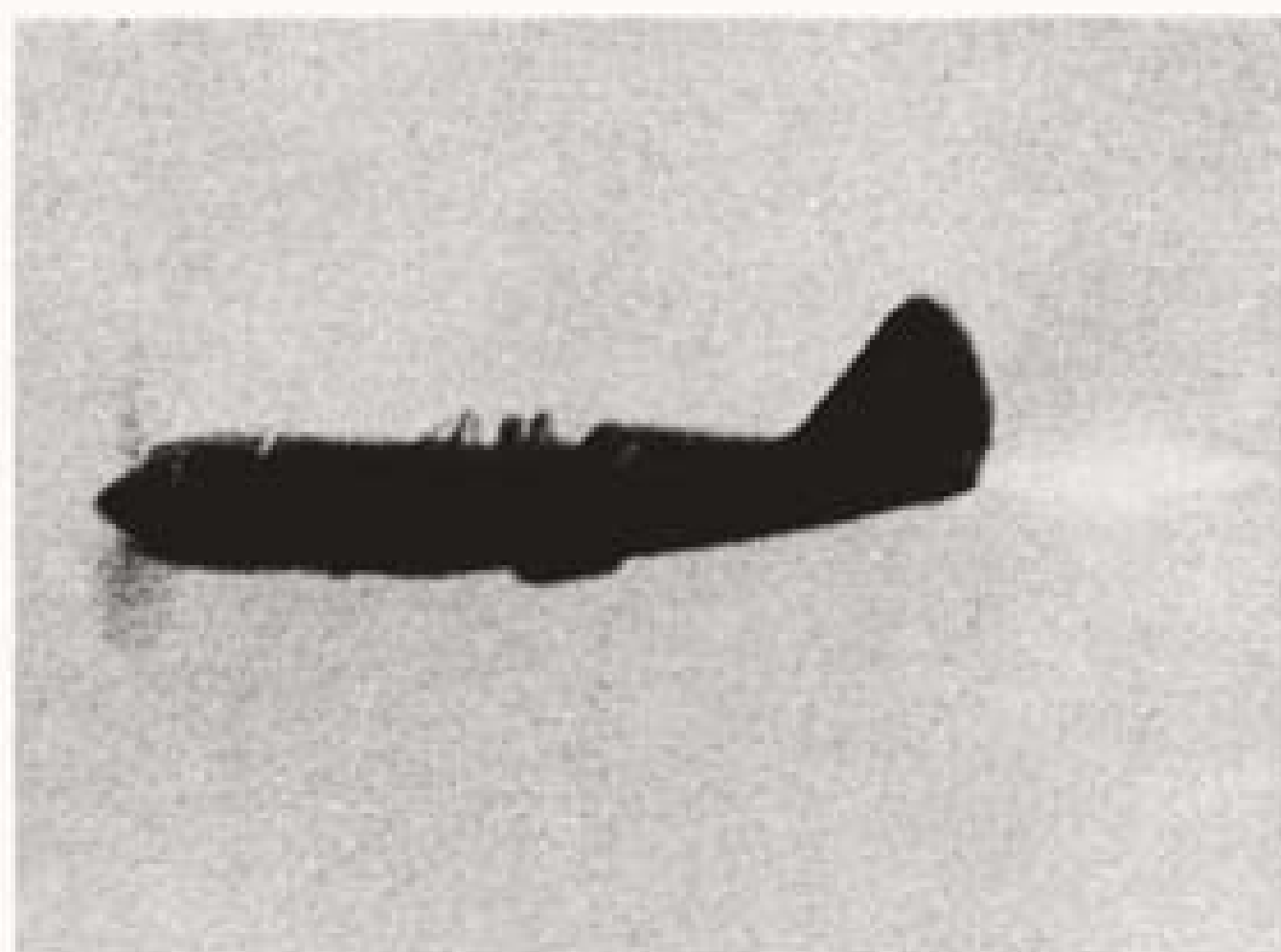
LENGTH: 26'6".

ENGINE: Ash-82 FNV; radial/1,825 h. p.

SPEED: 350 knots/16,400 ft.

RANGE: 520 nautical miles/210 knots.

ARMAMENT: 2 x 20 mm; 6 x 132 mm. rkts.



LAVOCHKIN

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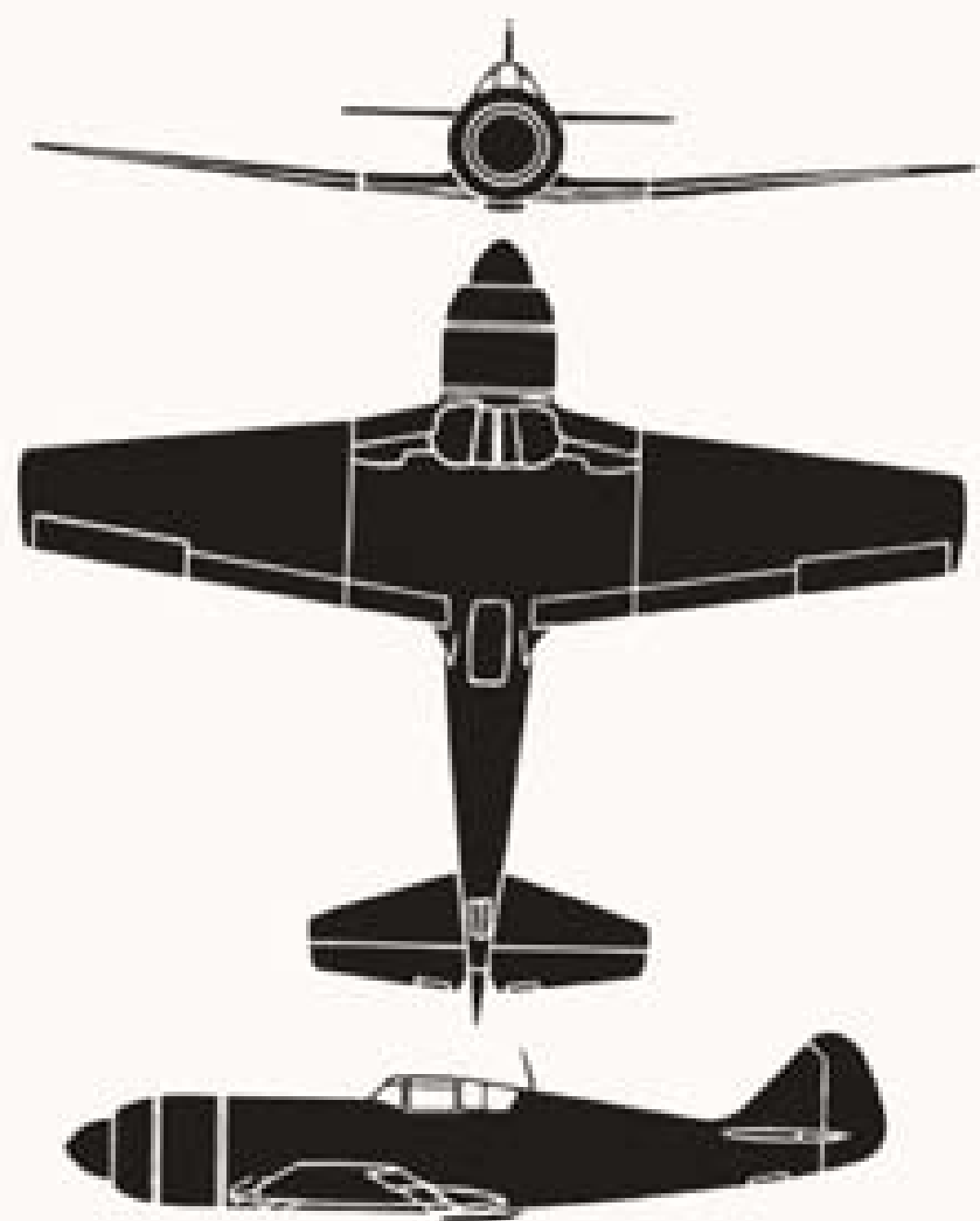
LA-7



USSR
MAY 1949

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AFM 50-40
OPNAV 38P-1 200



The LA-9 is a low-wing, single-seat, fighter plane with a single radial engine. The wing tapers on the leading edge and the trailing edge to nearly square tips. A single tail is fitted. The vertical fin and rudder come to a sharp point at the top and provide an easily recognizable feature. The landing gear is a retractable conventional type. This aircraft is a further development of the Lavochkin fighter series and differs in appearance from the LA-7 mainly in that the wings and horizontal stabilizer incorporate straight taper and square tips. The LA-9 is reported to be the Soviet's fastest piston-driven fighter. A later model is the LA-11.

SPAN: 29'2".

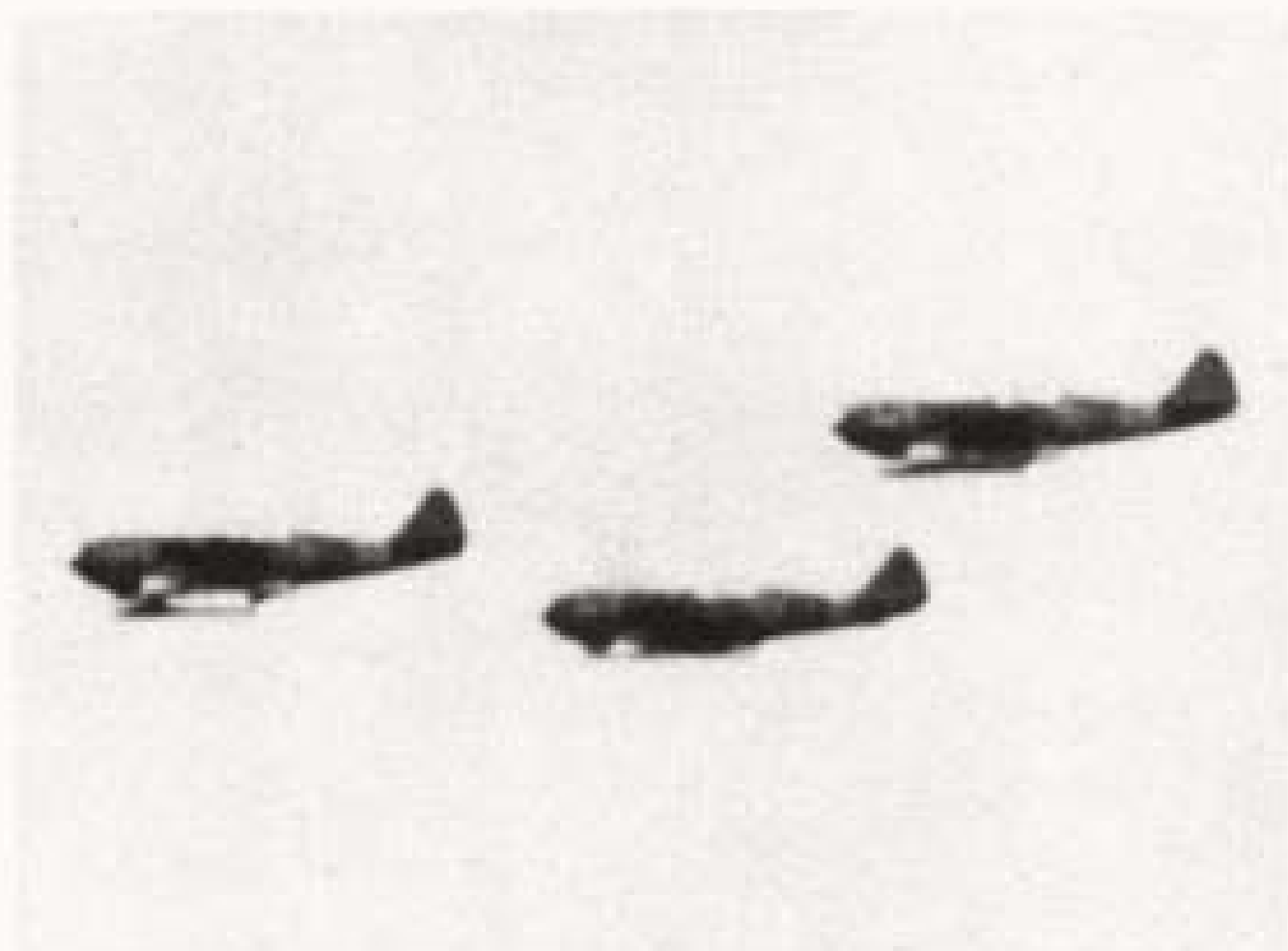
LENGTH: 26'0".

ENGINE: Ash-82; radial/1,825 h. p.

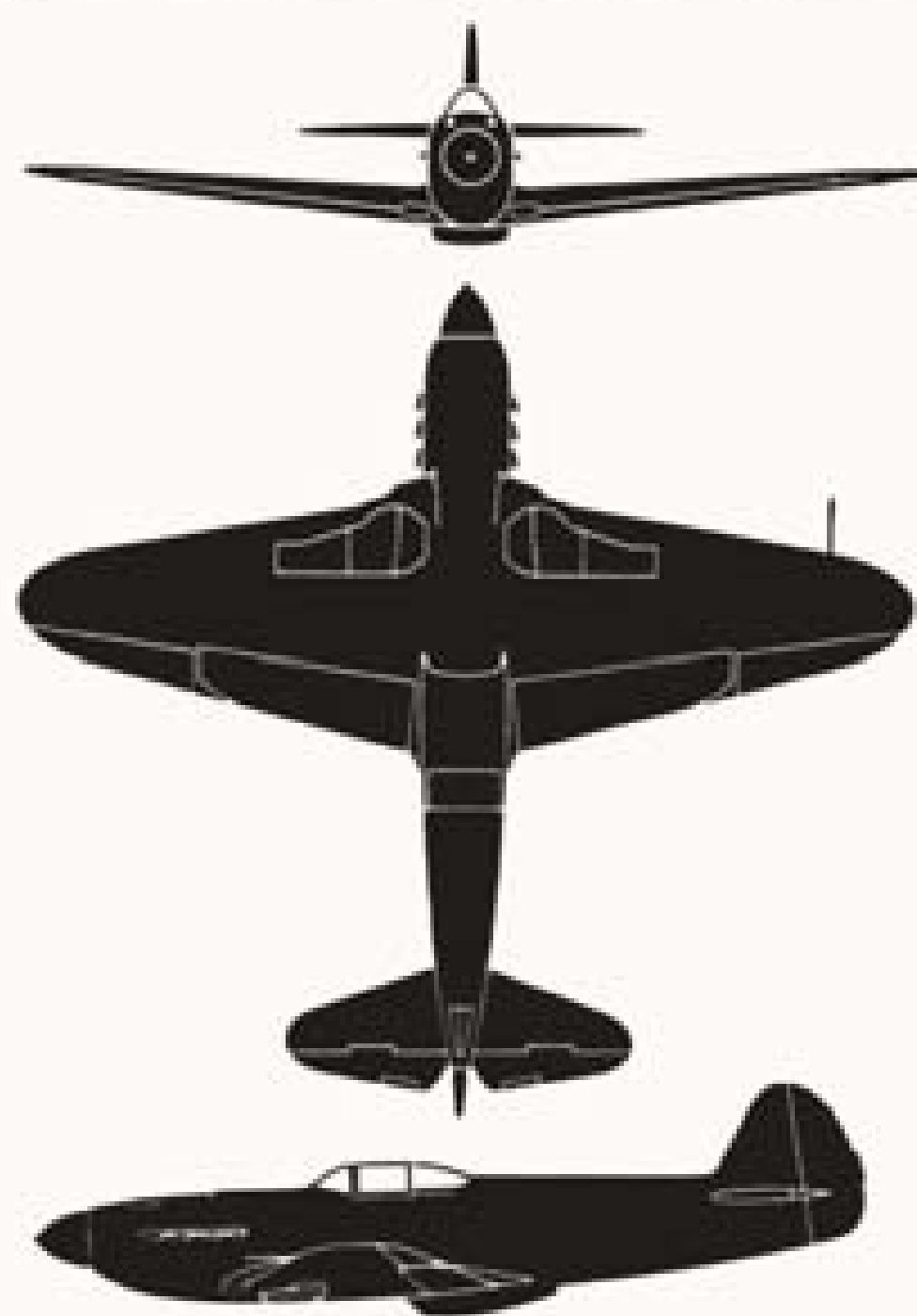
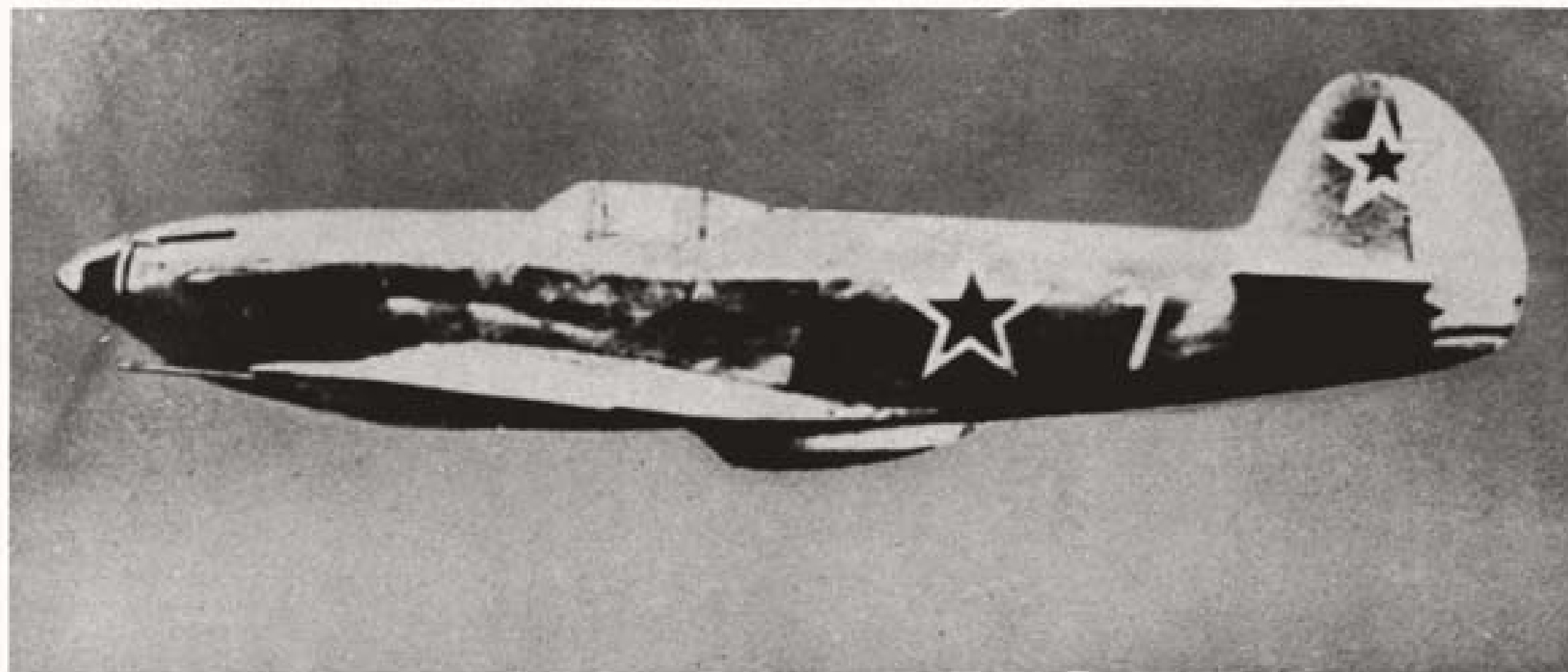
SPEED: 375 knots/15,500 ft.

RANGE: 1,000 nautical miles/225 knots.

ARMAMENT: 4 x 23 mm.







The YAK-3 is a single-engine, low-wing fighter. The wing is thin and in halves attached to a center section which forms part of the fuselage. There is taper on the leading and trailing edges with dihedral from the wing roots. The wing has a covering of plywood as does the fuselage and tail unit. The landing gear is conventional and retracts inward. Yakovlev designed the I-26 (YAK-1) which served as the basis of all later designs, the YAK-3, 7 and 9. Over 10,000 of this series were produced during World War II. From this series of fighter design was evolved the YAK-15, one of the smallest jet fighters in the world.

SPAN: 30'2".

LENGTH: 27'9".

ENGINE: VK-105PF2; Vee in-line/1,200 h. p.

SPEED: 325 knots/16,000 ft.

RANGE: 420 nautical miles/220 knots.

ARMAMENT: 1 x 20 mm.; 2 x 12.7 mm.



YAKOVLEV

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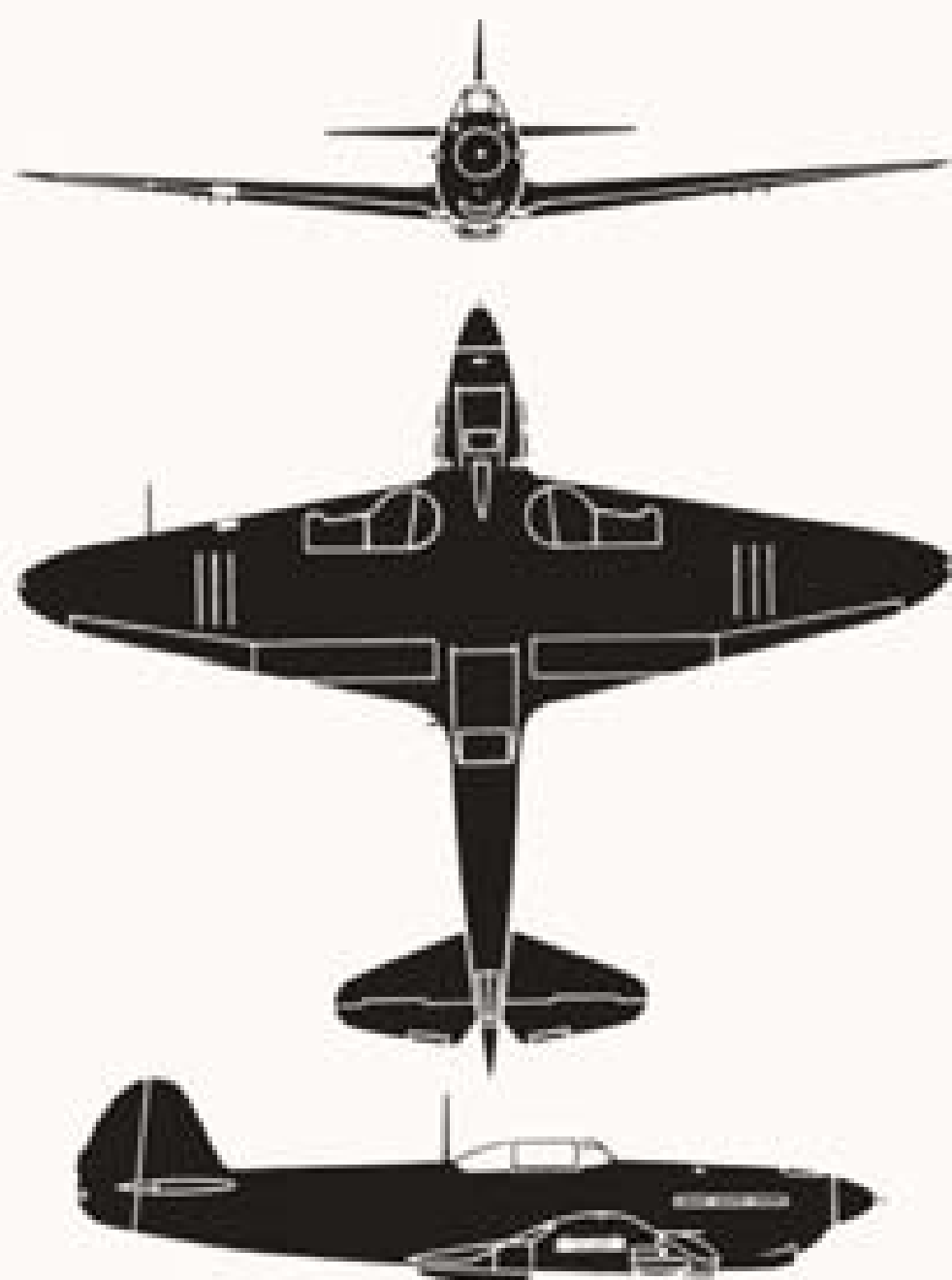
YAK-3



USSR
MAY 1949

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AFM 50-40
OPNAV 38P-1900



The YAK-9 is a low-wing, single-seat fighter plane with a single engine. The wings are of wood structure with plywood covering and are sharply tapered on the leading and trailing edges to elliptical tips. There is dihedral from the wing roots. A single tail is utilized with a full length rudder. The nose is pointed and the landing gear is a retractable conventional type. There are several versions of the YAK-9. Some are used as fighters, others as reconnaissance or ground attack planes. The major differences are armament changes and fuel capacity, however, on one model the engine has been changed. The data given is for the YAK-9DT.

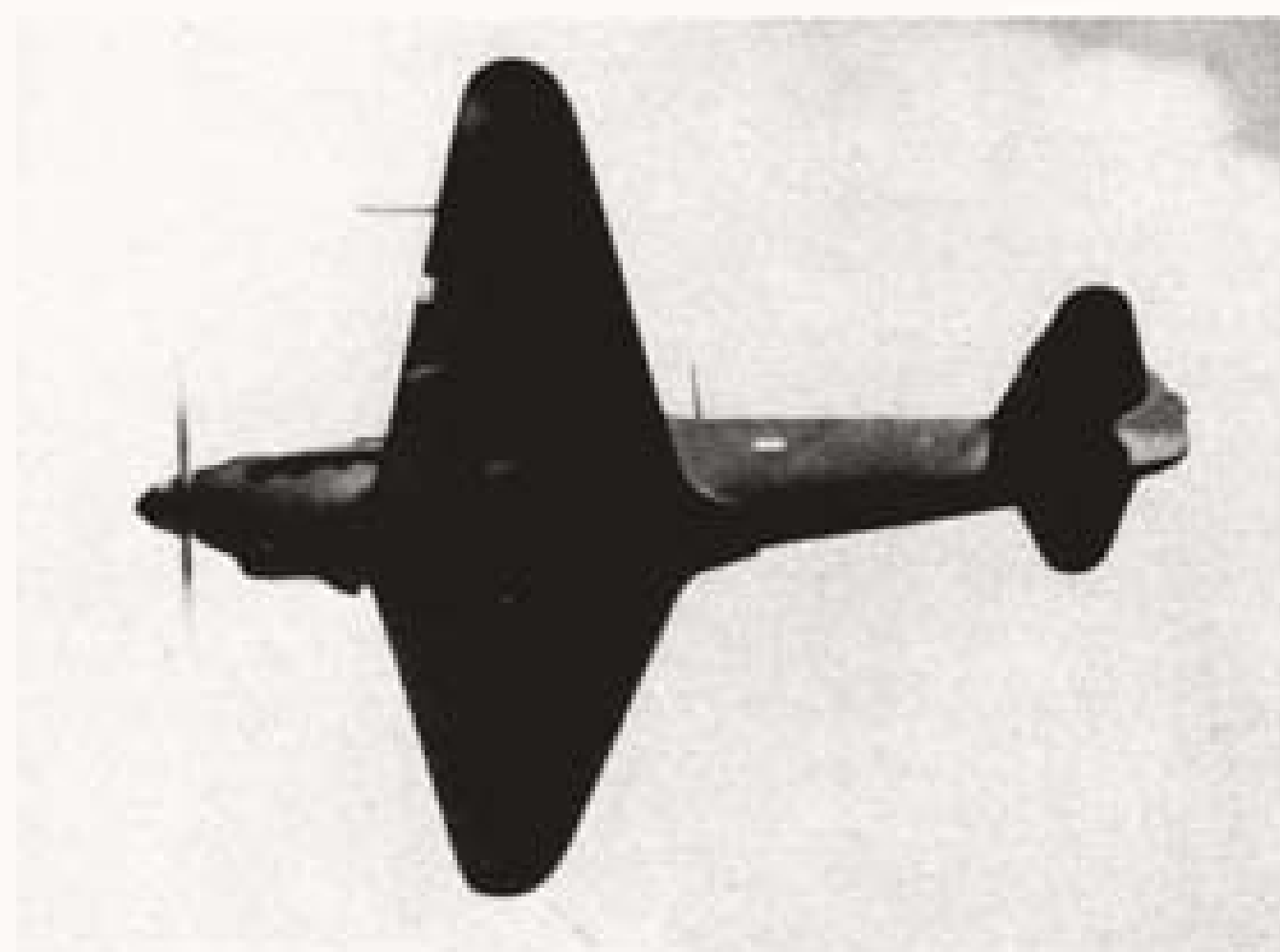
SPAN: 32'10". LENGTH: 27'11".

ENGINE: VK-105PF; Vee in-line/1,200 h. p.

SPEED: 305 knots/13,100 ft.

RANGE: 955 nautical miles/174 knots.

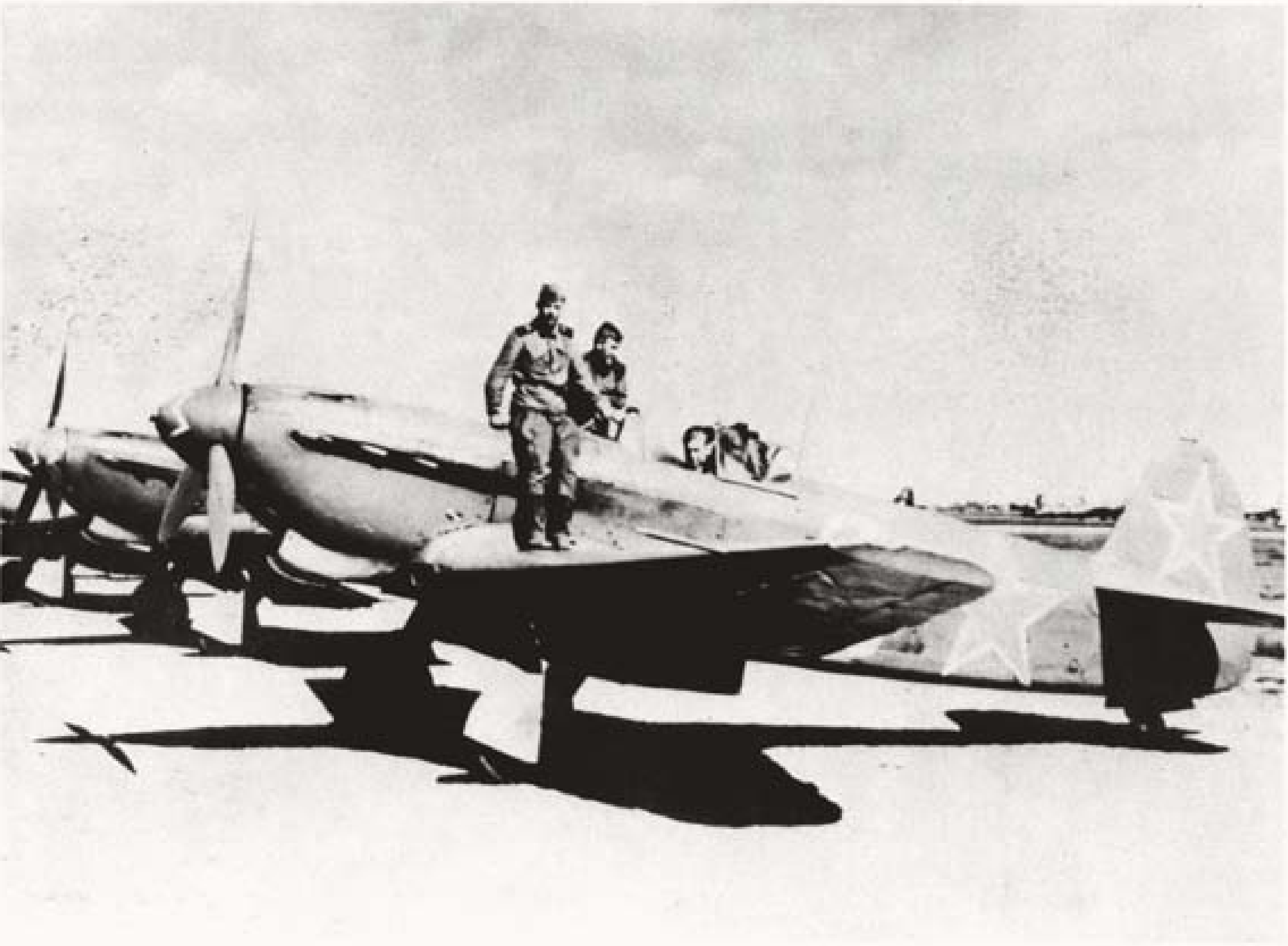
ARMAMENT: 1 x 12.7 mm.; 1 x 37 mm.



YAKOVLEV

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YAK-9

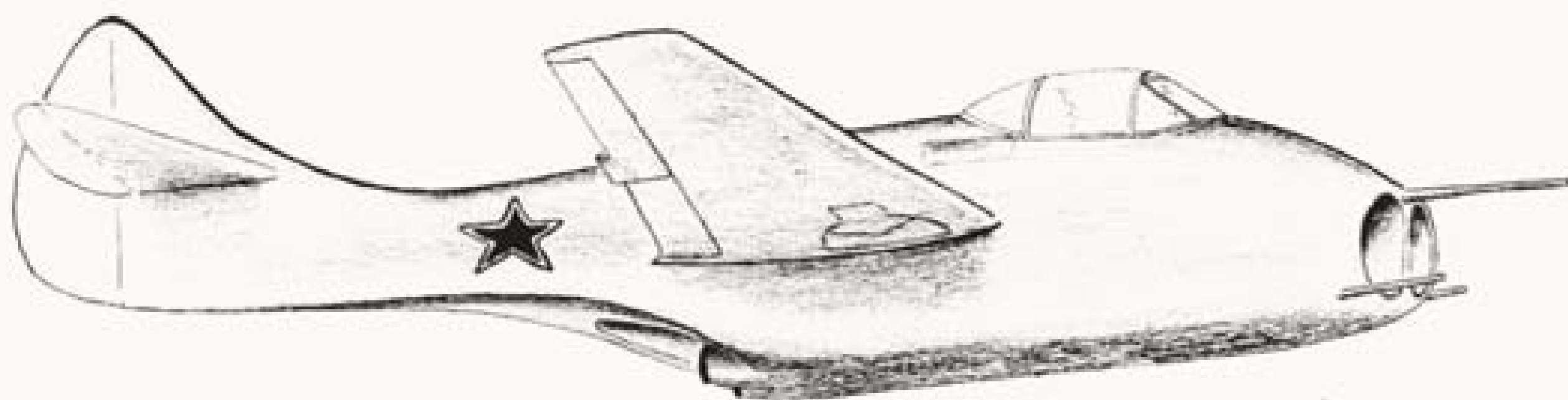


USSR
MAY 1949

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AFM 50-40
OPNAV 32P-1000





The MIG-9, sometimes referred to as the MIK-YAK, is a single-place, twin-jet-engine, mid-wing fighter plane. The fuselage is triangular shaped and of all-metal construction. Dual air intakes are located in the nose and twin exhausts are under the fuselage at the trailing edges of the wing. The wing is straight on the leading edge and tapered on the trailing edge to blunt tips. A single tail and tricycle retractable landing gear are fitted. The exact engines used in the MIG-9 are unknown. It is possible that a development of a German type engine has been utilized. This fighter is reported to be exceptionally fast when using rocket power.

SPAN: 34'0".

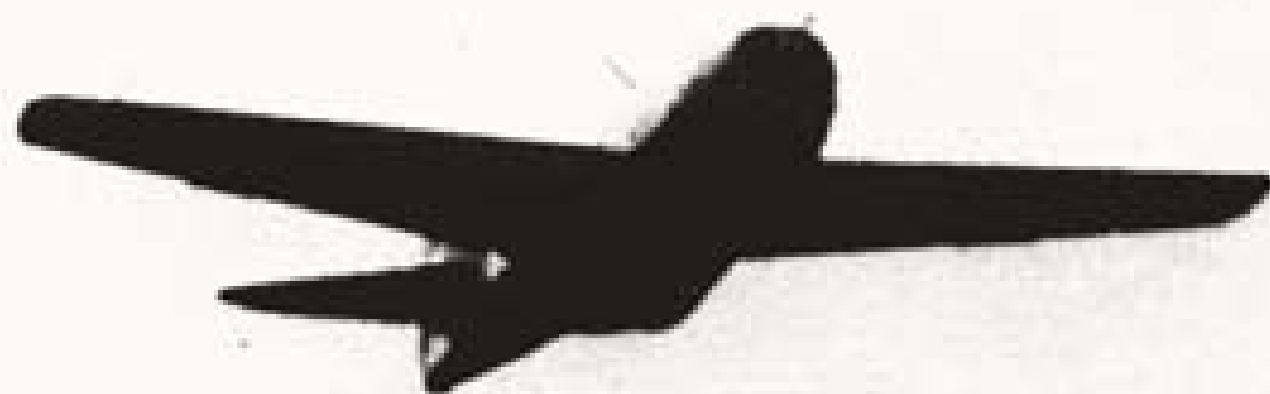
LENGTH: 32'9".

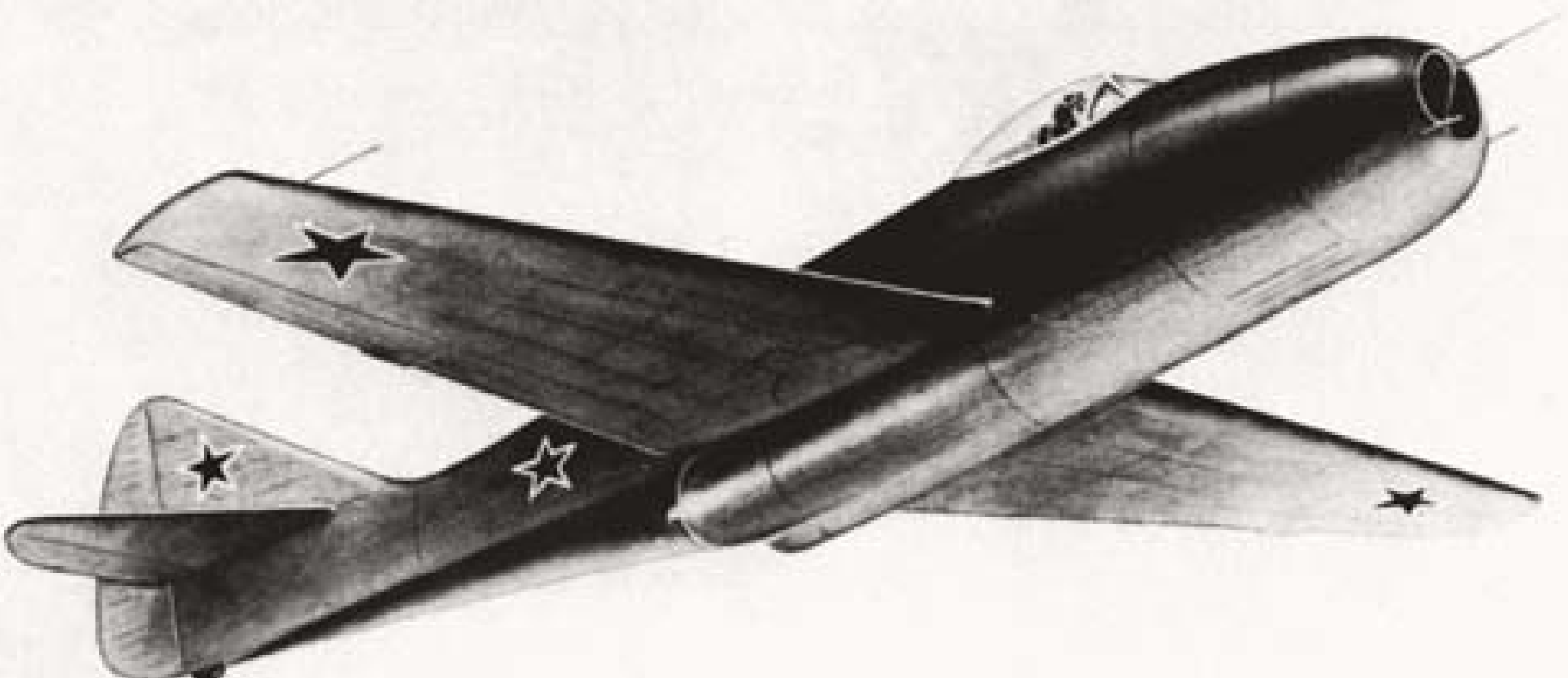
ENGINE: BMW-003A; turbo-jet/1,760-lb. thrust.

SPEED: 515 knots/sea level.

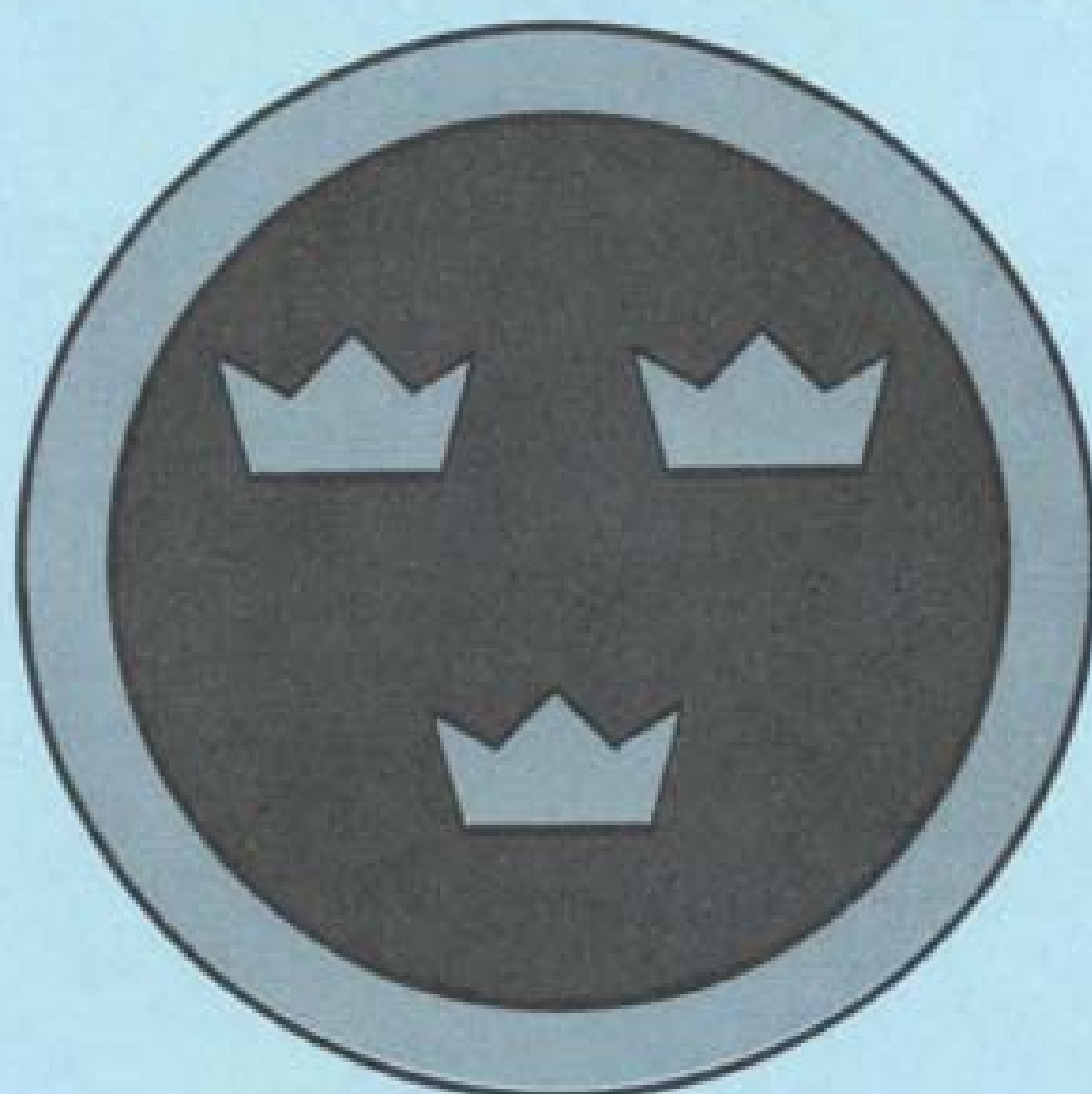
RANGE 600 nautical miles/405 knots.

ARMAMENT: 1 x 53 mm.; 2 x 23 mm.





SWEDEN
AIRFORCE AND AIRCRAFT



SWEDEN

(The Kingdom of Sweden)

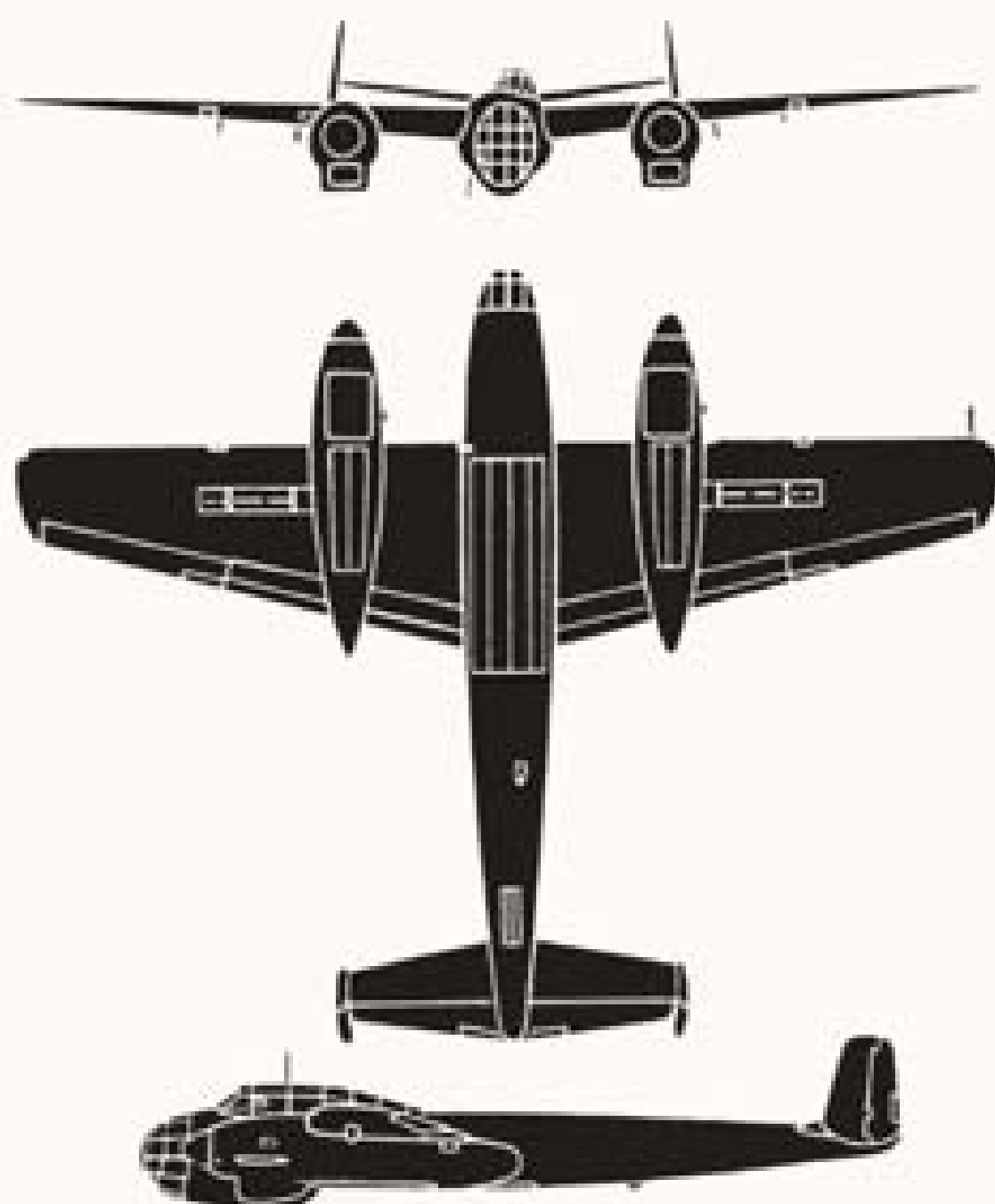
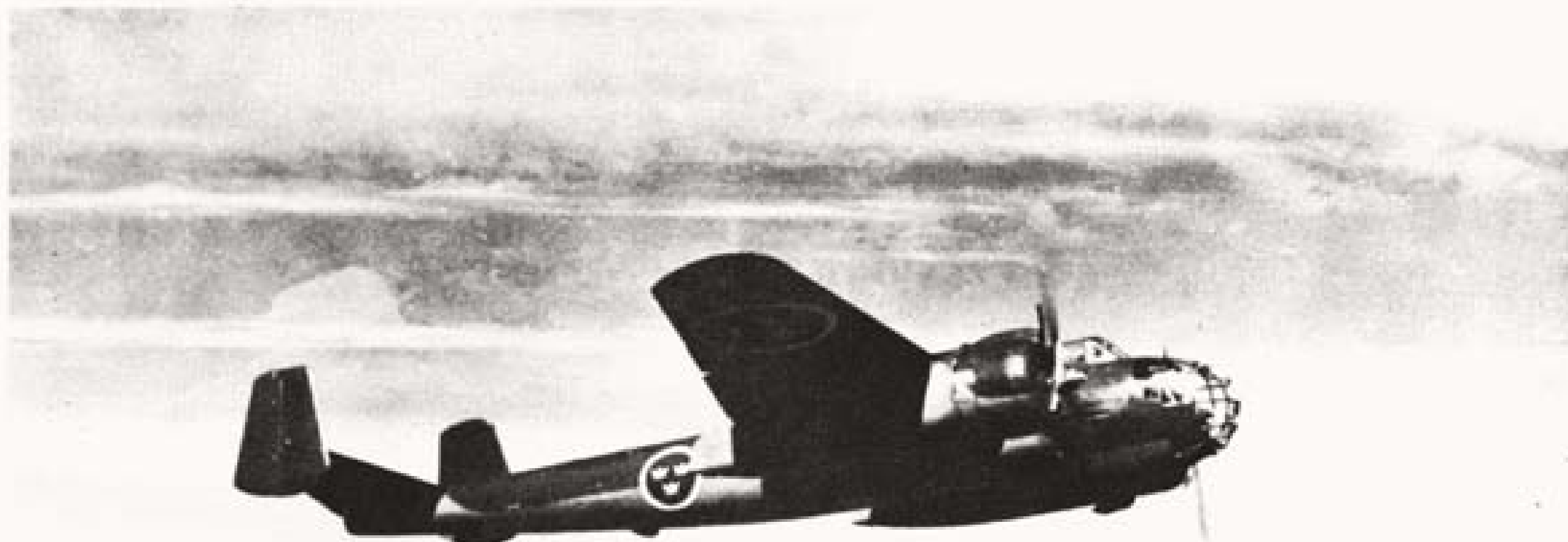
The Swedish Royal Air Force

The Swedish Royal Air Force, Flygvapnet, is an independent force responsible to the Commander-in-Chief of the Armed Forces, Overbetalhavaren. The Chief of the Air Force is a Lieutenant-General who is responsible to the Overbetalhava-

ren, with headquarters at Stockholm. The central administration of the Air Force includes the Air Staff, Flygstaben, the Royal Air Board, Kungl Flygtorvaltningen, and the Chief Medical Officer. The Chief of the Air Staff is a Major-General.

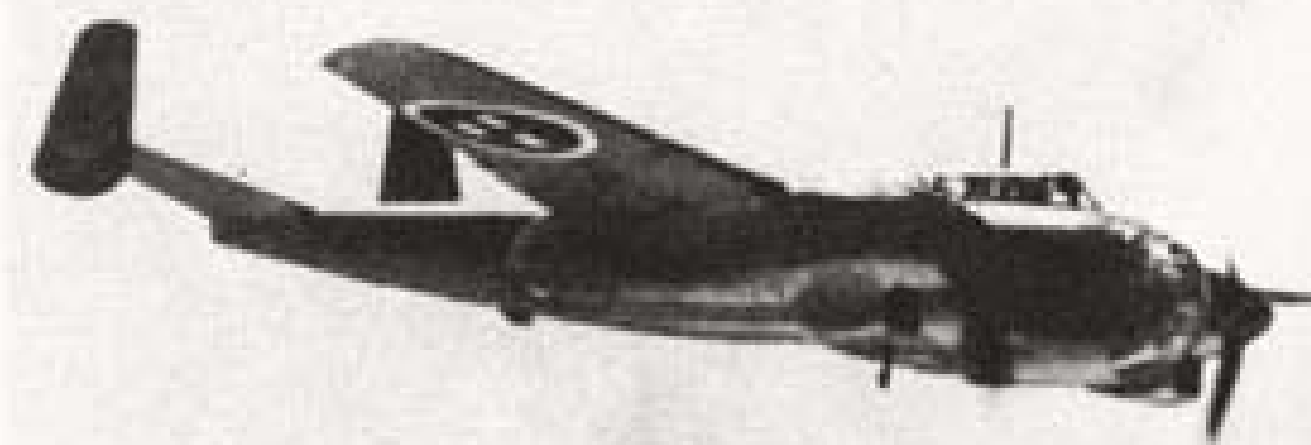
Equipment

<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>	<i>Type</i>	<i>Designation</i>	<i>Manufacturer</i>	<i>Country</i>
Light Bomber	A-18B	Saab	Sweden	Reconnaissance	S-18A	Saab	Sweden
Attack	B-17	Saab	Sweden		S-14 Storch		
	A-21	Saab	Sweden		Fi 156	Fieseler	Germany
	T-18B	Saab	Sweden		S-17	Saab	Sweden
	B-5 (Target Tow Plane)	Saab	Sweden		Do 24	Dornier	Germany
Fighter	J-28 Vampire	de Havilland	G.B.	Transport	TP-47 Catalina		
	J-21	Saab	Sweden		PBY (A-10)	Convair	U.S.A.
	J-22	Army Factory	Sweden		J-9 (F-35)	Seversky	U.S.A.
	J-26 Mustang F-51	North American	U.S.A.		B-3 (Ju 86K)	Junkers	Germany
	Spitfire 19	Vickers-Armstrongs	G.B.	Trainer	TP-45 Voyager		
	Mosquito	de Havilland	G.B.		C45 (JRB)	Beechcraft	U.S.A.
	J-21R (Jet)	Saab	Sweden		TP-46 Dove	de Havilland	G.B.
	J-29 (Jet)	Saab	Sweden		SK-14 Texan T6 (SNJ)	North American	U.S.A.
					SK-25 (Bu 131)	Bücher	Germany
					SK-16 Texan T-6 (SNJ)	North American	U.S.A.



The B-18 is a three-place high-wing bomber equipped with twin-engines of either in-line or radial type. It has a slim fuselage with a bulbous nose. The wings have constant taper from fuselage to tips with all of the taper on the trailing edge tips. The fuselage is oval and stepped up beneath the leading edge of the wings to provide a ventral rear firing gun position. Twin fins and rudders are fitted. The pilot's cockpit is placed to the left of the fuselage center line. Retractable conventional type landing gear is utilized. Bombs are carried both internally and externally. In 1947, 16 Saab B-18's were supplied to the Ethiopian Air Force. (B-18A, P&W radial; B-18B, DB 605B in-line.)

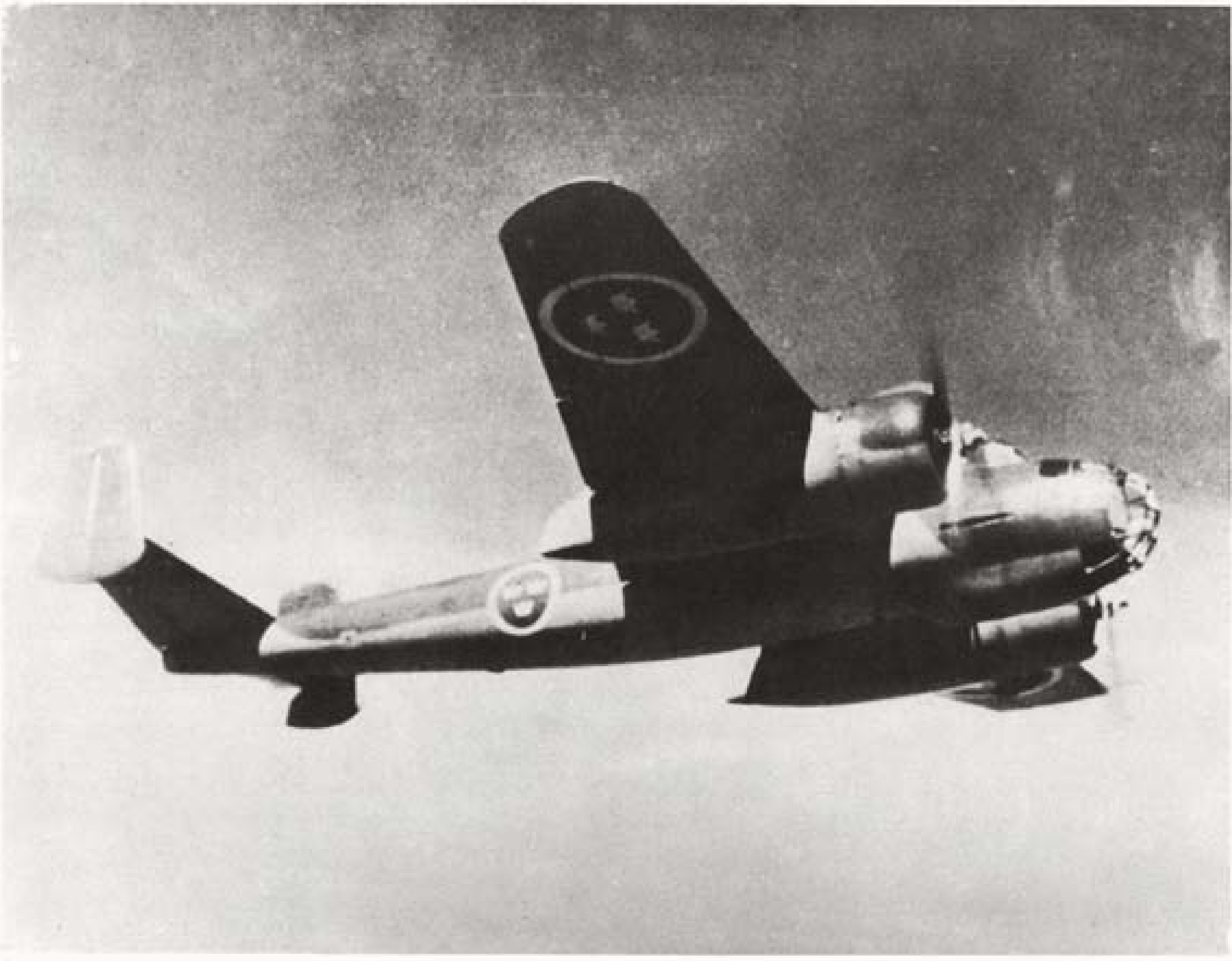
SPAN: 55'10". LENGTH: 43'10".
 ENGINE: R-1830; radial/1,050 h. p. or DB 605B; in-line/1,475 h. p.
 SPEED: 247 knots/15,000 ft.
 RANGE: 765 nautical miles/178 knots.
 ARMAMENT: 3 x 13.2 mm.; 2 x 8 mm.



SAAB

RESTRICTED

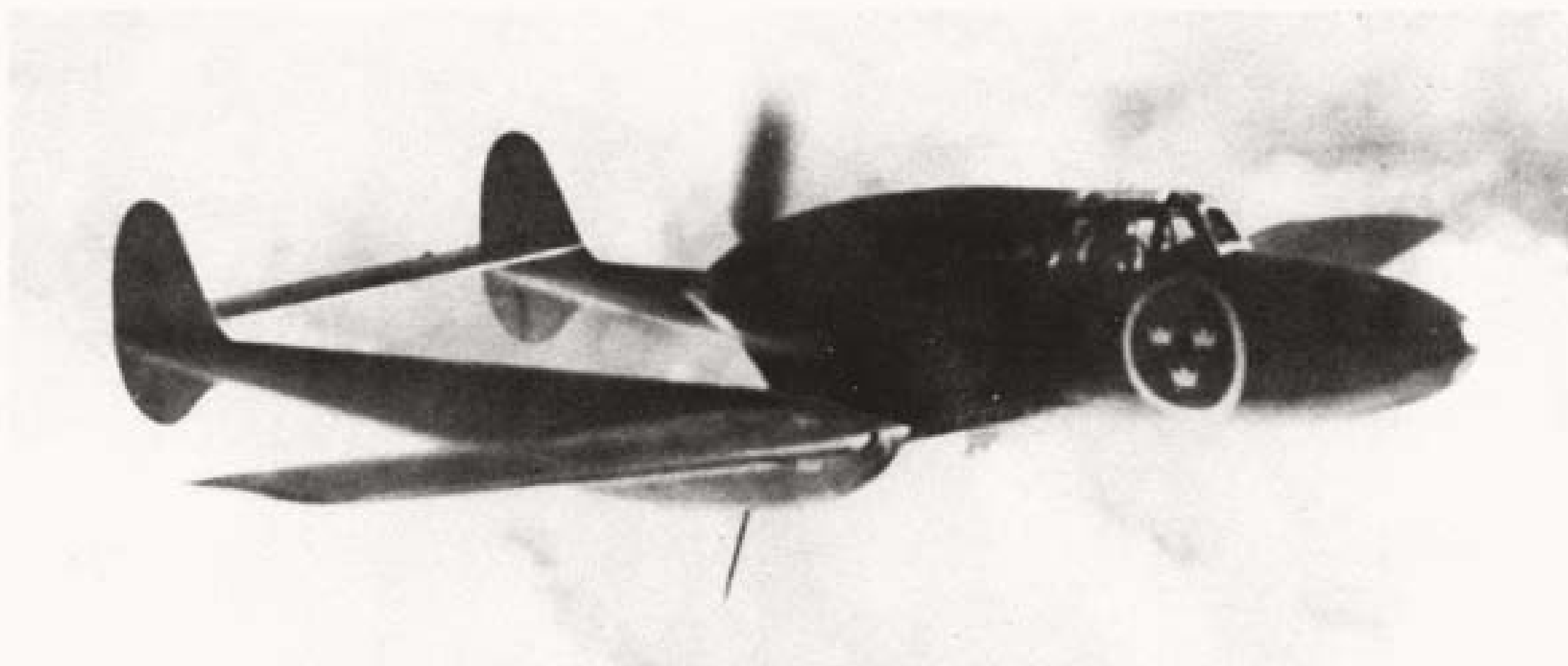
B-18



SWEDEN
MAY 1949

RESTRICTED

AFM 50.40
OPNAV 32P-1200



The J-21 is a single-seat, single-engine, twin-boom, pusher type, low-wing fighter. The pilot's visibility is excellent as the cockpit is situated forward of the leading edge of the wing, and is unobscured by engine and propeller. Twin fins and rudders extend below as well as above the booms with a stabilizer set midway between. The wing has a straight centerboard section and sweptback outer panels. Retractable tricycle landing gear is utilized. A bomb load of 1,200 pounds may be carried. For quick escape the pilot's seat is fitted with catapult gear. There are provisions for the carrying of rockets under the wings.

SPAN: 38'0".

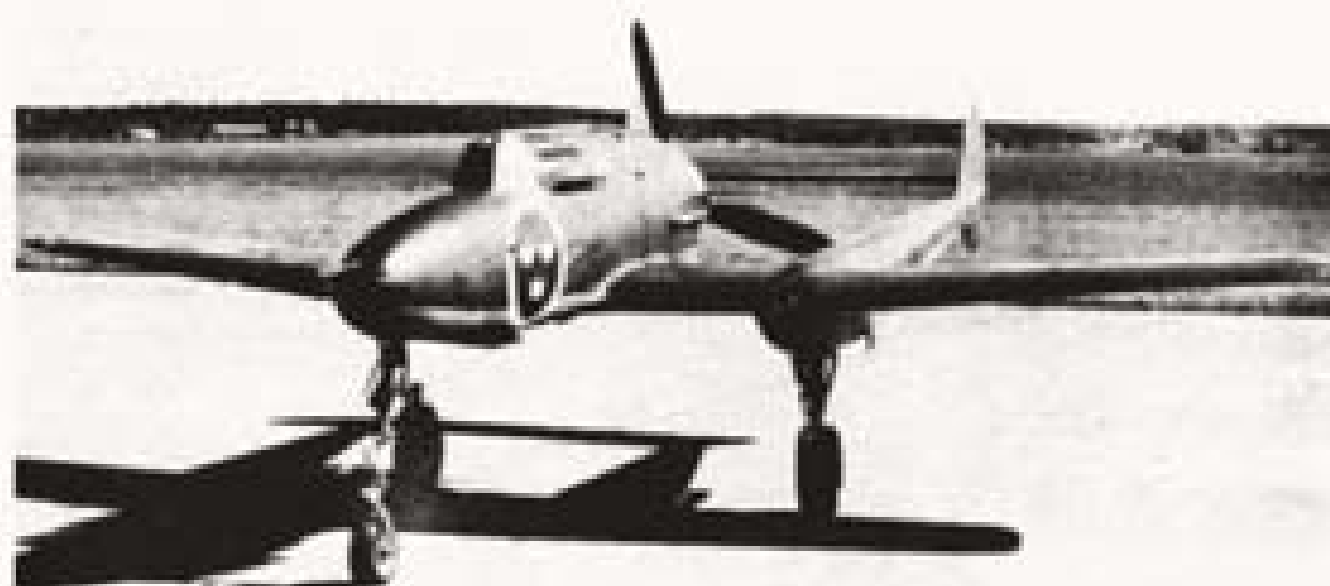
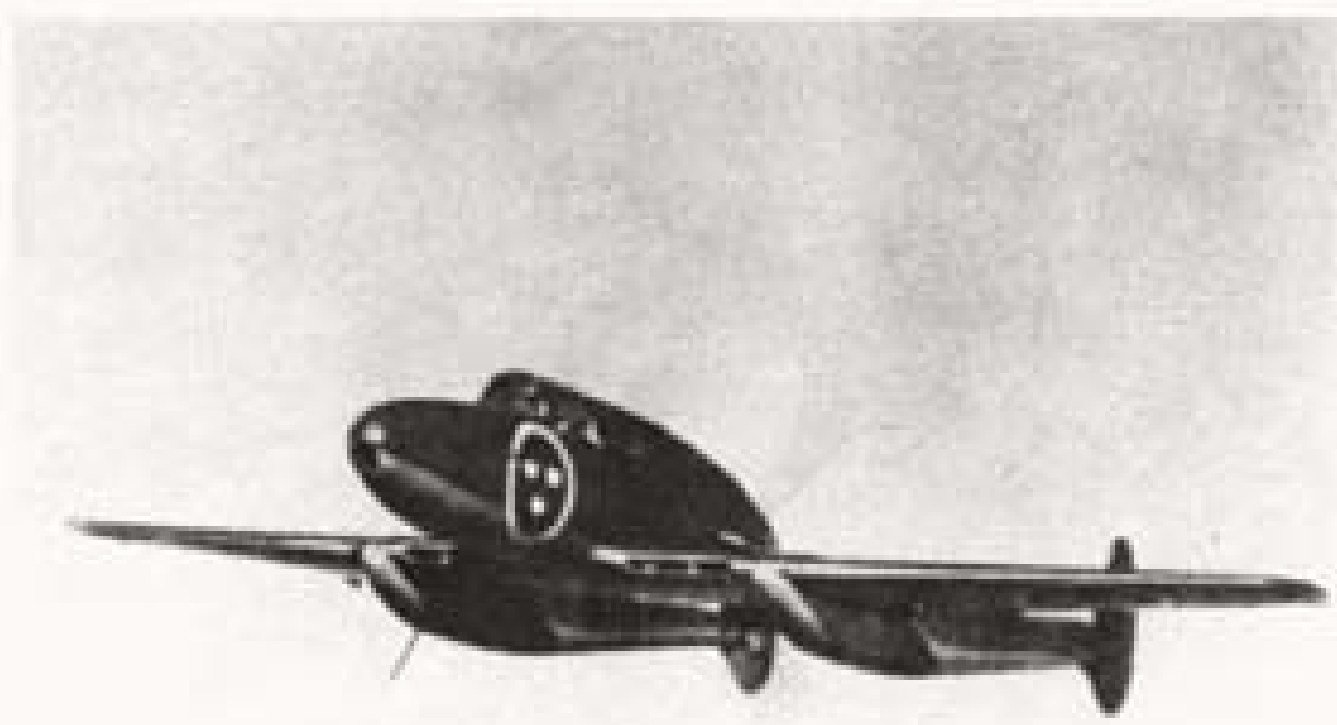
LENGTH: 34'3".

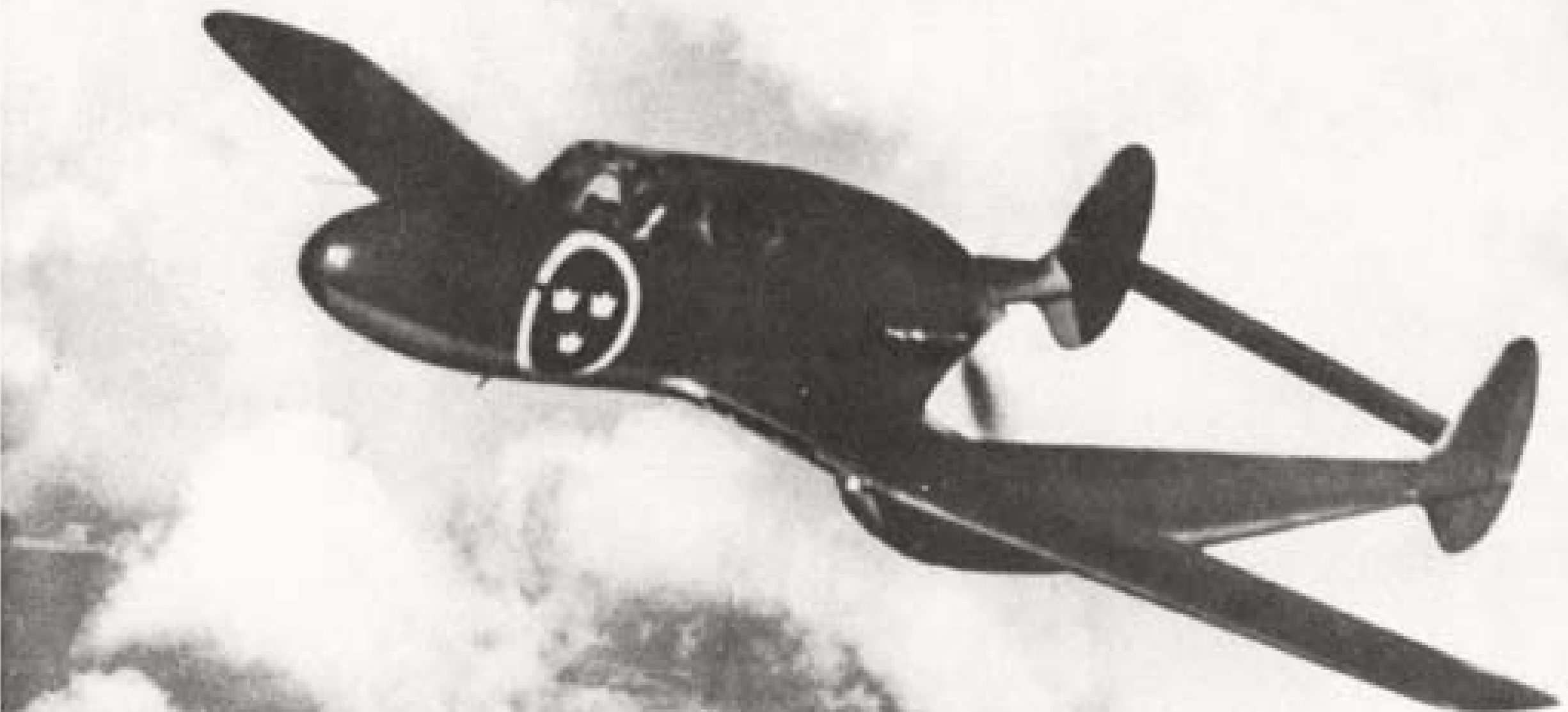
ENGINE: DB 605B; Vee in-line/1,450 h. p.

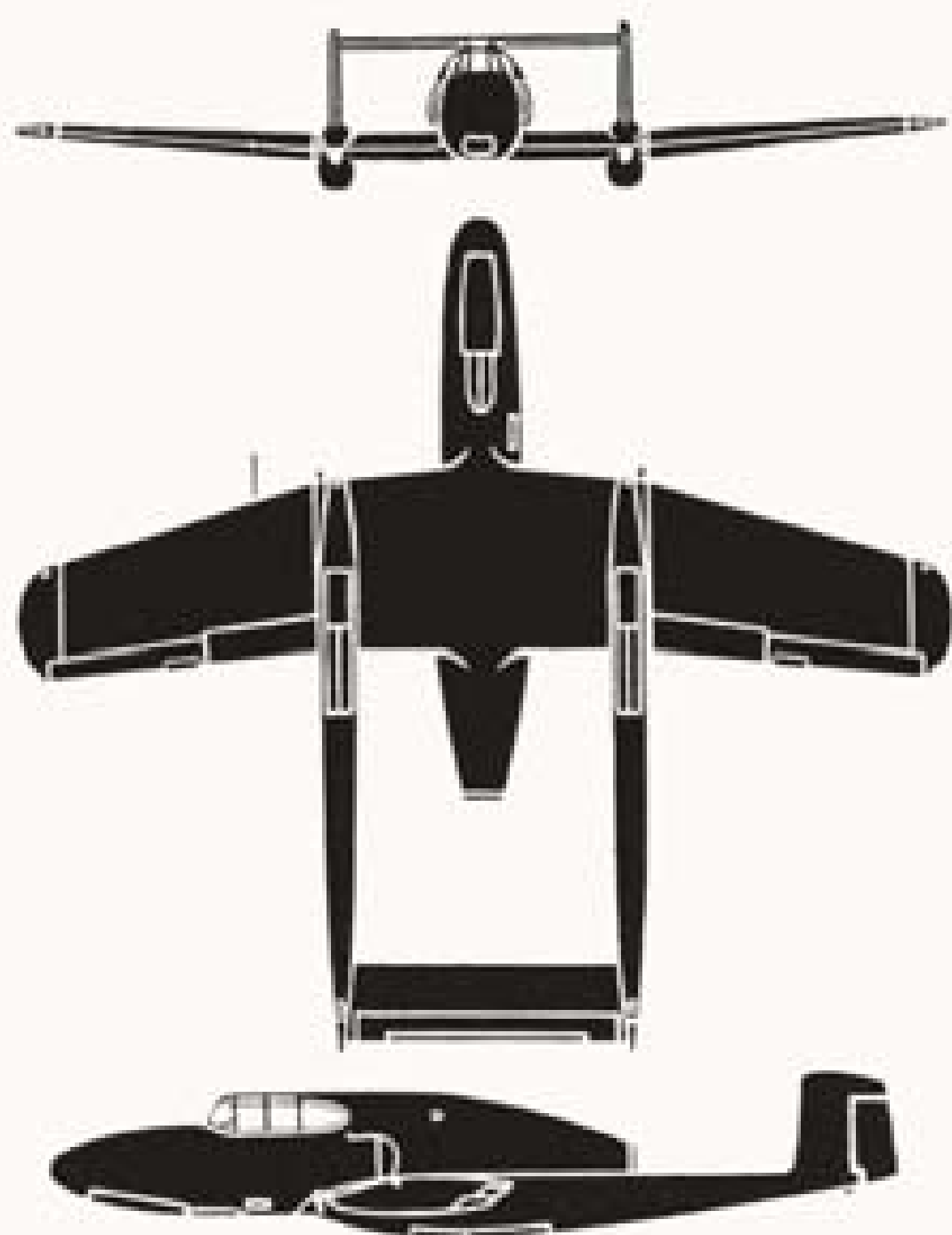
SPEED: 350 knots/16,000 ft.

RANGE: 565 nautical miles/227 knots.

ARMAMENT: 1 x 20 mm.; 4 x 13.2 mm.







The J-21R closely resembles the J-21, sometimes called the "Beetle", except that a turbo-jet engine is fitted instead of a pusher type reciprocating engine. It is a single-seat, single-engine, twin-boom fighter of all metal construction. A stabilizer is set high between the twin rudders. The wing has a straight centerboard section and sweptback outer panels. The pilot's cockpit is located in an oval fuselage above and forward of the leading edge of the wing. Retractable tricycle landing gear is fitted. For quick escape the pilot's seat is fitted with catapult gear. There are provisions for the carrying of ten 10 cm. rockets.

SPAN: 38'7".

LENGTH: 34'9".

ENGINE: Goblin 2; turbo-jet/3,000-lb. thrust.

SPEED: 431 knots/15,000 ft.

RANGE: 440 nautical miles/350 knots.

ARMAMENT: 1 x 20 mm.; 4 x 13.2 mm.



SAAB

RESTRICTED

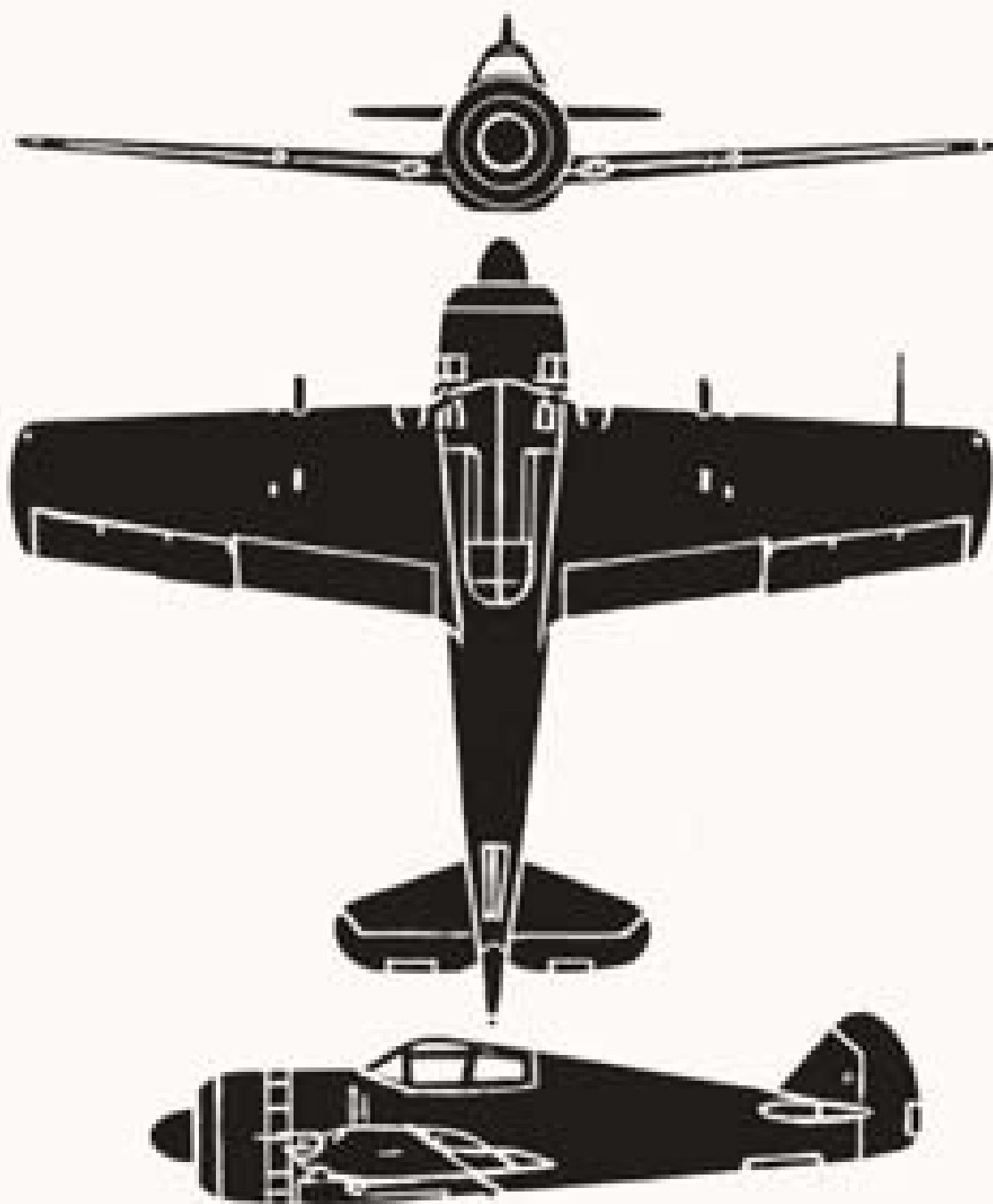
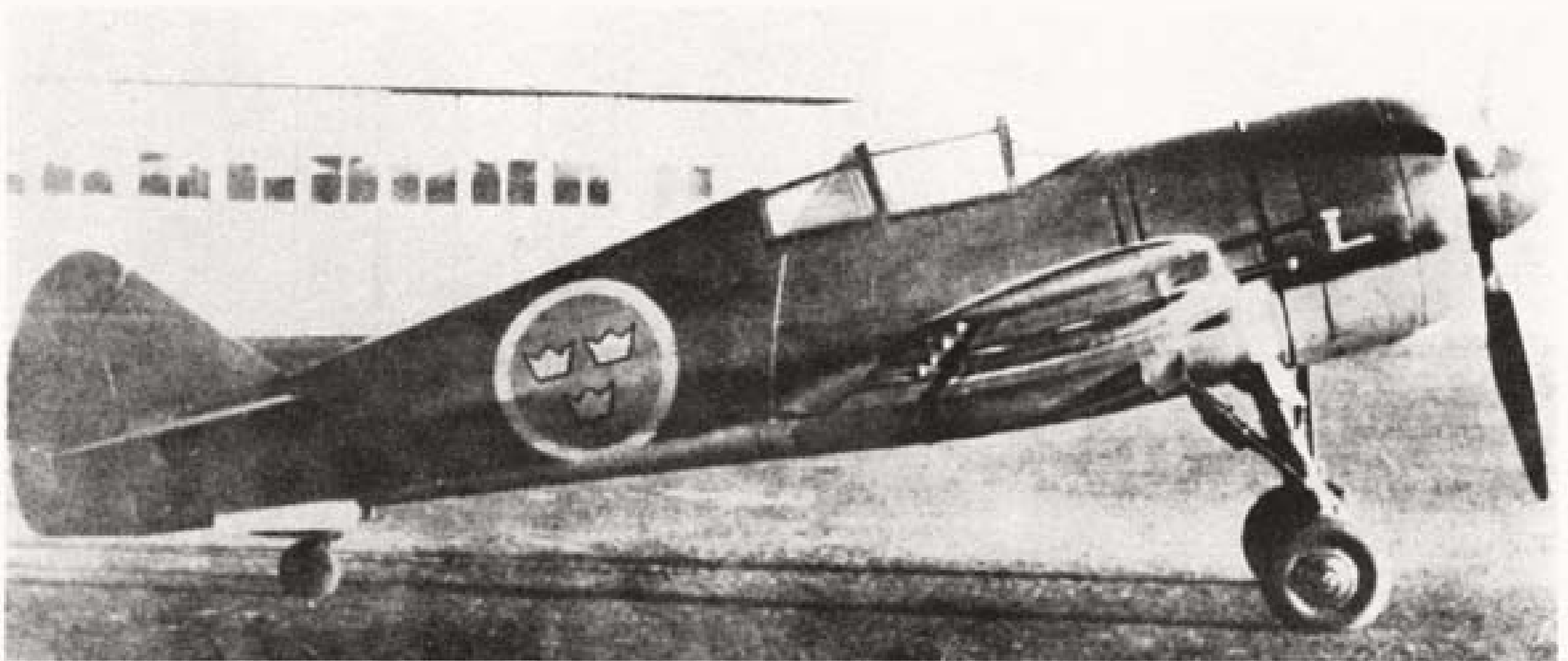
J-21R



SWEDEN
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200



The J-22 is a single-seat, single-engine, low-mid-wing fighter. The wings taper slightly to square tips and have a plywood skin. The fuselage is oval-shaped with birch plywood covering. A single tail and retractable conventional landing gear are fitted. Because of its clean design and light weight, the J-22 obtains a comparatively high speed for its low power. Owing to the difficulty, at that time, of purchasing aircraft abroad, the Swedish Air Board undertook the design and construction of the J-22.

SPAN: 32'10".

LENGTH: 25'7".

ENGINE: R-1830-17; radial/1,200 h. p.

SPEED: 300 knots/15,000 ft.

RANGE: 486 nautical miles/160 knots.

ARMAMENT: 4 x 13.2 mm. fixed in wing.







The J-29 is a mid-wing, high performance single-engine, jet-fighter. The cockpit is located forward on a rather chunky fuselage which houses a single jet-engine. Air intake is located in the nose and the exhaust is out the ventral side of the fuselage forward of the rudder extremity. (This latter point of identification is similar to the USN F9F). An extremely thin air-foil section is used on a sweptback wing. Of splendid recognition value is the unusually squared fin and rudder with a horizontal triangular stabilizer parallel to the dorsal side of the fuselage. It is equipped with a tricycle landing gear.

SPAN: 36'.

LENGTH: 33'.

ENGINE: Ghost 2; turbo-jet/5,000-lb. thrust.

SPEED: 568 knots.

RANGE: 1,000 nautical miles (approximate).

ARMAMENT: 4 x 20 mm. cannon, fixed in nose.

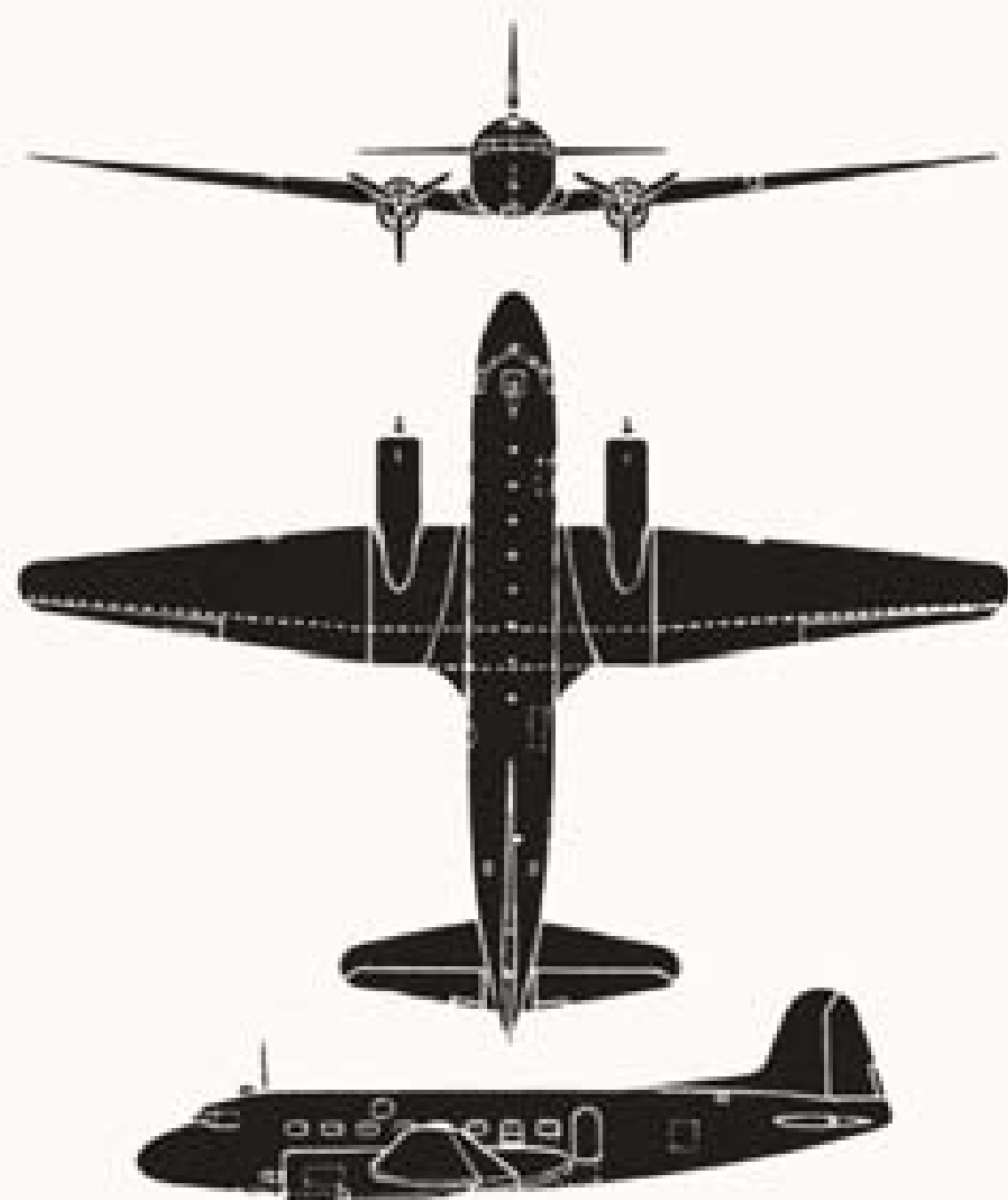
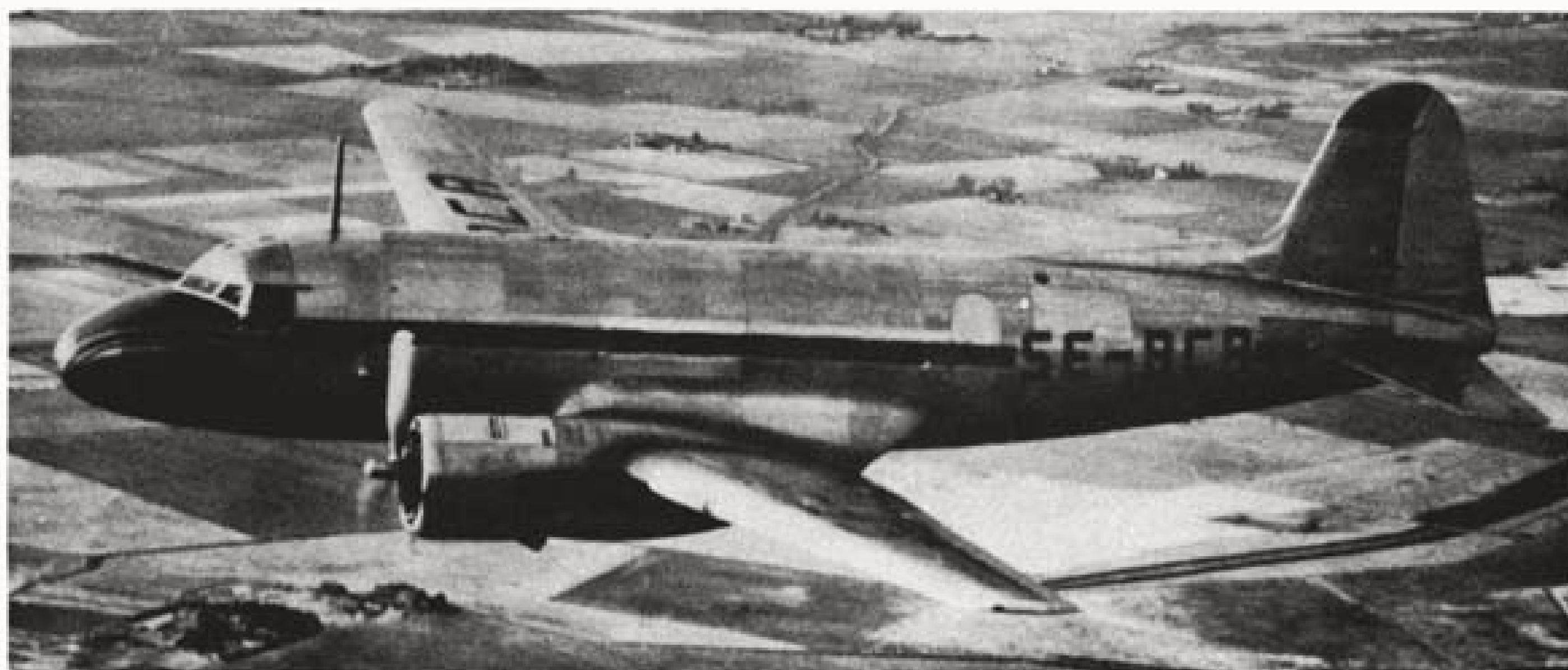


SWEDEN
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200





The Saab-90 is a twin-engine, low-wing mono-plane transport. The engines are situated on the wing center section rather close to the fuselage. The pilot's cabin is just forward of the engine nacelles overlooking a rounded nose. The wings have dihedral from the roots with evenly tapered leading and trailing edges. The fin and rudder is rather tall with a long fairing projected forward into the fuselage. It is fitted with a retractable tri-cycle landing gear. The general appearance is similar to that of the U.S. C-47. It has a capacity of 24 to 32 passengers.

SPAN: 91'10".

LENGTH: 69'11".

ENGINE: 2/R-2000; radial/1,450 h. p.

SPEED: 231 knots/6,800 ft.

RANGE: 890 nautical miles/210 knots.

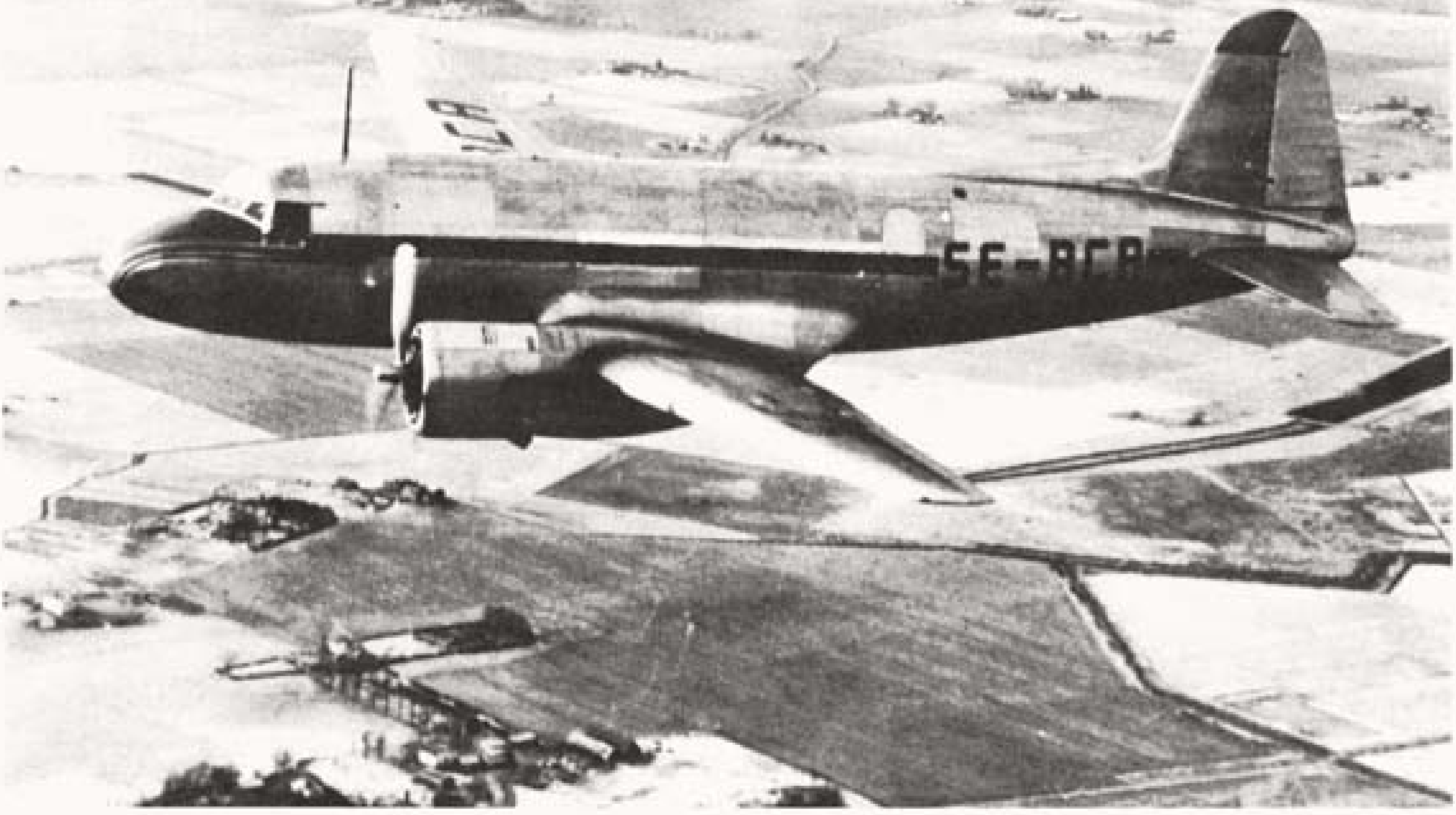
ARMAMENT: None.



SAAB

RESTRICTED

SAAB-90



SWEDEN
MAY 1949

RESTRICTED

AFM 50-40
OPNAV 32P-1200

**MISCELLANEOUS
AIRFORCES**

AFGHANISTAN

(The Kingdom of Afghanistan)

The Royal Afghan Air Force

The R.A.A.F. is an integral part of the Army under the administration of the Ministry of War. The Commandant of the Air Force is responsible to the Ministry of War through the Chief of the General Staff of the Ministry of War.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Avro Anson	A. V. Roe	G.B.
Attack	Hawker Hind	Hawker	G.B.
	Romeo	Meridionali	Italy
Trainer	Tiger Moth	de Havilland	G.B.
	Stearman	Stearman	U.S.A.

ARGENTINA

(The Argentine Republic)

The Argentine Air Force

A Ministerio of Aeronautics was formed in January 1945, to coordinate and administer all matters concerning Military and Civil Aviation with the exception of Naval Aviation, which continues under the control of the Ministry of Marine.

The Command of the Argentine Air Force (Fuerzas Aereas Argentinas) is subordinate to the Ministerio of Aeronautics.

Equipment			
Type	Designation	Manufacturer	Country
Medium Bomber	Lincoln	A. V. Roe	G.B.
Light Bomber	Calquin I. Ae. 24	I. Ae.	Argentina
	Martin 139 (B-10)	Martin	U.S.A.
Attack	A-17	Northrop	U.S.A.
Fighter	Fiat G-55	Fiat	Italy
	Curtiss 75 & III	Curtiss	U.S.A.
	Meteor	Gloster	G.B.
	Spitfire	Vickers-Armstrongs	G.B.
Reconnaissance	D. L. 22	I. Ae.	Argentina
	Ae. M.O.1.	I. Ae.	Argentina
Transport	Junkers 52	Junkers	Germany
	Vickers Viking	Vickers-Armstrongs	G.B.
	Lockheed 10	Lockheed	U.S.A.
	Lockheed 12	Lockheed	U.S.A.
	Bristol Wayfarer	Bristol	G.B.
	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Lancastrian	A. V. Roe	G.B.

The Argentine Air Force—(Continued)

Type	Designation	Manufacturer	Country
Transport	Skymaster C-54	(R5D) Douglas	U.S.A.
	Dove	de Havilland	G.B.
	Ju 34	Junkers	Germany
Trainer	Fw 44	Focke-Wulf	Germany
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
	BT-9	North American	U.S.A.
	D. L. 22	I. Ae.	Argentina
	Prentice	Percival	G.B.
Miscellaneous	*Pulque I. Ae. 27	I. Ae.	Argentina
	Nancu I. Ae. 36	I. Ae.	Argentina

*The Pulque (Arrow) is the first jet-propelled airplane to be designed, built and flown in Latin America. The Pulque is still undergoing acceptance tests.

The Naval Air Force

Argentine Naval Aviation is administered by the Director-General of Naval Aviation, at the Ministry of Marine, Buenos Aires.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	SBU	Chance Vought	U.S.A.
	Martin 139 (B-10)	Martin	U.S.A.
Reconnaissance	Duck J2F (A-12)	Grumman	U.S.A.
	Widgeon J4F (A-14)	Grumman	U.S.A.
	Walrus	Vickers	G.B.
	Catalina		
	PBY-5, 5A (A-10)	Convair	U.S.A.
Transport	DC-2	Douglas	U.S.A.
	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Skymaster C-54 (R5D)	Douglas	U.S.A.
	Condor C-30	Curtiss	U.S.A.
	DC-2½ (C-38)	Douglas	U.S.A.
Trainer	Kaydet T-13 (N2S)	Stearman	U.S.A.
	Fw 44	Focke-Wulf	Germany
	Valiant BT-13 (SNV)	Convair	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.

BELGIUM

(The Kingdom of Belgium)

The Belgian Air Force

The Belgian Air Force functions as an independent service and is administered by the Ministry of Defense with Headquarters in Brussels.

The Chief of Staff of the Belgian Air Force is responsible to the Minister of Defense.

Equipment			
Type	Designation	Manufacturer	Country
Attack	Mosquito 30	de Havilland	G.B.
Fighter	Spitfire 14	Vickers-Armstrongs	G.B.

The Belgian Air Force—(Continued)

Equipment			
Type	Designation	Manufacturer	Country
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
Trainer	Texan T-6 (SNJ)	North American	U.S.A.
	Tiger Moth	de Havilland	G.B.
	Mosquito 3	de Havilland	G.B.
	Spitfire 9	Vickers-Armstrongs	G.B.
	Martinet	Miles	G.B.
	Hurricane 2	Hawker	G.B.
	Chipmunk DHC	de Havilland	Canada
Communications and Utility	Avro Anson 1 & 2	A. V. Roe	G.B.
	Dominie	de Havilland	G.B.
	Oxford 1 & 2	Airspeed	G.B.
	Proctor 4	Percival	G.B.
	Magister	Miles	G.B.
	Martinel	Miles	G.B.

BOLIVIA**(The Bolivian Republic)****The Bolivian Air Force**

The Bolivian Air Force is a small independent force and is controlled by the Ministry of Defense, through a Chief of Staff.

Equipment			
Type	Designation	Manufacturer	Country
Reconnaissance	Falcon (SNC)	Curtiss	U.S.A.
	Goose JRF (A-9)	Grumman	U.S.A.
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Voyager C-45 (JRB)	Beechcraft	U.S.A.
Trainer	Kaydet T-17 (N2S)	Boeing	U.S.A.
	Valiant BT-13 (SNV)	Convair	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	Navigator T-7 (SNB-2)	Beechcraft	U.S.A.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
	19-R	Curtiss-Wright	U.S.A.
	Voyager L-9A	Stinson	U.S.A.

BRAZIL**(The United States of Brazil)****The Brazilian Air Force**

The Brazilian Air Force is known as the *Forças Aereas Brasileiras* (F.A.B.) and is independent of both Army and Navy. It is controlled by the Air Ministry and was created by a Presidential Decree dated 20 January 1941. The Air Minister has headquarters at Rio de Janeiro. The Brazilian Air Force is considered as the No. 1 South American Air Force. However, from publicized expansion aims of the Argentines it is anticipated that their Air Force may be superior to the Brazilians in the near future.

After Brazil declared war on Germany in January 1944, a group of fighter pilots and ground personnel underwent advanced operational training in the U. S. prior to proceeding overseas as the First Brazilian Fighter Squadron to serve with the U. S. Air Forces.

The Brazilian Air Force—(Continued)

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Ventura B-34 (PV-1)	Lockheed	U.S.A.
	Mitchell B-25J (PBJ)	North American	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
Attack	Havoc A-20K (BD)	Douglas	U.S.A.
	Hudson A-28 (PBO-1)	Lockheed	U.S.A.
Fighter	Thunderbolt F-47	Republic	U.S.A.
	F-12	Boeing	U.S.A.
	Warhawk ZF-40E	Curtiss	U.S.A.
Reconnaissance	Catalina PBY-5, 5A (A-10)	Convair	U.S.A.
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Voyager C-45 (JRB)	Beechcraft	U.S.A.
	Lodestar C-60 (R50)	Lockheed	U.S.A.
	Traveler C-43 (GB)	Beechcraft	U.S.A.
	Norseman C-64 (JA)	Noorduyn	Canada
	W-24	Fairchild	U.S.A.
	Widgeon J4F2 (A-14)	Grumman	U.S.A.
	Lockheed 12A	Lockheed	U.S.A.
	Bobcat UC-78 (JRC-1)	Cessna	U.S.A.
	Commando C-46 (R5C)	Curtiss	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	Navigator T-7 (SNB-2)	Beechcraft	U.S.A.
Trainer	Cornell T-19	Fairchild	U.S.A.
	Valiant T-15 (SNV)	Vultee	U.S.A.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
Communications & Utility	Grasshopper L-3C	Aeronca	U.S.A.

BULGARIA**(Peoples Republic of Bulgaria)****The Bulgarian Air Force**

Under the Peace Treaty of 1947 the Bulgarian Air Force is permitted to maintain an Air Force comprising 90 aircraft, of which not more than 70 are to be combat types, and a personnel strength of 5,200 officers and other ranks. The peace terms further specify that Bulgaria will not maintain any bombing aircraft or make experiments with or construct remote-control piloted or pilotless aerial weapons.

The Bulgarian Air Force is responsible to the Ministry of War with headquarters at Sofia.

From all indications the Bulgarian Air Force is in a state of reorganization conforming to approved Communist patterns for Satellite Nations.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	PE-2	Petlyakov	U.S.S.R.
	TU-2	Tupolev	U.S.S.R.
Attack	Stormovik IL-2	Ilyushin	U.S.S.R.
Fighter	YAK-9	Yakovlev	U.S.S.R.
Transport	Ju 52	Junkers	Germany
	LI-2	Musalo	U.S.S.R.
	Fw 58	Focke-Wulf	Germany
Trainer	PO-2	Polikarpov	U.S.S.R.
Miscellaneous	Caproni	Caproni	Italy
	Bücker	Bücker	Germany
	Storch Fi 156	Fieseler	Germany

BURMA

(The Republic of the Union of Burma)

The Burmese Air Force

The Burmese Air Force is not autonomous, but is under the control of the Commander in Chief of the Burmese Army. The aircraft contained in the Air Force are of the following types:

Type	Country of Manufacture
Spitfire 18	G.B.
Tiger Moth	G.B.
Auster	G.B.
Oxford	G.B.

CHILE

(The Chilean Republic)

The Chilean Air Force

The Chilean Air Force is called the Fuerza Aerea de Chile and is administered by the Ministry of Defense. The Commander-in-Chief of the Air Force is directly responsible to the Ministry.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Mitchell B-25 (PBJ)	North American	U.S.A.
Attack	Dauntless SBD (A-24)	Douglas	U.S.A.
Fighter	Thunderbolt F-47	Republic	U.S.A.
Reconnaissance	Kingfisher OS2U	Convair	U.S.A.
	Catalina		
	PBY5, 5A (A-10)	Convair	U.S.A.
Transport	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Voyager C-45 (JRB)	Beechcraft	U.S.A.
Trainer	Valiant (B)		
	T-13 (SNV)	Convair	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	Yellow Peril N3N	U.S.N. A/C	U.S.A.
		Factory	U.S.A.
	Cornell T-19	Fairchild	U.S.A.
	D.L. 22	I. Ae.	Argentina

CHINA

(The Great Chinese Republic)

The Chinese Air Force

The Chinese Air Force is an independent force and is not an integral part of the Chinese Army. Control of the Armed Forces in China is vested in the Ministry of National Defense which was established in place of the former National Military Council on 1 June 1946. In organization the Chinese Air Force is similar to the U. S. A. F.

The Chinese Air Force—(Continued)

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Mitchell B-25 (PBJ)	North American	U.S.A.
	Mosquito	de Havilland	G.B.
	Liberator B-24 (PB4Y-1)	North American	U.S.A.
Fighter	Mustang F-51	North American	U.S.A.
	Thunderbolt F-47D, N.	Republic	U.S.A.
	Warhawk ZF-40	Curtiss	U.S.A.
Reconnaissance	Lightning ZF-38	Lockheed	U.S.A.
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Commando C-46 (R5C)	Curtiss	U.S.A.
Trainer	Kaydet T-13, 17 (N2S)	Boeing	U.S.A.
	Cornell T-19	Fairchild	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	Valiant (B)T-13 (SNV)	Convair	U.S.A.
Miscellaneous	Liberator Express C-87	Convair	U.S.A.
	Sentinel L-5 (OY)	Convair	U.S.A.
	Skymaster C-54 (R5D)	Douglas	U.S.A.

COLOMBIA

(The Republic of Colombia)

The Colombian Air Force

The Colombian Air Force, known as the Fuerza Aerea Colombiana, is an independent force and is administered by the Ministry of War. The headquarters are at Bogota.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Mitchell B-25D (PBJ)	North American	U.S.A.
Fighter	Thunderbolt F-47D	Republic	U.S.A.
Reconnaissance	Catalina PBY-5A (A-10)	Convair	U.S.A.
Transport	Skytrain C-47A (R4D)	Douglas	U.S.A.
	Lodestar C-60A (R50)	Lockheed	U.S.A.
	Junkers 52	Junkers	Germany
	Junkers W-34	Junkers	Germany
	Junkers K-43	Junkers	Germany
Trainer	Texan T-6 (SNJ)	North American	U.S.A.
	Vultee (P)T-11	Convair	U.S.A.
	Cornell T-19	Fairchild	U.S.A.
	Kaydet T-17 (N25)	Stearman	U.S.A.
	Valiant (B)T-15 (SNV)	Convair	U.S.A.
	Navigator T-7 (SNB-2)	Beechcraft	U.S.A.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
	Grasshopper L-4	Piper	U.S.A.
	Fledgling	Curtiss	U.S.A.

CUBA

(The Republic of Cuba)

The Cuban Aviation Corps

The Cuban Aviation Corps known as the Cuerpo de Aviacion, has both naval and military sections and is administered by an aviation department of the Secretariat of National Defense with headquarters at Havana.

The Cuban Aviation Corps (Continued)

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Mitchell B-25 (PBJ)	North American	U.S.A.
Fighter	Lightning ZF-38	Lockheed	U.S.A.
Reconnaissance	Catalina PBV (A-10)	Convair	U.S.A.
Transport	Voyager C-45 (JRB)	Beechcraft	U.S.A.
	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Bonanza	Beechcraft	U.S.A.
Trainer	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
	Kaydet T-13 (N2S)	Boeing	U.S.A.
	Valiant (B)T-13 (SNV)	Convair	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	Navigator T-7 (SNB-2)	Beechcraft	U.S.A.
Communications and Utility	19-R	Curtiss-Wright	U.S.A.

The Cuban Naval Air Arm

The Cuban Naval Air Arm is quite small, and practically inactive.

Equipment			
Type	Designation	Manufacturer	Country
Reconnaissance	Kingfisher OS2U-3	Chance Vought	U.S.A.
	Seagull SO3C	Curtiss	U.S.A.
Transport	Goose JRF (A9, 13)	Grumman	U.S.A.
	Tri-motor	Ford	U.S.A.
Trainer	Yellow Peril N3N-1	U.S.N.A./C Factory	U.S.A.
	Waco T-14	Waco	U.S.A.

CZECHOSLOVAKIA

(The Czechoslovak Republic)

The Czechoslovak Air Force

The Czech Air Force is administered by the Ministry of National Defense through the Army General Staff.

The Commander-in-Chief of the Air Force has headquarters at Prague and is responsible to the Chief of the General Staff.

Equipment			
Type	Designation	Manufacturer	Country
Light Bombers	Mosquito	de Havilland	G.B.
	PE-2	Petlyakov	U.S.S.R.
Attack	IL-2	Ilyushin	U.S.S.R.
Fighter	Me 109	Messerschmitt	Germany
	LA-5, 7	Lavochkin	U.S.S.R.
	Me 262 (Jet)	Messerschmitt	Germany
Reconnaissance	Si 204	Siebel	Germany
	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Ju 52	Junkers	Germany
Trainer	Arado 96	Arado	Germany
	Storch Fi 156	Fieseler	Germany
Communications and Utility	Grasshopper L-4 (NE)	Piper	U.S.A.
	Sentinel L-5 (OY)	Convair	U.S.A.

DENMARK

(The Kingdom of Denmark)

The Danish Air Force

On December 1st, 1947, the training of personnel and the technical branches of the Army Air Troops (Haerens Flyvertropper) and the Naval Air Service (Sovaermets Flyvevaesen) were brought together in a joint air command.

On the operational side, the Army Air Troops and the Naval Air Service are still separated.

Equipment			
Type	Designation	Manufacturer	Country
Fighter	Spitfire	Vickers-Armstrongs	G.B.
Reconnaissance	Sea Otter	Vickers-Armstrongs	G.B.
	Catalina PBV (A-10)	Convair	U.S.A.
Trainer	Oxford	Airspeed	G.B.
	Texan T-6	North American	U.S.A.
	KZ-2, 3	Skandinavisk Aero Ind.	Denmark
Miscellaneous	Procter B-17 (Passenger)	Percival	G.B.
		Boeing	U.S.A.

DOMINICAN REPUBLIC

(The Dominican Republic)

The Dominican Air Force

The Dominican Air Force is administered by the Secretary of War and is of great personal interest to the President. It is at present commanded by an officer of the Dominican Army.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Flyingfortress B-17 (PB)	Boeing	U.S.A.
	Mosquito	de Havilland	G.B.
Fighter	Lightning ZF-38	Lockheed	U.S.A.
	Mustang F-51	North American	U.S.A.
	Beaufighter	Bristol	G.B.
Reconnaissance	Catalina PBV-5A (A-10)	Convair	U.S.A.
Transport	Commando C46 (R5C)	Curtiss	U.S.A.
Trainer	Texan T-6 (SNJ)	North American	U.S.A.
	Valiant (B)T-13 (SNV)	Convair	U.S.A.
	Kaydet T-17 (N2S)	Boeing	U.S.A.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
	Station Wagon	Stinson	U.S.A.
	Cruiser	Piper	U.S.A.
	Helicopter	Sikorsky	U.S.A.

ECUADOR

(The Republic of El Ecuador)

The Ecuadoran Air Force

The Ecuadoran Air Force has equal status with the Army and Navy and is administered by a Commandant of the Military Aviation who is responsible, through the Superior Army Command, to the Minister of Defense. The Commandant of the Air Force has headquarters at Quito.

Equipment			
Type	Designation	Manufacturer	Country
Fighter	Thunderbolt F-47	Republic	U.S.A.
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
Trainer	Cornell T-19	Fairchild	U.S.A.
	Valiant (B)T-13 (SNV)	Convair	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	Navigator T-7 (SNB-2)	Beechcraft	U.S.A.
	Falcon SNC-1	Curtiss	U.S.A.

EGYPT

(The Kingdom of Egypt)

The Royal Egyptian Air Force

The R.E.A.F. is administered by the Ministry of War and Marine with headquarters in Cairo.

The Director of the Air Force is directly responsible to the Minister of War and Marine.

Equipment			
Type	Designation	Manufacturer	Country
Light			
Bomber	Stirling	Short	G.B.
Fighter	Spitfire 5, 9	Vickers-Armstrongs	G.B.
	Gladiator	Gloster	G.B.
	Macchi 202/205	Macchi	Italy
Reconnaissance	Hurricane	Hawker	G.B.
	Lysander	Westland	G.B.
	Walrus	Vickers-Armstrongs	G.B.
Transport	*Anson	A. V. Roe	G.B.
	*Commando C-46 (R4C)	Curtiss	U.S.A.
	*Skytrain C-47 (R4D)	Douglas	U.S.A.
	*Oxford	Air Speed	G.B.
	Magister	Miles	G.B.
Trainer	Valiant (B)T-13 (SNV)	Convair	U.S.A.
	Dove	de Havilland	G.B.
	Texan T-6 (SNJ)	North American	U.S.A.

*Some of these aircraft have been converted for use as light bombers.

EL SALVADOR

(The Republic of El Salvador)

The El Salvadoran Air Force

The El Salvadoran Air Force has recently been separated from the Army and is now directly un-

The El Salvadoran Air Force—(Continued)

der the Minister of Defense. The Air Force has been more or less inactive, but a new and capable Chief of Air Force is now planning to revitalize the organization.

Equipment			
Type	Designation	Manufacturer	Country
Transport	Kansas T-11 (SNB-2)	Beechcraft	U.S.A.
Trainer	Texan T-6 (SNJ)	North American	U.S.A.
	Valiant (B)T-13 (SNV)	Convair	U.S.A.
	Cornell T-19	Fairchild	U.S.A.
	Silvaire 8A	Luscombe	U.S.A.
	Waco T 1928	Waco	U.S.A.

IRELAND

(The Irish Free State)

The Irish Air Force

The Irish Air Corps is a component of the Defense Forces and is administered by the Department of Defense, Parkgate, Dublin.

Equipment			
Type	Designation	Manufacturer	Country
Fighter	Seafire	Vickers-Armstrongs	G.B.
Trainer	Anson 19	A. V. Roe	G.B.
	Magister	Miles	G.B.
	Martinet	Miles	G.B.
	Master	Miles	G.B.

ETHIOPIA

(The Kingdom of Abyssinia)

The Imperial Ethiopian Air Force

The Imperial Ethiopian Air Force is being organized from a small nucleus consisting mainly of communications and transport aircraft and a number of aircraft supplied by Sweden. The instructors and technicians are Swedish. They are commanded by a Swedish Air Force Officer.

Equipment			
Type	Designation	Manufacturer	Country
Transport	Avro-19	A. V. Roe	G.B.
Trainer	Safirs Saab-91	Svenska Aeroplan A.B.	Sweden
	Saab-17	Svenska Aeroplan A.B.	Sweden
	Bobcat UC-78 (JRC)	Cessna	U.S.A.
	Sentinel (OY)	Convair	U.S.A.
	Tiger Moth	de Havilland	G.B.

FINLAND

(The Finnish Republic)

The Finnish Air Force

The Finnish Air Force under the Peace Treaty, is limited to 60 aircraft and a personnel strength of 3,000 officers and men. The Treaty, further forbids Finland from maintaining a bombing force and the engagement in experiments with or con-

The Finnish Air Force (Continued)

struction of remote control piloted or pilotless aerial weapons.

Type	Designation	Equipment		Country
		Manufacturer		
Fighter	Me 109G	Messerschmitt		Germany
Trainer	Fw 44-J	Focke-Wulf		Germany
	Storch Fi 156	Fieseler		Germany

FRANCE

(The French Republic)

The French Air Force

Service aviation in France, is divided between the Air Force, Armée de l'Air, and the Naval Air Arm, Aeronavale.

The nominal Commander-in-Chief of the Armed Forces is the President of the Republic. He presides over two advisory bodies, the Supreme National Defense Council and the National Defense Committee.

Under the Ministry of the Armed Forces are three Under-Secretaries of State; Army, Air, Navy. Also reporting to the Minister are the Chiefs of Staff Committee and the Inspector-General of the Armed Forces.

The Air Force

The Chief of the Air Staff and Commander-in-Chief of the Air Force is a General, who is also Chairman of the Chief of Staff Committee.

Type	Designation	Equipment		Country
		Manufacturer		
Light Bomber	Halifax 6	Handley Page		G.B.
Fighter	Thunderbolt F-47N	Republic		U.S.A.
	Kingcobra ZF-63	Bell		U.S.A.
	Spitfire 9	Vickers-Armstrongs		G.B.
	Meteor	Gloster		G.B.
Reconnaissance	Mosquito 6	de Havilland		G.B.
	Vampire	de Havilland		G.B.
	Mustang F-51	North American		U.S.A.
	Lightning ZF-38	Lockheed		U.S.A.
Transport	Skytrain C-47A (R4D)	Douglas		U.S.A.
	Marauder ZB-26 (JM)	Martin		U.S.A.
	Ju 52	Junkers		Germany
	NC 701	S.N.C.A.C.		France
Trainer	Nord 1000	S.N.C.A.N.		France
	Tiger Moth	de Havilland		G.B.
	Stampe (SV 4)	S.N.C.A.N.		France
	S.I.P.A. S 10	S.I.P.A.		France
Communications and Utility	Wellington 10	Vickers-Armstrongs		G.B.
	Siebel 204	Siebel		Germany
	Avro Anson	A. V. Roe		G.B.
	Bobcat T-17 (JRC)	Cessna		U.S.A.
Communications and Utility	Voyager C-45 (JRB)	Beechcraft		U.S.A.
	Goeland	S.N.C.A.N.		France
	LeO 45	S.N.C.A.S.E.		France
	Maryland M-167	Martin		U.S.A.
Communications and Utility	Grasshopper L-4 (NE)	Piper		U.S.A.
	Morane 500	Morane-Saulnier		France

The French Air Force (Continued)**Naval Aviation**

The Naval Air Arm is administered by the Ministry of Marine, but certain units for operational purposes come under the control of the Air Force. The officer commanding the Naval Air Arm is a Rear-Admiral.

The Naval Air Arm operates two aircraft-carriers: Arromanches (H.M.S. Colossus), which is on loan from the Royal Navy, and a light escort-carrier (Dixmude, formerly H.M.S. Biter). The old French aircraft-carrier Bearn is now classified as an aircraft transport.

Type	Designation	Equipment		Country
		Manufacturer		
Light Bomber	Wellington 10, 11, 12	Vickers-Armstrongs		G.B.
	Sunderland 3	Short		G.B.
Attack	Dauntless SBD (A-24)	Douglas		U.S.A.
	Bloch 175	Bloch		France
Fighter	Seafire 3	Vickers-Armstrongs		G.B.
	Spitfire 9	Vickers-Armstrongs		G.B.
Reconnaissance	Catalina			
	PBY-5A (A-10)	Convair		U.S.A.
	Do 24	Dornier		Germany
	Sea Otter	Vickers-Armstrongs		G.B.
Transport	Walrus	Vickers-Armstrongs		G.B.
	Ju 52	Junkers		Germany
	Breguet 730, 731	Breguet		France
	Siebel 204	Siebel		Germany
Trainer	Storch Fi 156	Fieseler		Germany
	Avro Anson	A. V. Roe		G.B.
	Stinson	Stinson		U.S.A.
	Texan T-6 (SNJ)	North American		U.S.A.
Miscellaneous	Goeland	S.N.C.A.N.		France
	Nord 1000; 1001	S.N.C.A.N.		France
	Maryland M-167	Martin		U.S.A.
	Latécoère 298	Latécoère		France
Miscellaneous	S.C.A.N. 20	S.C.A.N.		France
	Ju 88, 188	Junkers		Germany

GREECE

(The Kingdom of Greece—Hellas)

The Royal Hellenic Air Force

The R.H.A.F. functions as an independent service, and it is administered by the Ministry of Air at Athens.

The Commander-in-Chief of the Air Force is responsible to the Minister of Air.

Type	Designation	Equipment		Country
		Manufacturer		
Fighter	Spitfire 5, 9	Vickers-Armstrongs		G.B.
Transport	Skytrain C-47 (R4D)	Douglas		U.S.A.
Trainer	Texan T-6 (SNJ)	North American		U.S.A.
	Oxford 1, 2	Airspeed		G.B.
	Tiger Moth	de Havilland		G.B.
Communications and Utility	Auster 3	Auster		G.B.

GUATEMALA

(The Republic of Guatemala)

The Guatemalan Army Air Force

The Air Force of Guatemala, the Cuerpo de Aeronautica Militar, is administered by the Army Command. The Chief of Military Aviation has his headquarters at Guatemala City. Since World War II the Air Force has undergone modernization.

Equipment				
Type	Designation		Manufacturer	Country
Fighter	Boeing ZF-26	(F4B4)	Boeing	U.S.A.
Transport	Skytrain C-47	(R4D)	Douglas	U.S.A.
	Voyager C-45	(JRB)	Beechcraft	U.S.A.
	Bobcat C-78	(JRC)	Cessna	U.S.A.
Trainer	Valiant (B) T-15	(SNV)	Convair	U.S.A.
	Texan T-6	(SNJ)	North American	U.S.A.
	Kansas T-11	(JRB-1)	Beechcraft	U.S.A.
	Cornell T-19		Fairchild	U.S.A.
	Waco T-14		Waco	U.S.A.
	Kaydet T-17	(N2S)	Boeing	U.S.A.
	Ryan T-23		Ryan	U.S.A.

HAITI

(The Republic of Haiti)

The Haitian Air Force

The Haitian Air Force is organized, more or less, as a Government Air Line and is quite small.

Equipment				
Type	Designation		Manufacturer	Country
Transport	Bobcat C-78	(JRC)	Cessna	U.S.A.
	Skytrain C-47	(R4D)	Douglas	U.S.A.
	Voyager C-45	(JRB)	Beechcraft	U.S.A.
Trainer	Cornell T-19A		Fairchild	U.S.A.
	Valiant (B) T-13A	(SNV)	Convair	U.S.A.
	Texan T-6	(SNJ)	North American	U.S.A.
	Kansas T-11	(SNB-1)	Beechcraft	U.S.A.
	Taylorcraft L-28		Taylorcraft	U.S.A.
Communications and Utility				

HONDURAS

(The Republic of Honduras)

The Honduras Air Force

The Honduran Air Arm is administered by the Department of War, Marine and Aviation. The Chief of Air Force enjoys a considerable measure of autonomy and though theoretically responsible to the Minister of War, reports directly to the

The Honduras Air Force—(Continued)

President with headquarters located at Tegucigalpa.

Equipment				
Type	Designation		Manufacturer	Country
Fighter	Lightning ZF-38		Lockheed	U.S.A.
	Kingcobra ZF-63		Bell	U.S.A.
Transport	Skytrain C-47	(R4D)	Douglas	U.S.A.
Trainer	Kaydet T-13, 17	(N2S)	Boeing	U.S.A.
	Valiant (B) T-13	(SNV)	Convair	U.S.A.
	Texan T-6	(SNJ)	North American	U.S.A.
	Kansas T-11	(SNB-1)	Beechcraft	U.S.A.

HUNGARY

(The Hungarian Republic)

The Hungarian Air Force

Under the terms of the Hungarian Peace Treaty the size of the Hungarian Air Force is limited to 90 aircraft, no more than 70 of which may be combat types; and a personnel strength of 5,000 officers and other ranks. The Treaty further forbids the maintenance of bombing aircraft and the engagement in experiments with or the construction of remote controlled piloted or pilotless aerial weapons.

The Hungarian Air Force, with the assistance of the U.S.S.R., is being reorganized and will probably develop along patterns similar to other satellite nations.

Equipment			
Type	Designation	Manufacturer	Country
Training	UT-2	Yakovlev	U.S.S.R.
	Arado 96B	Arado	Germany
	Zlin 381	Zlin	Czech

ISRAEL

(The State of Israel)

The Israeli Air Force

The Israeli Air Force is comparatively new among the World's Air Forces. However, it has shown rapid progress in both size and organization with the latter being somewhat similar to the U.S.A.F.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Flyingfortress B-17	(PB) Boeing	U.S.A.
	Baltimore M-187	Martin	U.S.A.
	Halifax	Handley-Page	G.B.
	Lancaster	Handley-Page	G.B.
Fighter	Me 109G	Messerschmitt	Germany
	Black Widow F-61 (FT-1)	Northrop	U.S.A.
	Spitfire	Vickers-Armstrongs	G.B.

The Israeli Air Force—(Continued)

		Equipment			
Type	Designation		Manufacturer	Country	
Transport	Commando C-46	(R5C)	Curtiss	U.S.A.	
	Skytrain C-47	(R4D)	Douglas	U.S.A.	
	Skymaster C-54	(R5D)	Douglas	U.S.A.	
	Constellation		Lockheed	U.S.A.	
	Aerovan		Miles	G.B.	
Communications and Utility	Rapide		de Havilland	G.B.	
	Norseman C-64	(JA)	Norduyn	Canada	
	Auster		Auster	G.B.	

IRAN**(The Kingdom of Iran)****The Imperial Iranian Air Force**

The Imperial Iranian Air Force is an integral part of the Army and is administered by the Aviation Department of the Ministry of War through the Army General Staff.

His Imperial Majesty, the Shah of Iran is Commander of all the armed forces and has a practical interest in aviation to the extent of having flown a wide variety of types.

		Equipment			
Type	Designation		Manufacturer	Country	
Light Bomber	Avro Anson		A. V. Roe	G.B.	
Attack	Hurricane		Hawker	G.B.	
Fighter	Thunderbolt F-47		Republic	U.S.A.	
Transport	Skytrain C-47				
	(R4D)		Douglas	U.S.A.	
Reconnaissance	Audax		Hawker	G.B.	
	Fury		Hawker	G.B.	
Trainer	Hawker Hind		Hawker	G.B.	
	Tiger Moth		de Havilland	G.B.	

IRAQ**(The Kingdom of Iraq)****The Royal Iraqi Air Force**

The R.I.A.F. is an integral part of the Army with headquarters at Baghdad. Through the co-operation of the R.A.F. members of the British Military Mission to the Iraq Army the R.I.A.F. has had a post war reorganization.

		Equipment			
Type	Designation		Manufacturer	Country	
Fighter	Sea Fury		Vickers-Armstrongs	G.B.	
	Gladiator		Gloster	G.B.	
Trainer	Tiger Moth		de Havilland	G.B.	
	Audax		Hawker	G.B.	
Miscellaneous	Dove		de Havilland	G.B.	
	Magister		Miles	G.B.	

ITALY**(The Republic of Italy)****The Italian Air Force**

Under the Peace Treaty, the strength of the Italian Air Force is restricted to 350 aircraft, of

The Italian Air Force—(Continued)

which 200 may be fighters and reconnaissance aircraft, and 150, transport and training types. Italy is not permitted to build bombing aircraft, nor to conduct experiments with or engage in the construction of remotely-controlled piloted or pilotless aerial weapons.

The Italian Air Force has embarked on an ambitious program to dispose of its obsolete aircraft. Orders for new aircraft with the Italian industry are small and mainly for transport and training types; this deficiency has been partially made up by the acquisition of surplus Allied aircraft: Spitfires, F-39's, F-38's, and F-51's.

The command and administration of the Italian Air Force comes under the National Defense Ministry.

		Equipment			
Type	Designation		Manufacturer	Country	
Bomber	Falcone SM.79		Savoia-Marchetti	Italy	
	Alcione CZ.1007		Cantieri	Italy	
	RS.14		Fiat	Italy	
	Baltimore M-187		Martin	U.S.A.	
Fighter	Mustang F-51D		North American	U.S.A.	
	Lightning ZF-38		Lockheed	U.S.A.	
	Aircobra ZF-39		Bell	U.S.A.	
	Spitfire 5, 9		Vickers-Armstrongs	G.B.	
	Falcho G.50, 55		Fiat	Italy	
	Freccia CR.42		Fiat	Italy	
	Saetta C.200		Macchi	Italy	
	C.202 & C.205		Macchi	Italy	
Reconnaissance	CANT Z.501		Cantieri	Italy	
	Airone CANT				
	Z.506B		Cantieri	Italy	
	CA.314		Fiat	Italy	
Transport	G.12		Fiat	Italy	
	SM.73, 75, 82, 83, 84, 95		Savoia-Marchetti	Italy	
Trainer	Saiman 202		Saiman	Italy	
	CA.164		Caproni	Italy	
	Nardi FN.305		Nardi	Italy	
Communications and Utility	Sentinel L-5		Convair	U.S.A.	
	Saiman 200, 204		Saiman	Italy	
	CA.100, 309		Caproni	Italy	
	CA.148		Caproni	Italy	
	FL.3		A.V.I.A.	Italy	
	Storch Fi 156		Fieseler	Germany	

KOREA (SOUTH)**(The Republic of Korea)****The South Korean Air Force**

The South Korean Air Force is an autonomous service under its own Chief of Staff for Air, who is responsible to the Minister of Defense.

The South Korean Air Force consists of the following aircraft:

Type	Country of Manufacture
L-4	U.S.
L-5	U.S.

MEXICO

(The United States of Mexico)

The Mexican Air Force

The Mexican Air Force is an integral part of the Army and is under the Secretary of National Defense with headquarters at Mexico City.

The Mexican Air Force, the Fuerza Aerea Mexicana, is commanded by the Director of Military Aviation. There is a small Naval Air Arm functioning as an integral part of the Navy.

Equipment				
Type	Designation		Manufacturer	Country
Light				
Bomber	Mitchell B-25	(PBJ)	North American	U.S.A.
Attack	Dauntless SBD	(A-24)	Douglas	U.S.A.
Fighter	Thunderbolt F-47		Republic	U.S.A.
Reconnaissance	Consolidated 21M		Convair	U.S.A.
	Kingfisher OS2U		Chance Vought	U.S.A.
	Stinson L-5E		Stinson	U.S.A.
	Beechcraft F-2		Beechcraft	U.S.A.
Transport	Lodestar C-60	(R50)	Lockheed	U.S.A.
	Skytrain C-47	(R4D)	Douglas	U.S.A.
	Forwarder C-61	(GK)	Fairchild	U.S.A.
	Voyager C-45	(JRB)	Beechcraft	U.S.A.
Trainer	Cornell T-19		Fairchild	U.S.A.
	Corsair V-99-M		Chance Vought	U.S.A.
	Valiant (B)T-15	(SNV)	Convair	U.S.A.
	Kaydet T-13	(N2S)	Boeing	U.S.A.
	*Texan T-6	(SNJ)	North American	U.S.A.
	*Kansas T-11	(SNB-1)	Beechcraft	U.S.A.
	Navigator	(SNB-2)	Beechcraft	U.S.A.

*Some of these aircraft have been converted for use in Reconnaissance.

NETHERLANDS

(The Kingdom of the Netherlands)

The Netherlands Air Forces

Service Aviation in the Netherlands is organized in three separate arms, the Naval Air Service, the Metropolitan Army Air Force and the Netherlands East Indies Army Air Force; each reports to a separate Ministry.

The Chief of the Air Staff of the Metropolitan Army Air Force is a Major-General. The Commander-in-Chief of the Netherlands East Indies Army Air Force is a Colonel.

Equipment				
Metropolitan Army Air Force				
Type	Designation		Manufacturer	Country
Fighter	Spitfire 9		Vickers-Armstrongs	G.B.
	Meteor 4		Gloster	G.B.
Transport	Hudson A-28	(PBO)	Lockheed	U.S.A.
	Lockheed 12		Lockheed	U.S.A.
	Dominie		de Havilland	G.B.
Trainer	Tiger Moth		de Havilland	G.B.
	Oxford 2		Airspeed	G.B.
	Texan T-6	(SNJ)	North American	U.S.A.
	Anson 1		A. V. Roe	G.B.
	Proctor		Percival	G.B.

The Netherlands Air Force—(Continued)

Type	Designation	Manufacturer	Country
Communications and Utility	Auster 3	Auster	G.B.

East Indies Army Air Force

Light				
Bomber	Mitchell B-25	(PBJ)	North American	U.S.A.
Fighter	Warhawk ZF-40		Curtiss	U.S.A.
	Mustang F-51		North American	U.S.A.
Transport	Skytrain C-47	(R4D)	Douglas	U.S.A.
Trainer	Grasshopper L-4	(NE)	Piper	U.S.A.
	Wackett		Wackett	Australia
	Texan T-6	(SNJ)	North American	U.S.A.
	Lockheed C-40		Lockheed	U.S.A.

Communications and Utility	Grasshopper L-4	(NE)	Piper	U.S.A.
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Netherlands Naval Air Force

The Flag Officer in charge of the Naval Air Services is an Admiral.

The 14,000 ton British Escort Carrier Nairana, which was loaned to the Netherlands Navy in 1946 and operated under the Dutch name of Karel Doorman, returned to the U. K. in March, 1948, and in May was replaced by the Light Fleet Carrier Venerable of 14,500 tons. The name of Karel Doorman was once again used in renaming the Venerable.

Equipment

Metropolitan Navy Air Force

Type	Designation	Manufacturer	Country
Light Bomber	Mitchell B-25	(PBJ)	North American
Fighter	Fairey Firefly	Fairey	G.B.
	Sea Fury	Hawker	G.B.
	Meteor 4	Gloster	G.B.
Trainer	Texan T-6	(SNJ)	North American
	Oxford	Air Speed	G.B.

East Indies Navy Air Force

Fighter	Fairey Firefly	Fairey	G.B.
Reconnaissance	Catalina PBY	(A-10)	Convair
Transport	Skytrain C-47	(R4D)	Douglas

NICARAGUA

(The Republic of Nicaragua)

The Nicaraguan Army Air Force

The Nicaraguan Army Air Force, the Fuerza Aerea de la Guardia Nacional, is administered by the Ministry of War, Marine and Aviation which is responsible to the President of the Republic.

Equipment

Type	Designation	Manufacturer	Country
Medium			
Bomber	Liberator B-24	(PB4Y-1)	Consolidated
	Havoc ZA-20	(BD-2)	Douglas
Fighter	Lightning ZF-38		Lockheed
	BC-1		North American
	Grumman G-23		Grumman
	Waco Who		Waco

The Nicaraguan Army Air Force—(Continued)

Equipment			
Type	Designation	Manufacturer	Country
Transport	Commando C-46 (R5C)	Curtiss	U.S.A.
	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Bobcat C-78 (JRC)	Cessna	U.S.A.
	Waco EGC-8	Waco	U.S.A.
Trainer	Cornell T-19	Fairchild	U.S.A.
	Valiant (B)T-13 (SNV)	Convair	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	Fleet 10	Fleet	Canada
	Waco T-14	Waco	U.S.A.

NORWAY

(The Kingdom of Norway)

The Royal Norwegian Air Force

The Army and Navy Air Services were unified in 1944 and the Royal Norwegian Air Force now functions as an independent service.

Equipment			
Type	Designation	Manufacturer	Country
Fighter	Spitfire 9	Vickers-Armstrongs	G.B.
	Mosquito 6	de Havilland	G.B.
	Vampire 3	de Havilland	G.B.
Reconnaissance	Catalina PBY (A-10)	Convair	U.S.A.
Transport	Lodestar C-60 (R50)	Lockheed	U.S.A.
	Ju 52	Junkers	Germany
Trainer	Fairchild (P)T-36	Fairchild	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	Anson	A. V. Roe	G.B.
	Oxford	Air Speed	G.B.
Communications and Utility	Storch Fi 156	Fiesler	Germany
	Norseman C-64 (JA)	C.C.F.	Canada

PARAGUAY

(The Republic of Paraguay)

The Paraguayan Air Force

The Paraguayan Air Force and the Naval Air Arm were recently combined to form the Fuerzas Aereas Nacionales. It is administered as a section of the Army by the Ministry of War and Marine. The Commanding officer has headquarters at Campo Grande Airport, near Asuncion.

Equipment			
Type	Designation	Manufacturer	Country
Transport	Ghibli	Bergamaschi	Italy
	Reliant	Stinson	U.S.A.
	Stinson Voyager	Stinson	U.S.A.
Trainer	Cornell T-19	Fairchild	U.S.A.
	Valiant (B)T-13 (SNV)	Convair	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
	U.S.N., N3N	U.S.N.A./C factory	U.S.A.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
	Seabee	Republic	U.S.A.

PERU

(The Republic of Peru)

The Peruvian Air Force

The Peruvian Air Force, Cuerpo de Aeronautica del Peru, is an independent service administered by the Ministry of Aeronautics. The Chief of Air Staff and the Officer Commanding the Air Arm has headquarters at Lima.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Mitchell B-25 (PBJ)	North American	U.S.A.
	Harpoon PV-2	Lockheed	U.S.A.
Attack	Northrop A-33, A-17	Northrop	U.S.A.
	Curtiss A-12	Curtiss	U.S.A.
	Falcon SNC	Curtiss	U.S.A.
	Hawk ZF-36	Curtiss	U.S.A.
Fighter	V-80-P	Vought Corsair	U.S.A.
	Thunderbolt F-47	Republic	U.S.A.
Reconnaissance	Grumman A-9	Grumman	U.S.A.
	Curtiss Condor	Curtiss	U.S.A.
	Harpoon PV-2	Lockheed	U.S.A.
Transport	Rapide	de Havilland	G.B.
	Faucett F-19	Faucett	Peru
	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Catalina PBY (A-10)	Convair	U.S.A.
	Traveler GB (C-43)	Beechcraft	U.S.A.
	Bobcat C-78 (JRC)	Cessna	U.S.A.
	NA-50	North American	U.S.A.
	Texan T-6 (SNJ)	North American	U.S.A.
Trainer	Valiant (B)T-13 (SNV)	Convair	U.S.A.
	Cornell T-19	Fairchild	U.S.A.
	D.L. 22	Instituto Aero.	Argentina
Communications and Utility	Navigator T-7 (SNB-2)	Beechcraft	U.S.A.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
	Kaydet T-17 (N2S)	Boeing	U.S.A.
	Travelair	Stinson	U.S.A.
	Caproni 100 PT	Caproni	Italy
	Fairchild (P)T-26	Fairchild	U.S.A.
	Grasshopper L-2	Taylorcraft	U.S.A.
Utility	Keystone ZO-15	Keystone	U.S.A.
	Sentinel L-5 (OY)	Convair	U.S.A.

PHILIPPINES

(Philippine Republic)

The Philippine Air Force

The Philippine Air Force is one of the world's more recent air forces. Its organization is similar to that of the U.S.A.F.

Equipment			
Type	Designation	Manufacturer	Country
Fighter	Mustang F-51	North American	U.S.A.
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Norseman C-64 (JA)	C.C.F.	Canada
Trainer	Texan T-6 (SNJ)	North American	U.S.A.
	T-26	Fairchild	U.S.A.
	T-13 (N2S)	Boeing	U.S.A.
Communications and Utility	Sentinel L-5 (OY)	Convair	U.S.A.

POLAND

(The Republic of Poland)

The Polish Air Force

The Polish Air Force is administered by the Ministry of National Defense through the Army General Staff. A Marshal is the Minister of Defense. The Commander-in-Chief, a Major-General, of the Air Force is responsible to the Minister of Defense; his headquarters are in Warsaw.

A new Polish Air Force conforming to Soviet standards was organized in 1945. The general organization is similar to the Soviet Air Force. A Polish Naval Air Service patterned on the Soviet Naval Air Force was organized in 1948.

Equipment

Type	Designation	Manufacturer	Country
Light Bomber	PE-2	Petlyakov	U.S.S.R.
Attack	IL-2	Ilyushin	U.S.S.R.
	IL-10	Ilyushin	U.S.S.R.
Fighter	YAK-3, 9	Yakovlev	U.S.S.R.
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
Trainer	Seibel	Seibel	Germany
	UT-2	Yakovlev	U.S.S.R.
Communications and Utility	PO-2	Polikaysov	U.S.S.R.

PORTUGAL

(The Republic of Portugal)

The Portuguese Air Forces

The Portuguese Air Forces consists of two services, an Army Air Service, Aeronautica Militar and a Naval Air Arm, Aeronautica Naval.

MILITARY AVIATION

The Army Air Force is an integral part of the Portuguese Army and is controlled by the Ministry of War through the Army General Staff though the Commander of the Army Air Force has authority to take his major problems directly to the Minister of Defense without reference to the General Staff. An army officer holds the post of War Minister. The Commanding Officer of the Air Force is responsible to the Minister of War; headquarters are located in Lisbon.

Equipment

Type	Designation	Manufacturer	Country
Medium Bomber	Flyingfortress B-17 (PB)	Boeing	U.S.A.
Fighter	Spitfire 5, 9	Vickers-Armstrongs	G.B.
	Hurricane 11, 13	Hawker	G.B.
Transport	Skymaster C-54 (R5D)	Douglas	U.S.A.
	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Ju 52	Junkers	Germany

The Portuguese Air Forces—(Continued)

Type	Designation	Manufacturer	Country
Trainer	Moth	de Havilland	G.B.
	Gladiator	Gloster	G.B.
	Oxford	Airspeed	G.B.
	Master 3	Miles	G.B.
	Martinet	Miles	G.B.
	Texan T-6 (SNJ)	North	U.S.A.
	Lysander 3	Westland	G.B.
	Avro Anson	A. V. Roe	G.B.

Naval Air Arm

The Naval Air Service is an integral part of the Portuguese Navy, and is under the control of the Ministry of Marine. The Commanding officer of the Naval Air Arm is responsible to the Minister of Marine; headquarters are located in Lisbon.

Equipment

Type	Designation	Manufacturer	Country
Fighter	Beaufighter	Bristol	G.B.
Transport	Voyager C-45 (JRB)	Beechcraft	U.S.A.
Trainer	Blenheim	Bristol	G.B.
	Consolidated Fleet	Convair	U.S.A.
	Moth	de Havilland	G.B.
	Oxford	Airspeed	G.B.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
Miscellaneous	Grumman G-21, 44	Grumman	U.S.A.

RUMANIA

(The Rumanian Popular Republic)

The Rumanian Air Force

The Rumanian Peace Treaty limits the size of the Rumanian Air Force to 150 aircraft, of which not more than 100 are to be combat types and a personnel strength of 8,000 officers and men. Under these terms Rumania is forbidden to maintain any bombing aircraft or make experiments with or construct remote-control piloted or pilotless aerial weapons.

The Rumanian Air Force is administered by the Ministry of National Defense. The Commander-in-Chief of the Air Force has headquarters in Bucharest.

Equipment

Type	Designation	Manufacturer	Country
Attack	IAR-80	Ind. Aero. Romania	Romania
Fighter	Me 109G	Messerschmitt	Germany
Reconnaissance	IAR-39	Ind. Aero. Romania	Romania
	He 114	Heinkel	Germany
Transport	Ju 52	Junkers	Germany
	Sparviero SM.79	Savoia-Marchetti	Italy
Trainer	Nardi 305	Nardi	Italy
	Fw 58	Focke-Wulf	Germany
	Fleet 10G	Fleet	Canada
Communications and Utility	Storch Fi 156	Fieseler	Germany

THAILAND

(The Kingdom of Thailand)

The Royal Thai Air Force

The Royal Thai Air Force is divided into two services; an Air Force and a Naval Air Arm. Both services are small, and in the process of recovering from the Japanese occupation.

Equipment Air Force				
Type	Designation	Manufacturer	Country	
Fighter	Oscar	Nakajima	Japan	
	Zero	Mitsubishi	Japan	
Trainer	Curtiss Hawk-75	Curtiss	U.S.A.	
	Vought Corsair (V935A)	Vought Corsair	U.S.A.	
	Curtiss Hawk-3	Curtiss	U.S.A.	
	Boeing P-12	Boeing	U.S.A.	
	Miles Magister	Miles	G.B.	
Transport	Texan T-6 (SNJ)	North American	U.S.A.	
	Skytrain C-47 (R4D)	Douglas	U.S.A.	
	Voyager C-45 (JRB)	Beechcraft	U.S.A.	
Communications and Utility	Sentinel L-5 (OY)	Convair	U.S.A.	
	Martin 139W	Martin	U.S.A.	
	Fairchild	Fairchild	U.S.A.	

Naval Air Arm

Reconnaissance	Pete, O-Recon Seaplane	Sasebo	Japan	
	WS-103-S Seaplane	Japan	Japan	
Trainer	95-Seaplane	Tatikawa	Japan	
	90-Seaplane	Japan	Japan	
	Grasshopper L4 (NE)	Piper	U.S.A.	
	Bananza	Beechcraft	U.S.A.	
	Texan T-6 (SNJ)	North American	U.S.A.	

SPAIN

(The Spanish State)

The Spanish Air Force

Military Aviation in Spain was organized in October, 1939, as an independent Army of the Air on terms of equality with the Army and the Navy. It is administered by the Air Ministry.

Equipment				
Type	Designation	Manufacturer	Country	
Light Bomber	B-1 (SM-79)	Savoia-Marchetti	Italy	
	B-2 (He 111)	Heinkel	Germany	
	B-3 (Cicogna BR.20)	Fiat	Italy	
	B-5 (Pelican SB-2)	Pilatus	Switzerland	
	B-7 (Ju 88)	Junkers	Germany	
	(Mitchell B-25)	North American	U.S.A.	
Attack	A-1 (He 51)	Heinkel	Germany	
	A-2 (He 45)	Heinkel	Germany	
	A-3 (Libeccio CA.310)	Caproni	Italy	
	A-4 (I-15)	Polikarpov	U.S.S.R.	

The Spanish Air Force—(Continued)

Type	Designation	Manufacturer	Country	
Fighter	C-1 (CR.32)	Fiat	Italy	
	C-3 (He 112)	Heinkel	Germany	
	C-4, 5 (Me 109 B, E)	Messerschmitt	Germany	
	C-6 (Falcho G.50)	Fiat	Italy	
	C-9 (I-16 or M-25)	Polikarpov	U.S.S.R.	
	C-10, 12 (Me 109F, J)	Messerschmitt	Germany	
Reconnaissance	R-2 (He 70)	Heinkel	Germany	
	R-3 (Do 17)	Dornier	Germany	
	R-4 (HS-126)	Hispano-Suiza	Spain	
	R-6 (G-23)	Fiat	Italy	
	HR-2 (He 60)	Heinkel	Germany	
	HR-4 (He 114A)	Heinkel	Germany	
Transport	HR-5 (Do 24)	Dornier	Germany	
	T-1 (SA-81)	Aero. Industrial S.A.	Spain	
	T-2 (Ju 52)	Junkers	Germany	
	T-3 (Skytrain C-47; R4D)	Douglas	U.S.A.	
Trainer	T-4 (FW Condor)	Focke-Wulf	Germany	
	LA10 (Electra)	Lockheed	U.S.A.	
	EE-1 (Moth)	de Havilland	G.B.	
	EE-3 (Jungmann, Bü 131)	Bücker	Germany	
	ES-1 (Jungmeister, Bü 133)	Bücker	Germany	
	ES-2 (Go.145)	Gotha	Germany	
	ES-6 (HS-42)	Hispano-Suiza	Spain	
Communications and Utility	L-6 (Spartan Exec.)	Spartan	U.S.A.	
	L-13 (Vultee)	Convair	U.S.A.	
	L-16 (Storch Fi 156)	Fieseler	Germany	

*Spanish aircraft designations are given, followed by standard designations in parenthesis.

SYRIA

(The Syrian Republic)

The Syrian Air Force

The Syrian Air Force is little more than an unimportant adjunct to the Army and is virtually inactive.

Equipment				
Type	Designation	Manufacturer	Country	
Fighter	G.55	Fiat	Italy	
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.	
	Ju 52	Junkers	Germany	
	Dominie D.H. 89	de Havilland	G.B.	
Trainer	Texan T-6 (SNJ)	North American	U.S.A.	
	Tiger Moth	de Havilland	G.B.	
	Oxford	Airspeed	G.B.	
Communications and Utility	Proctor	Percival	G.B.	
	Forwarder UC-61 (GK)	Fairchild	U.S.A.	
	Grasshopper L-4 (NE)	Piper	U.S.A.	

SWITZERLAND

(The Swiss Federation)

The Swiss Air Force

The Swiss Air Force is an integral branch of the Army and is administered by a Branch of the Federal Military Department with headquarters at Bern.

Equipment			
Type	Designation	Manufacturer	Country
Fighter	Morane D.3801, 3802	Morane-Saulnier	France
	Mustang F-51	North American	U.S.A.
	Me 109G	Messerschmitt	Germany
	Vampire	de Havilland	G.B.
Reconnaissance	C-3603, 3604	Fed. Air. Fact.	Switzerland
	Voyager C-45 (JRB)	Beechcraft	U.S.A.
Transport	Ju 52	Junkers	Germany
Training	Jungman Bü 131	Bücker	Germany
	Jungmeister Bü 133	Bücker	Germany
	Me 108	Messerschmitt	Germany
	C-35	Fed. Air. Fact.	Switzerland
	P-2	Pilatus	Switzerland
	Texan T-6 (SNJ)	North American	U.S.A.

TURKEY

(The Turkish Republic)

The Turkish Air Force

The Turkish Air Force is co-equal with the Army and Navy and is responsible to the Ministry of National Defense who has headquarters at Ankara.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Invader ZB-26 (JD)	Douglas	U.S.A.
	Baltimore 5	Martin	U.S.A.
	Mosquito 3, 4, 6	de Havilland	G.B.
	Martin B-10	Martin	U.S.A.
	Beauford 1, 2	Bristol	G.B.
	Vultee V-11	Convair	U.S.A.
	Beaufighter 10	Bristol	G.B.
Attack Fighter	Spitfire 4, 5, 9	Vickers-Armstrongs	G.B.
	Thunderbolt F47	Republic	U.S.A.
Reconnaissance	Spitfire 19	Vickers-Armstrongs	G.B.
	R-2A	Beechcraft	U.S.A.
	Walrus	Vickers-Armstrongs	G.B.
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
Trainer	Magister	Miles	G.B.
	Falcon SNC	Curtiss	U.S.A.
	Master	Miles	G.B.
	Texan T-6 (SNJ)	North American	U.S.A.
	Kansas T-11 (SNB)	Beechcraft	U.S.A.
	Oxford	Airspeed	G.B.
Communications and Utility	Lysander 2	Westland	G.B.
	Consul	Airspeed	G.B.
	Oxford Air Ambulance	Airspeed	G.B.
	Go 145,	Gotha	Germany

URUGUAY

(The Republic of Uruguay)

The Air Force and the Naval Air Arm are an integral part of the Army and Navy. The Air Force is administered by the Directorate of Aeronautics under the general supervision of the Ministry of National Defense.

The Director-General of Military Aeronautics is responsible to the Minister of Defense through the Inspector-General of the Army.

Equipment			
Type	Designation	Manufacturer	Country
Light Bomber	Texan T-6 (SNJ)	North American	U.S.A.
	Moth	de Havilland	G.B.
Attack	Texan T-6 (SNJ)	North American	U.S.A.
	Tiger Moth	de Havilland	G.B.
Reconnaissance	Texan T-6 (SNJ)	North American	U.S.A.
	Waco	Waco	U.S.A.
	Tiger Moth	de Havilland	G.B.
	Cornell T-19	Fairchild	U.S.A.
	SNC-1	Curtiss	U.S.A.
Transport	Stinson C-81	Stinson	U.S.A.
	Traveler C-43 (GB)	Beechcraft	U.S.A.
	Voyager C-45 (JRB)	Beechcraft	U.S.A.
	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Falcon (SNC)	Curtiss	U.S.A.
Trainer	Cornell T-19	Fairchild	U.S.A.
	Tiger Moth	de Havilland	U.S.A.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
Communications and Utility	Grasshopper L-4	Piper	U.S.A.

Naval Air Arm

The Naval Air Service, the Servicio Aeronautica de la Marina, is under the control of the Inspector-General of the Navy and under the General supervision of the Ministry of National Defense.

The Inspector-General of the Navy is a Captain with headquarters at Isla Libertad.

The Ministry of National Defense has its headquarters at Montevideo.

Equipment			
Type	Designation	Manufacturer	Country
Reconnaissance	Kingfisher OS2U	Chance-Vought	U.S.A.
Transport	Goose JRF-2		
	(A-9, 13)	Grumman	U.S.A.
Trainer	Cornell T-23	Fairchild	U.S.A.

VENEZUELA

(The Republic of Venezuela)

The Venezuelan Air Force

The Venezuelan Air Force is an independent service under the control of the Minister of National Defense.

The Ministry of National Defense is established at Caracas.

Equipment

Type	Designation	Manufacturer	Country
Light Bomber	Mitchell B-25 (PBJ)	North American	U.S.A.
Fighter	Thunderbolt F-47	Republic	U.S.A.
Reconnaissance	Texan T-6 (PBJ)	North American	U.S.A.
Transport	Skytrain C-47 (R4D)	Douglas	U.S.A.
	Kansas T-11 (SNB-1)	Beechcraft	U.S.A.
Trainer	Texan T-6 (SNJ)	North American	U.S.A.
	Valiant (B)T-13 (SNV)	Convair	U.S.A.
	Cornell T-19	Fairchild	U.S.A.
	Kaydet T-17 (N2S)	Boeing	U.S.A.

YUGOSLAVIA

(The Federal Peoples Republic of Yugoslavia)

The Yugoslav Air Force

The Yugoslav Air Force is administered by the Ministry of National Defense through the Army General Staff. Marshal Josip Broz, popularly

known as Marshal Tito is the Minister of National Defense.

A Lieutenant-General is the Commander-in-Chief of the Air Force and the Chief of the Air Force Staff. His headquarters are in Belgrade, and he is responsible to the Chief of the General Staff a Colonel-General.

The Yugoslavian Air Force is similar in organization to the Soviet Air Force.

Equipment

Type	Designation	Manufacturer	Country
Light Bomber	PE-2	Petlyakov	U.S.S.R.
Fighter	IL-2	Ilyushin	U.S.S.R.
	YAK-1, 3, 7, 9	Yakovlev	U.S.S.R.
	Spitfires	Vickers-Armstrongs	G.B.
		Musalo	U.S.S.R.
Transport	LI-2	Douglas	U.S.A.
	Skytrain C-47 (R4D)	Junkers	Germany
	Ju 52	Shcherbakov	U.S.S.R.
	Shche-2	Fieseler	Germany
Trainer	Storch Fi 156C	Yakovlev	U.S.S.R.
	UT-2	Polikarpov	U.S.S.R.
	PO-2	North American	U.S.A.
	Texan T-6 (SNJ)		

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