

Research Notes on the  
Lockheed C56 Lodestar  
Compiled by John Griffin  
Part 1/1

Version 1.0 – 9 May 2026

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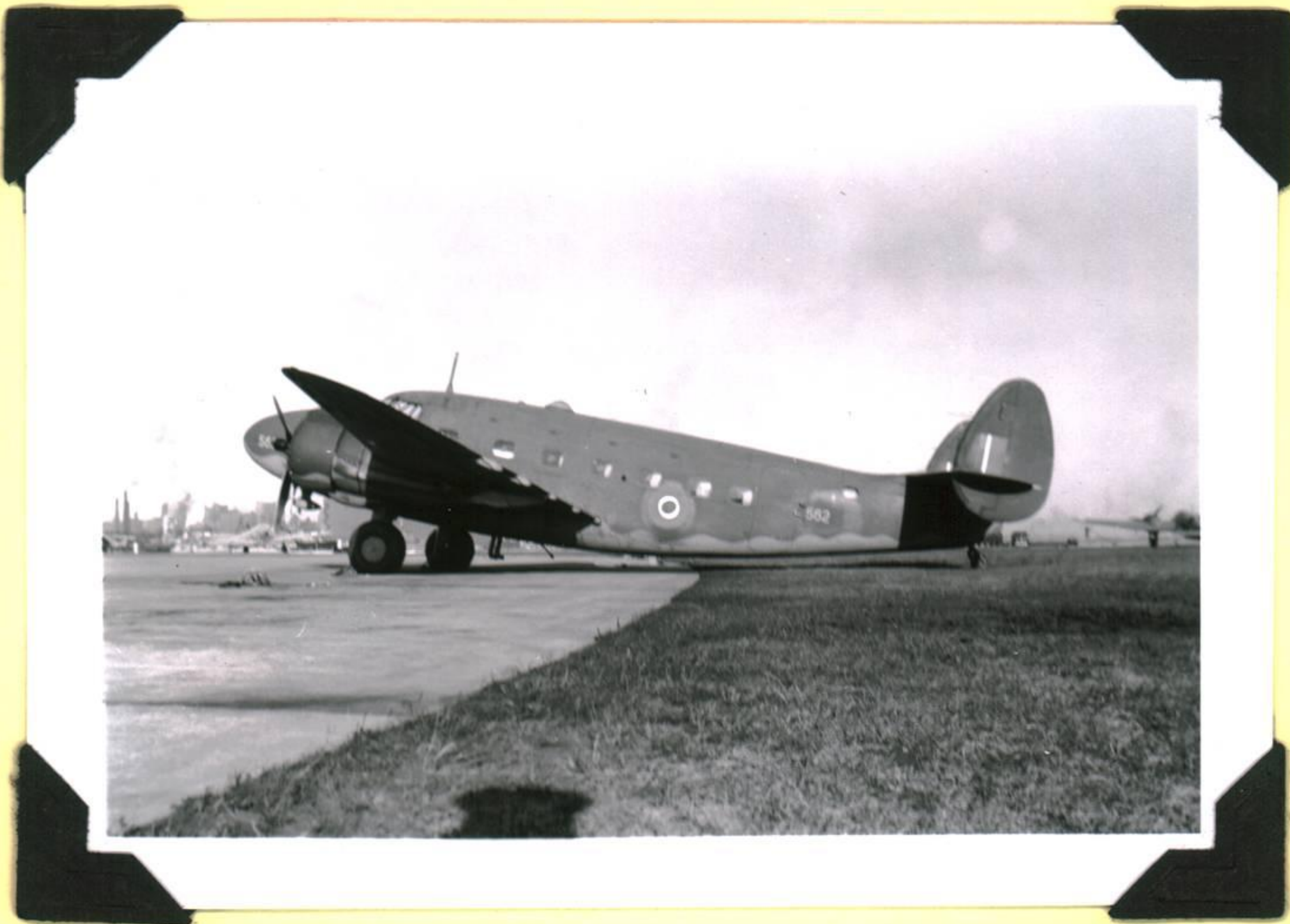
Lockheed  
Aodester

Photo  
J. McNulty



A-26 # 552

2 Nov 1943



A-26 # 562

2 Nov 1943



Lockheed C60 #552

PL 38111

Photo  
J. McNulty



Coastal #554

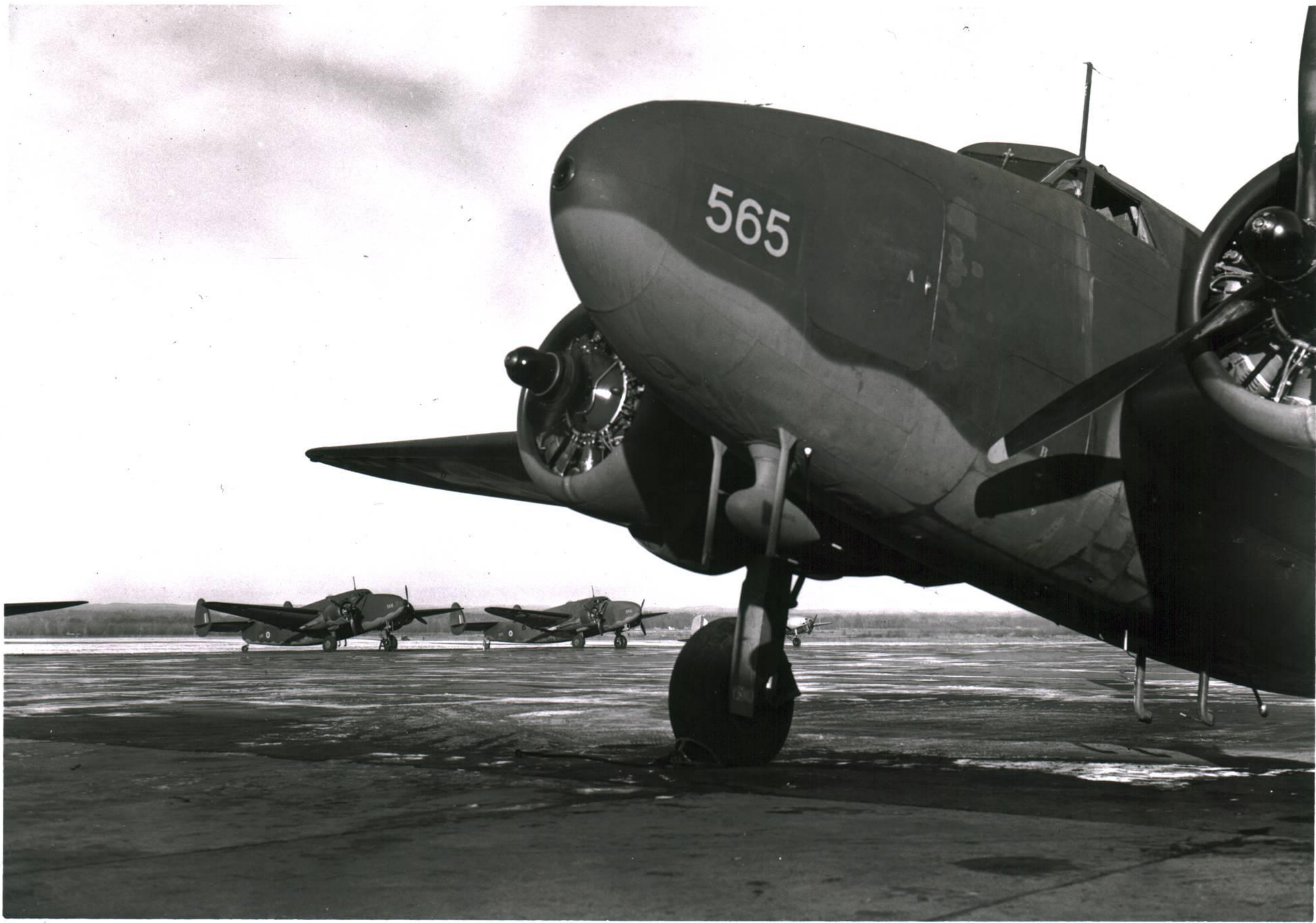
12 Sept 1943

Photo J. McNulty



Lodestar # 556

22 June 1943



Lodestar

# 566

# 565

# 565

PL-23118



# 566

# 565

PL-24356

Photo  
J. McNulty



Lodestar #567

Winnipeg June 1947

Book III

Lodestar #567

RE 641827

LODESTAR



- A - NO 1 BAGGAGE
- B - NO 2 BAGGAGE
- C - NO 3 BAGGAGE
- D - NO 4 BAGGAGE

C.G. Limits - 28% (187.9) to 35% (196.3) M.A.C.  
 Max. Gross Weight (take-off) 21,500 lbs.  
 Max. Gross Weight (Landing) 19,500 lbs.

| ITEM   | WEIGHT | ARM                                    | MOMENT |
|--|--------|--|--------|
| <b>BASIC WEIGHT</b><br>(Includes all fixed and removable equipment except emergency equipment and all fluids except fuel.) |        |  |        |
| <b>CREW</b><br>1st. and 2nd. Pilot<br>1 Radio Operator   |        | 140<br>158                             |        |
| <b>FUEL</b><br>Front Tanks (Cap: 300 U.S. Gals.)<br>Rear Tanks (Cap: 344 U.S. Gals.)                                       |        | 170<br>209                             |        |
| <b>PASSENGERS</b><br>2 wt<br>2 wt<br>2 wt<br>2 wt<br>2 wt<br>2 wt  |        | 216<br>253<br>288<br>326<br>360<br>398 |        |
| <b>EMERGENCY EQUIPMENT</b>   |        |  |        |
| <b>BAGGAGE</b>   |        |  |        |
| <b>TOTAL TAKE OFF WEIGHT AND C.G.</b>  |        |  |        |
| <b>LANDING WEIGHT AND C.G. (NO FUEL)</b>   |        |  |        |

BK-

RCAF 11910

## THE LOCKHEED C-56 LODESTAR

**Manufacturers:** The Lockheed Aircraft Corporation, Burbank, California.

**Purpose:** Personnel and executive transport monoplane for U.S. Army and U.S. Navy. Crew of three and fourteen passengers.

**Power Plant:** (C-56)—Two Pratt and Whitney Twin Wasp S1C3-G air-cooled radial motors. Maximum level power (each), 1,050 h.p. at 2,550 r.p.m. at 7,500 ft. Cruising rating, 700 h.p. at 2,250 r.p.m. at 15,000 ft. Take-off, 1,200 h.p. at sea level. (C-57)—Two Pratt and Whitney Twin Wasp S4C4-G air-cooled radial motors. Maximum level power (each), 1,050 h.p. at 2,550 r.p.m. at 7,500 ft. (low blower); 900 h.p. at 2,550 r.p.m. at 15,400 ft. Cruising output, 700 h.p. at 2,250 r.p.m. at 17,000 ft. (low blower); 650 h.p. at 2,250 r.p.m. at 19,200 ft. (high blower). Take-off, 1,200 h.p. at 2,700 r.p.m. at sea level. (C-60 and R50-1)—Two Wright Cyclone R-1820-G-205A air-cooled radial motors. Maximum level power (each), 1,000 h.p. at 2,300 r.p.m. at 4,500 ft. Cruising output, 900 h.p. at 14,000 ft. Take-off, 1,200 h.p. at 2,500 r.p.m. at sea level.

**Construction:** Wings—All-metal structure in three main sections comprised of centre-section which passes through fuselage and two outer panels. Single main girder spar and an auxiliary spar in C/S and single main plate spar with auxiliary spar in outer panels. Aluminium alloy flush-riveted stressed-skin covering. Fabric-covered ailerons. Fowler-type flaps. Letter-box type slots.

Fuselage—All-metal monocoque structure with stressed-skin covering. Tail unit—All-metal cantilever structure with twin fins and rudders. Metal-covered fixed surfaces and fabric-covered movable surfaces. Undercarriage—Backwards-retracting type, main wheels being partially exposed in nacelles. Fixed tailwheel. Low-pressure tyres. Hydraulic actuation. Hamilton Standard Hydromatic three-blade metal constant-speed fully-feathering airscrews.

**Dimensions:** Span, 65 ft. 6 ins. Length, 49 ft. 9½ ins. Height, 11 ft. 10½ ins.

**Areas:** Wings, 551 sq. ft.

**Weights:** (C-56)—Empty, 12,070 lb. Loaded, 17,500 lb. (C-57)—Empty, 12,195 lb. Loaded, 17,500 lb. Overload, 18,500 lb. (C-60 and R50-1)—Empty, 11,790 lb. Loaded, 17,500 lb. Overload, 18,500 lb.

**Performance:** (C-56)—Maximum level speed, 265 m.p.h. at 13,300 ft.; operating speed, 244 m.p.h. at 16,300 ft. Climb, 1,600 ft./min. Service ceiling, 25,400 ft. Range at operating speed, 1,700 miles. (C-57)—Maximum level speed, 277 m.p.h. at 16,700 ft.; operating speed, 251 m.p.h. at 19,000 ft. Climb, 2,010 ft./min. Service ceiling, 28,000 ft. Range at operating speed, 1,700 miles. (C-60 and R50-1)—Maximum level speed, 272 m.p.h. at 15,300 ft. Operating speed, 251 m.p.h. at 19,000 ft. Climb, 1,950 ft./min. Service ceiling, 27,200 ft. Range at operating speed, 1,890 miles.

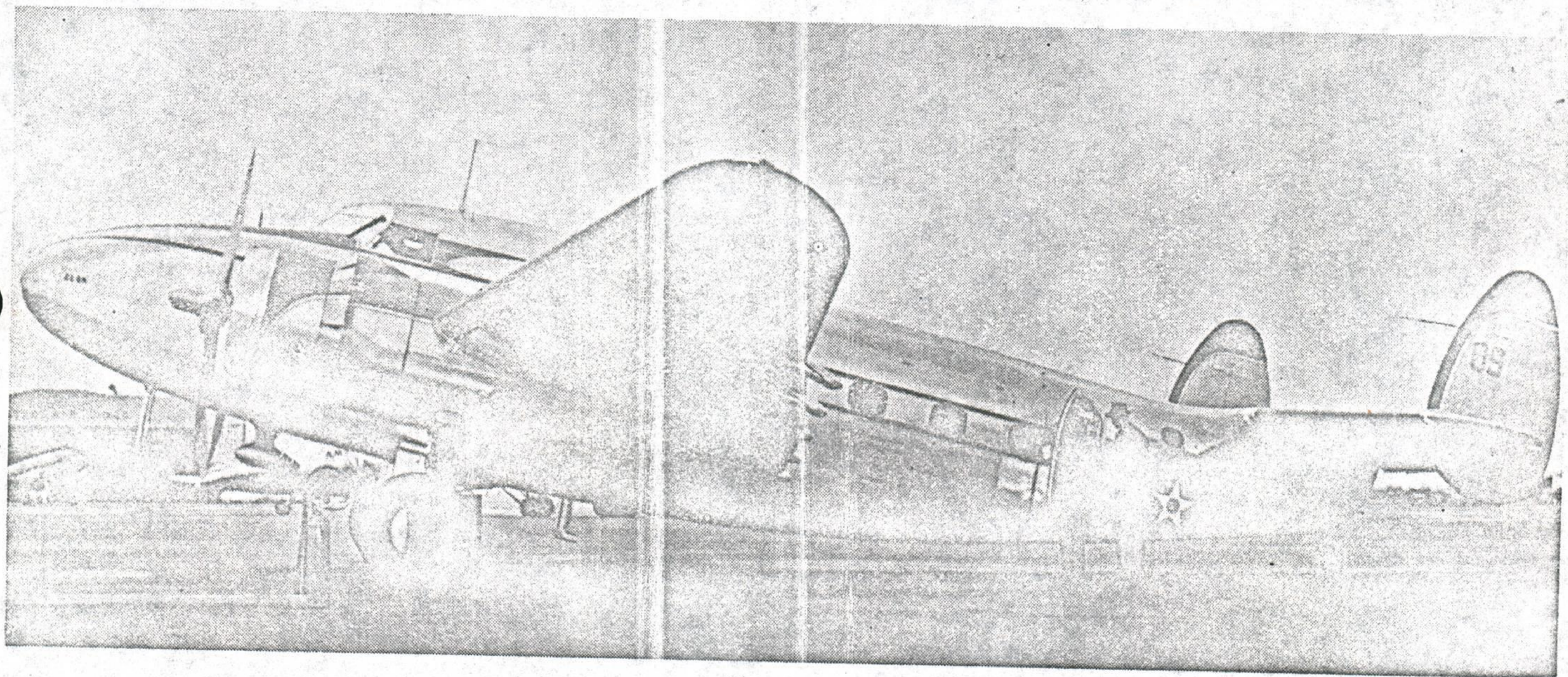


Photo by courtesy of the Lockheed Aircraft Corporation

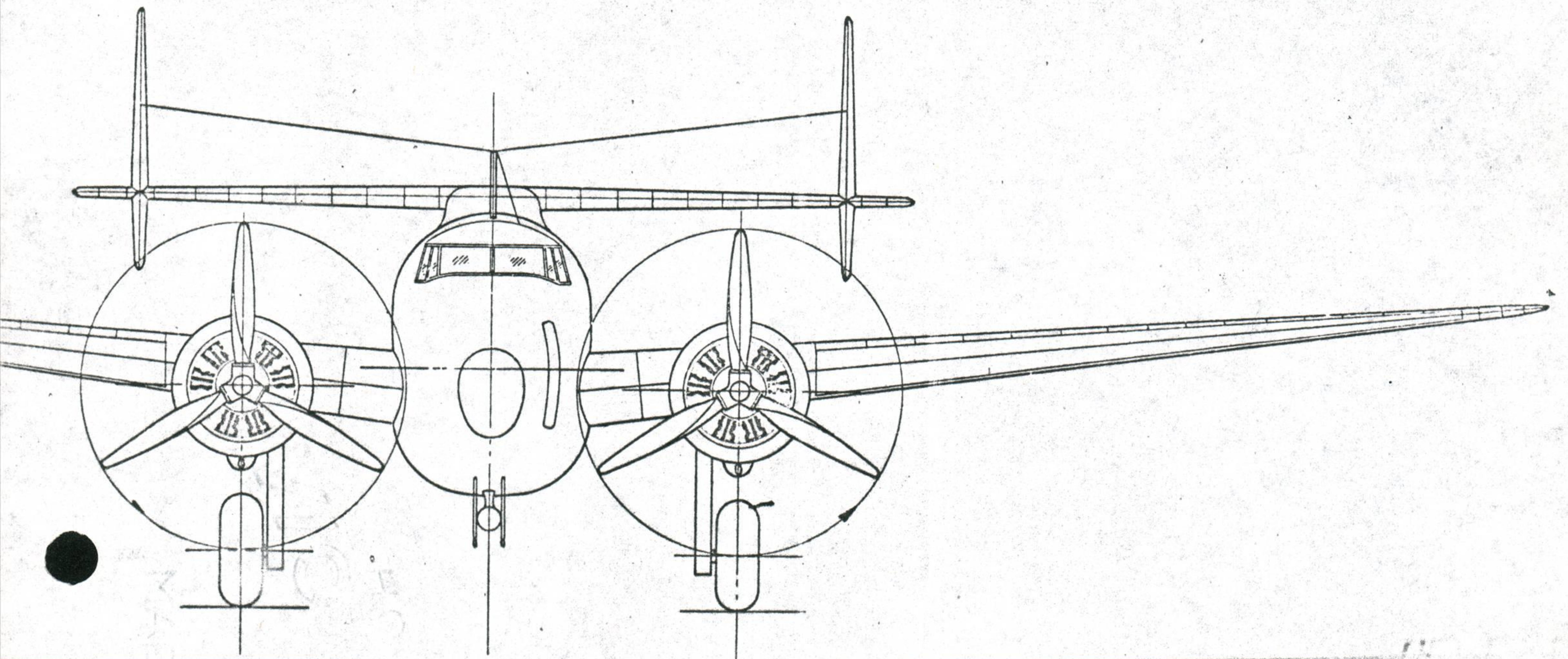
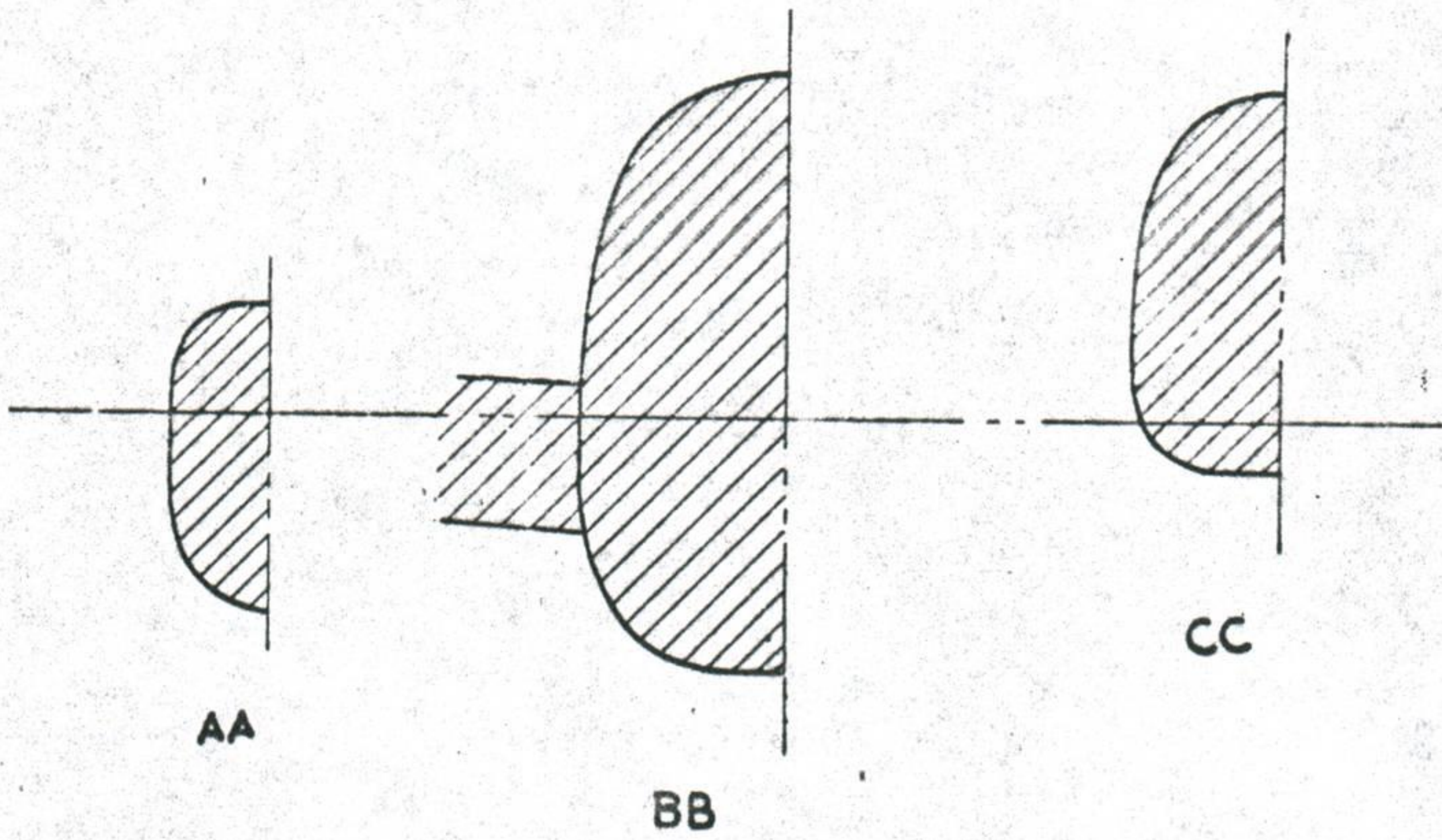
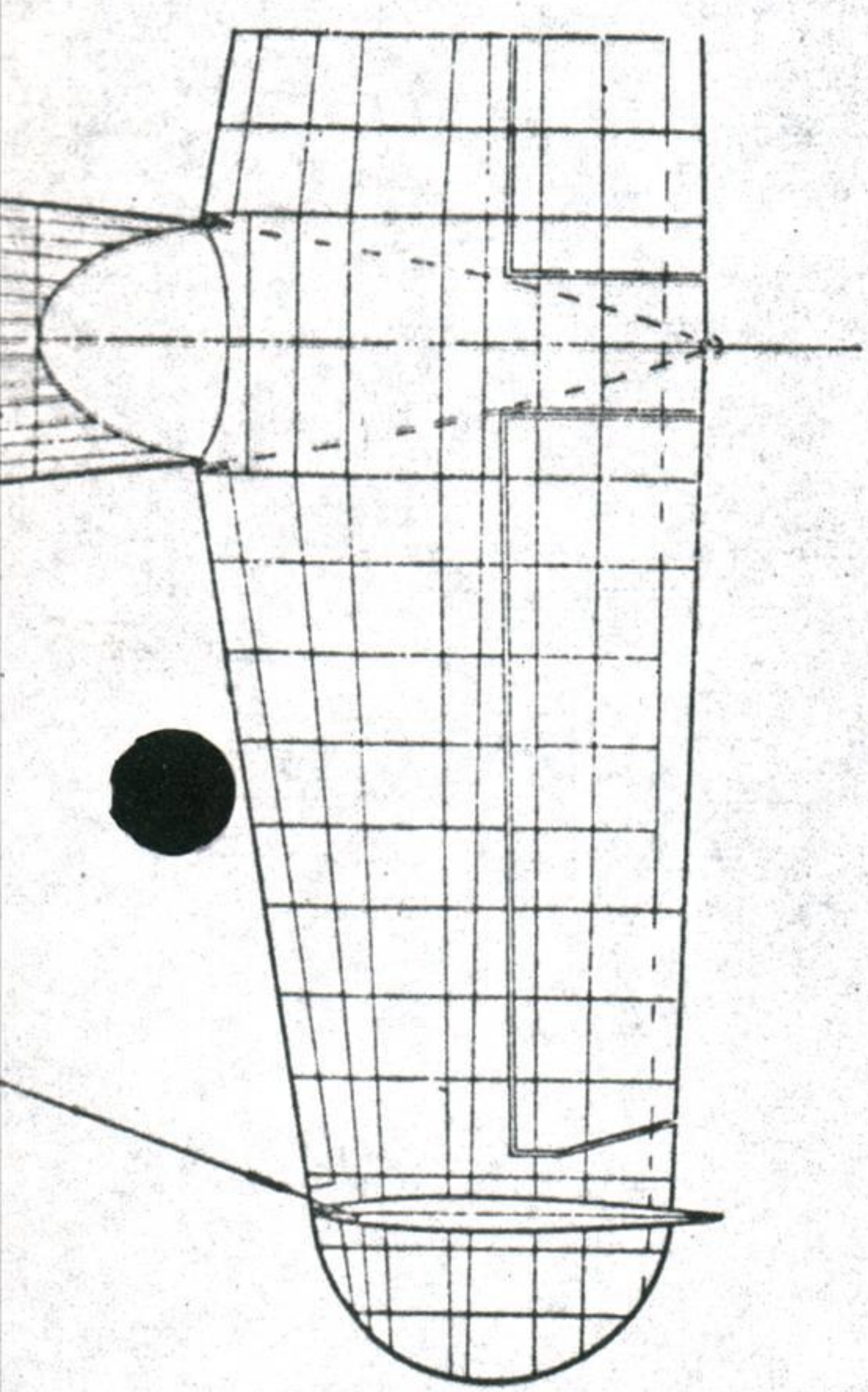
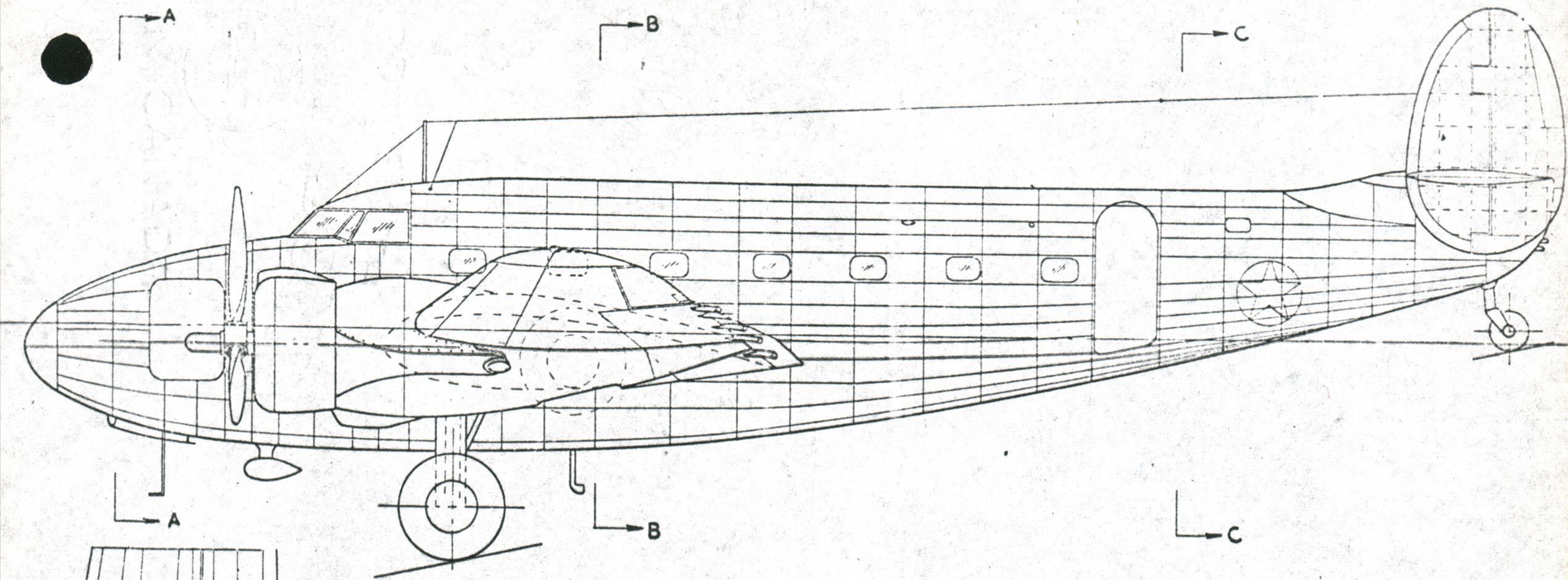
Successor of the Lockheed 14 Super-Electra and the machine from which the Vega Ventura bomber was developed, the Lodestar airliner first appeared in 1940. It was used by many American airlines and proved to be as successful as the earlier Lockheed transports of which it was the culmination. All the experience gained with the Electra and Super-Electra was embodied in the Lodestar, and although the external appearance remained much the same many improvements were carried out. Apart from the new motor installations, the Lodestar differed from the Model 14 in having a longer fuselage and revised wing panels. A double-taper was incorporated on the trailing-edges of the wings and the fuselage was increased in length. The first Lodestar had a lower-set tailplane than on production versions which have the tailplane raised about one foot from the original location.

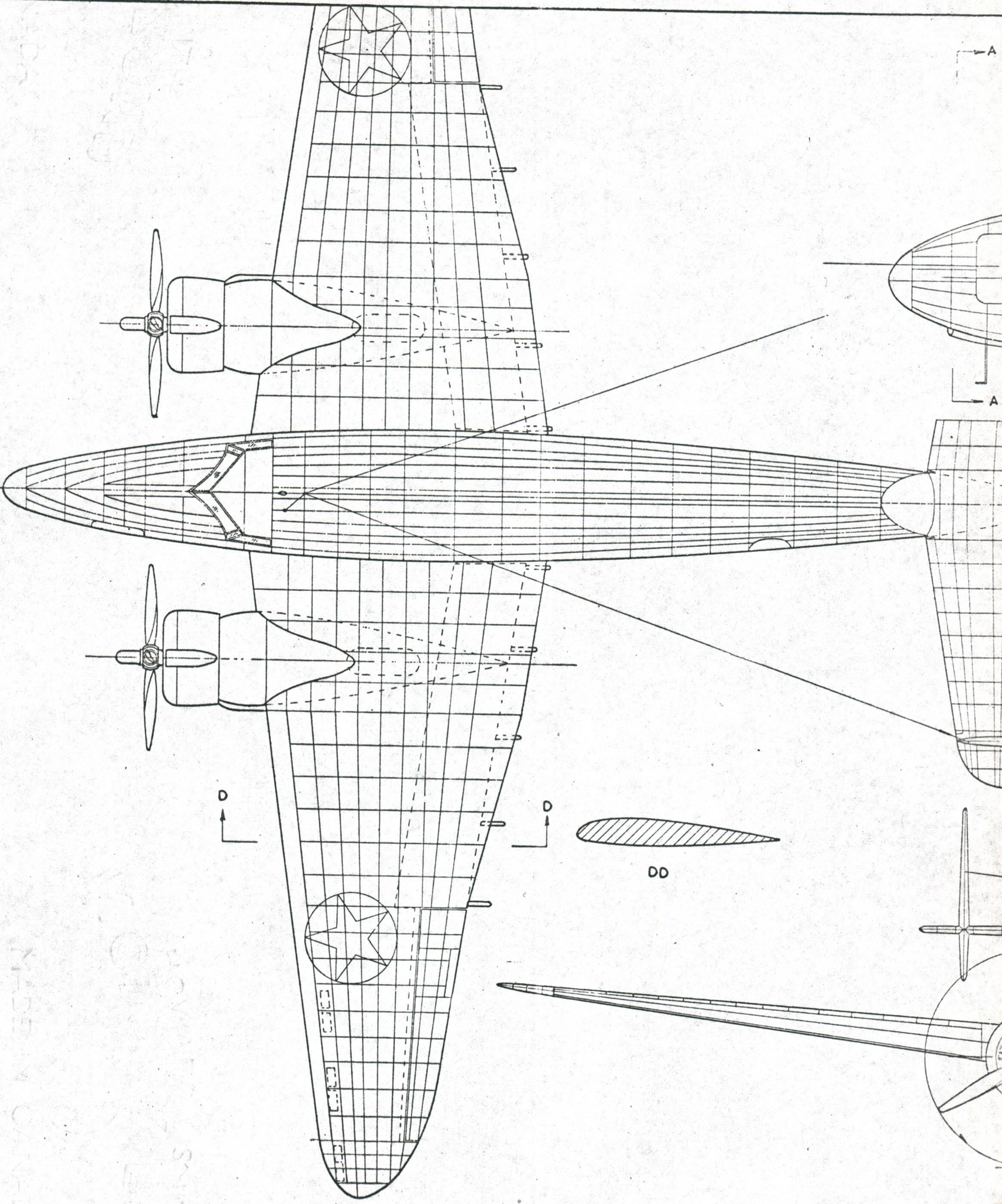
British Airways ordered eight Lodestars for trans-African routes and they were shipped direct to Africa. South African Airways have taken delivery of sixteen. The South African Lodestars are fitted with S4C4-G motors, and are used as air ambulances at the battle front.

The Lodestar was the obvious type to be chosen for U.S. Army and Navy transport duties and several different versions are in service. The R50-1 is the U.S. Navy personnel transport version and is more or less identical with the U.S.

Army C-56. There are five Army cargo versions of the Lodestar designated C-56, C-57, C-58, C-59 and C-60 respectively. All have the same airframe; the differences lie in the type of motor fitted and in the internal accommodation. The C-56 is fitted out as a special executive transport for high officers, with map tables and reduced accommodation. The C-57 has accommodation for fourteen. The C-56 is the Lockheed Model 18-08, and is fitted with Twin Wasp SC3-G motors. The C-57 is the Lockheed Model 18-14, and has Twin Wasp S4C4-G motors. Two Cyclone single-row G-102A motors are installed in the C-58, which is the Lockheed Model 18-40 and two Cyclone G-202A motors in the C-59, the Lockheed 18-50. The last of the series, the C-60, is powered with Cyclone G-205A motors, and is the Lockheed Company's Model 18-56. None of the military versions have the Pratt and Whitney Hornet S1E3-G motors, which were fitted in the Model 18-07 airliners.

Army Lodestars are drab-camouflaged and have regulation national markings. The Navy R50-1s are mostly left aluminium all over. A British Airways Lodestar is registered G-AGBT, which letters are carried in silver against temperate land camouflage. The letters are underlined on the wings by red, white and blue stripes on the lower surfaces, and red and blue stripes on upper surfaces. Red, white and blue stripes underline the fuselage letters.





LOCKHEED C-56 LODESTAR.

# Lockheed 14 Transport



## A New Fourteen-place Monoplane Transport of the Mid-wing Type

● Lockheed's largest project to date, an all-metal mid-wing transport for eleven passengers and a crew of three is scheduled to make its initial flight tests at Burbank, California in the near future.

The new model, known as the Lockheed 14, is constructed principally of Alclad 24S-T around a monocoque fuselage and single-spar, skin-stressed wing, following Lockheed practice. Liberal use is also made of duralumin forgings and Alclad 24S-RT. The twin rudder and fin arrangement, familiarly associated with the Lockheed Electra and Lockheed 12, also is retained in this new design.

Innovations include commercial adoption of integral fuel tanks (now used on several military planes) and utilization of all-metal Lockheed-Fowler wing flaps, electrically-operated. Use of the integral fuel tanks eliminates excessive weight and decreases chances of fuel tank difficulties inasmuch as the walls of the wing form the upper and lower surfaces of the tank. The new-type flaps offer twice as much lift as standard flaps and can be used at the take-off as well as for landing. Take-off run with these flaps is 18% less than ordinarily required.

Sufficient room has been provided in the cabin to assure comfort for passengers. The head-room is 6'-3" and a wide aisle separates two rows of seats. Other cabin measurements are—maximum width 65.5" and length 19'. Passenger chairs are deeply upholstered, have adjustable reclining backs, and are rotatable. Each seat is adjacent to a window, individual reading light, ash tray, call button and an air duct. Further attention to passenger comfort is evidenced in soundproofing, thermostatically-controlled heating system, and a fully-equipped, heated and ventilated lavatory. The conventional overhead rack for wraps and small packages is provided.

The wing is built in three sections—a center section and two outer panels. The center section is cut away at the fuselage permitting it to be placed partly within the wing, thus providing small frontal area. The airfoil section is the latest NACA type similar to that used in the Lockheed 12.

Baggage compartments are close to the center of gravity giving a centralized distribution of load, improved flying qualities and elimination of use of ladders

and loading wagons. About 64 cu. ft. of baggage space is available in the front and rear lower compartments, and 124 cu. ft. in the front and rear nose compartments, giving a total of 190 cu. ft. for cargo.

The tail group is all-metal with two non-adjustable fins and two dynamically balanced rudders provided with controllable tabs. The stabilizer is non-adjustable and the elevator is statically and dynamically balanced as well as equipped with a pair of tabs.

Retraction of the landing gear is by electrical means with a hand mechanism as auxiliary equipment. Goodyear wheels and tires, pneumatic shock struts, hydraulic brakes and a parking brake system are provided.

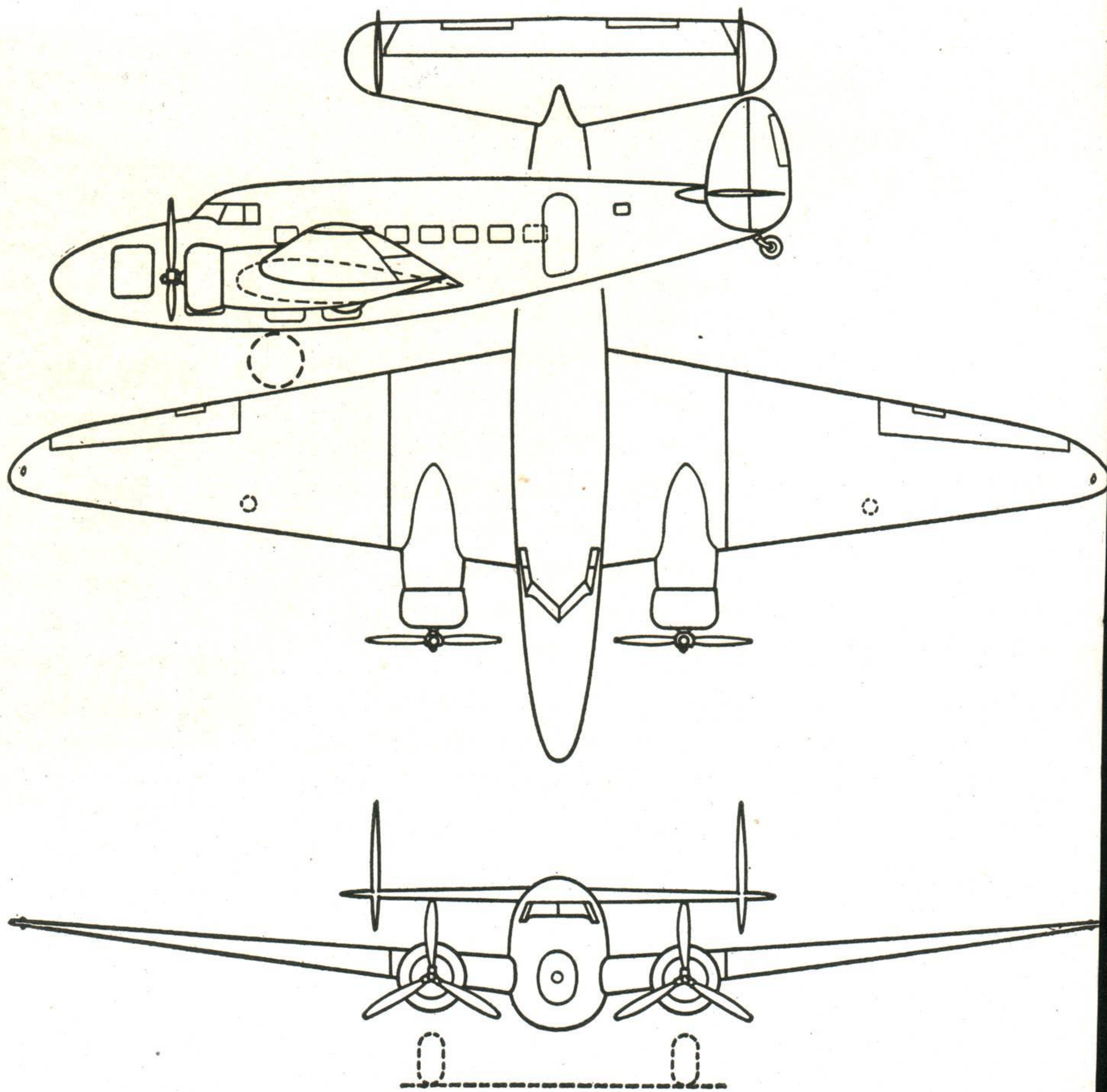
Low-drag, bell-shaped NACA engine cowlings enclose the two Wright Cyclone

J. Bailey 228  
GR-1820G-3 engines, each of which provides 840 hp at 2100 rpm up to 8700 ft. for maximum continuous operation. Each engine is equipped with a Hamilton Standard metal constant speed propeller, pressure type cylinder cooling baffles, and stainless steel exhaust collector ring. Mounting is in rubber on Lord units.

The plane is expected to attain a maximum speed of 265 mph and a cruising speed of 240 mph. Take off time is 11 sec., after a run of 610 ft. With full load the transport will climb to an absolute ceiling of about 28,000 feet. and will operate, with one engine, at 14,000 ft.

Specifications and estimated performance data on the Lockheed with 840 hp Wright Cyclone GR-1820G-3 engines are as follows:

|                   | English                   | Metric                   |
|-------------------|---------------------------|--------------------------|
| Wing span         | 65'6"                     | 19.95 m                  |
| Length            | 44'2.5"                   | 13.40 m                  |
| Height            | 11'5.5"                   | 3.49 m                   |
| Wing area         | 551 ft <sup>2</sup>       | 51.20 m <sup>2</sup>     |
| Power loading     | 8.93 lbs./hp              | 4.05 kg./hp              |
| Wing loading      | 27.2 lbs./ft <sup>2</sup> | 132.5 kg./m <sup>2</sup> |
| Empty weight      | 9685 lbs.                 | 4390 kg                  |
| Useful load       | 5315 lbs.                 | 2412 kg                  |
| Gross weight      | 15,000 lbs.               | 6802 kg                  |
| Baggage allowance | 340 lbs.                  | 154 kg                   |
| Fuel              | 460 gals.                 | 1740 lit                 |
| Oil               | 29 gals.                  | 110 lit                  |
| Maximum speed     | 265 mph                   | 426 kph                  |
| Cruising speed    | 240 mph                   | 386 kph                  |
| Landing speed     | 65 mph                    | 105 kph                  |
| Service ceiling   | 26,300 ft.                | 8020 m                   |
| Climb per minute  | 1700 ft.                  | 518 m                    |
| Cruising range    | 1000 mi.                  | 1608 km                  |



Outlines of the new fourteen-place Lockheed 14 transport

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to go in  
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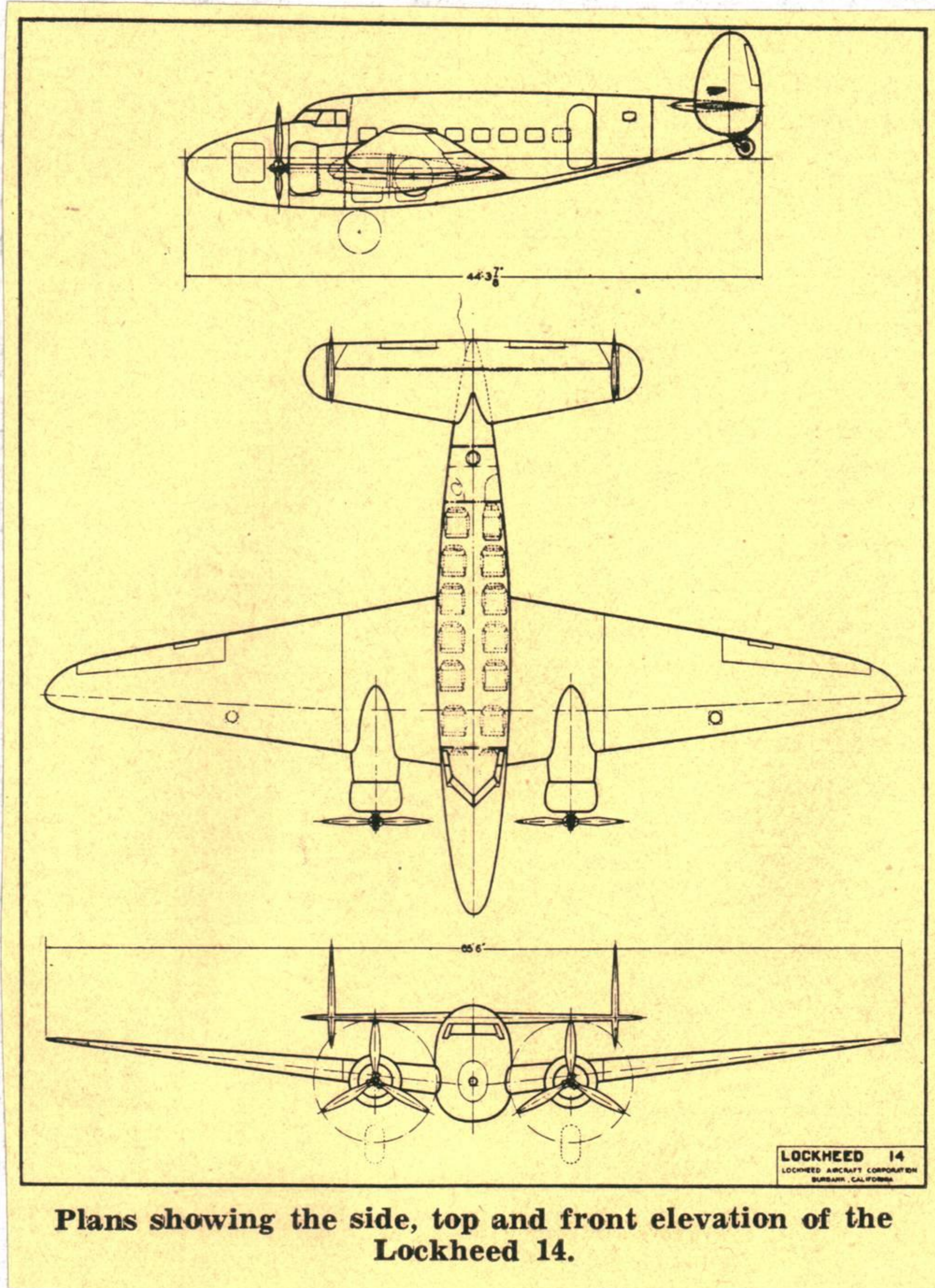
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| <input type="checkbox"/> Transport (or) L. C. Pilot  | <input type="checkbox"/> Airline Mechanic  | <input type="checkbox"/> Practical Aeronautical Engineering<br>(2 years pre-engineering required) |
| <input type="checkbox"/> Private (or) Amateur Pilot  | <input type="checkbox"/> Aircraft Sheet Metal  | <input type="checkbox"/> Home Study Courses<br>(for those in the industry)                        |
| <input type="checkbox"/> Non-scheduled Inst. Rating  | <input type="checkbox"/> Airline Technician (for engineering graduates only)         |   |
| <input type="checkbox"/> Airline Dispatching & Meteorology<br>(for engineering graduates only) | <input type="checkbox"/> Special Airline Pilot<br>(for Transp. Pilots with 400 hrs.) |   |

Name \_\_\_\_\_ Age \_\_\_\_\_

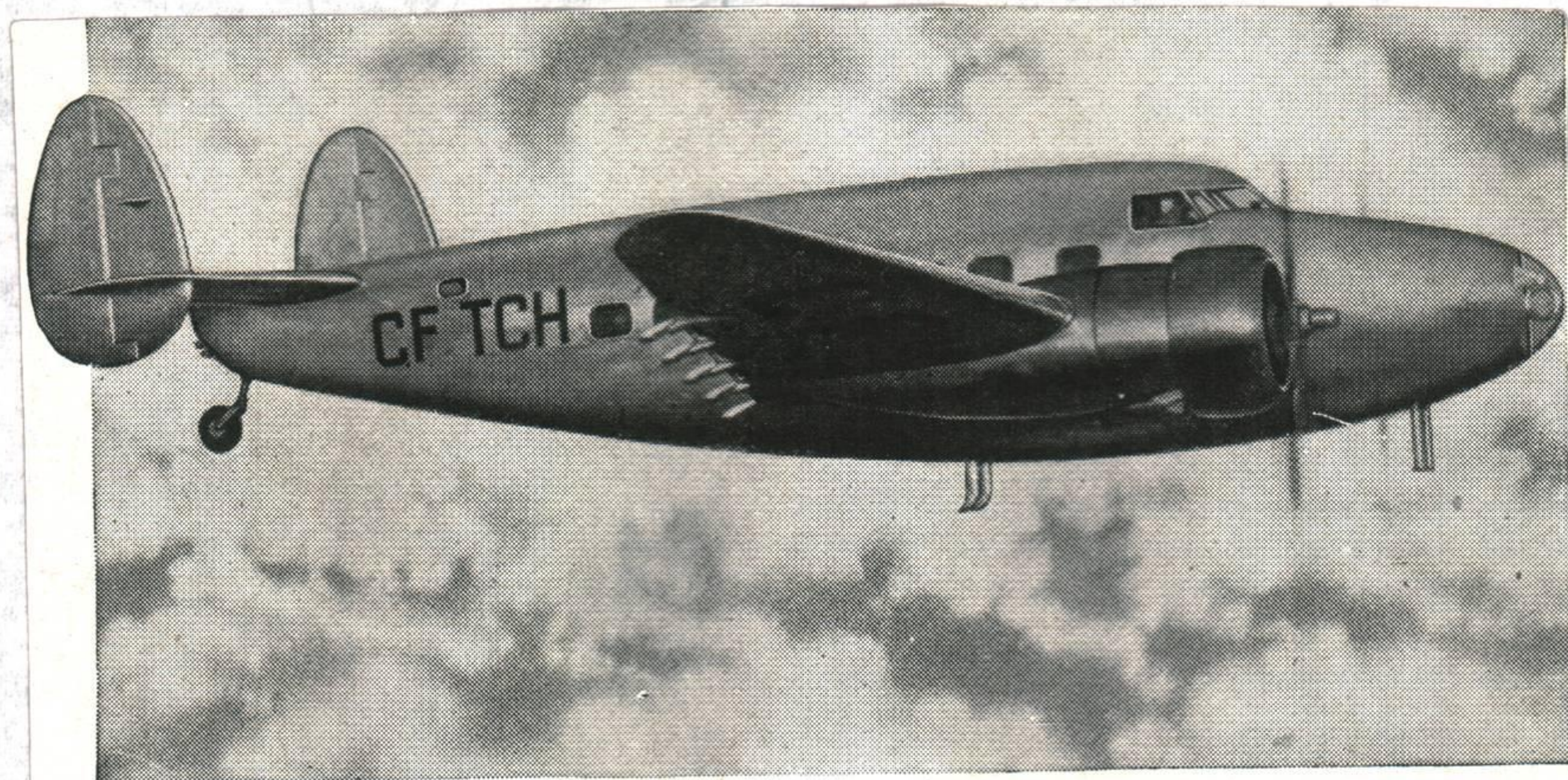
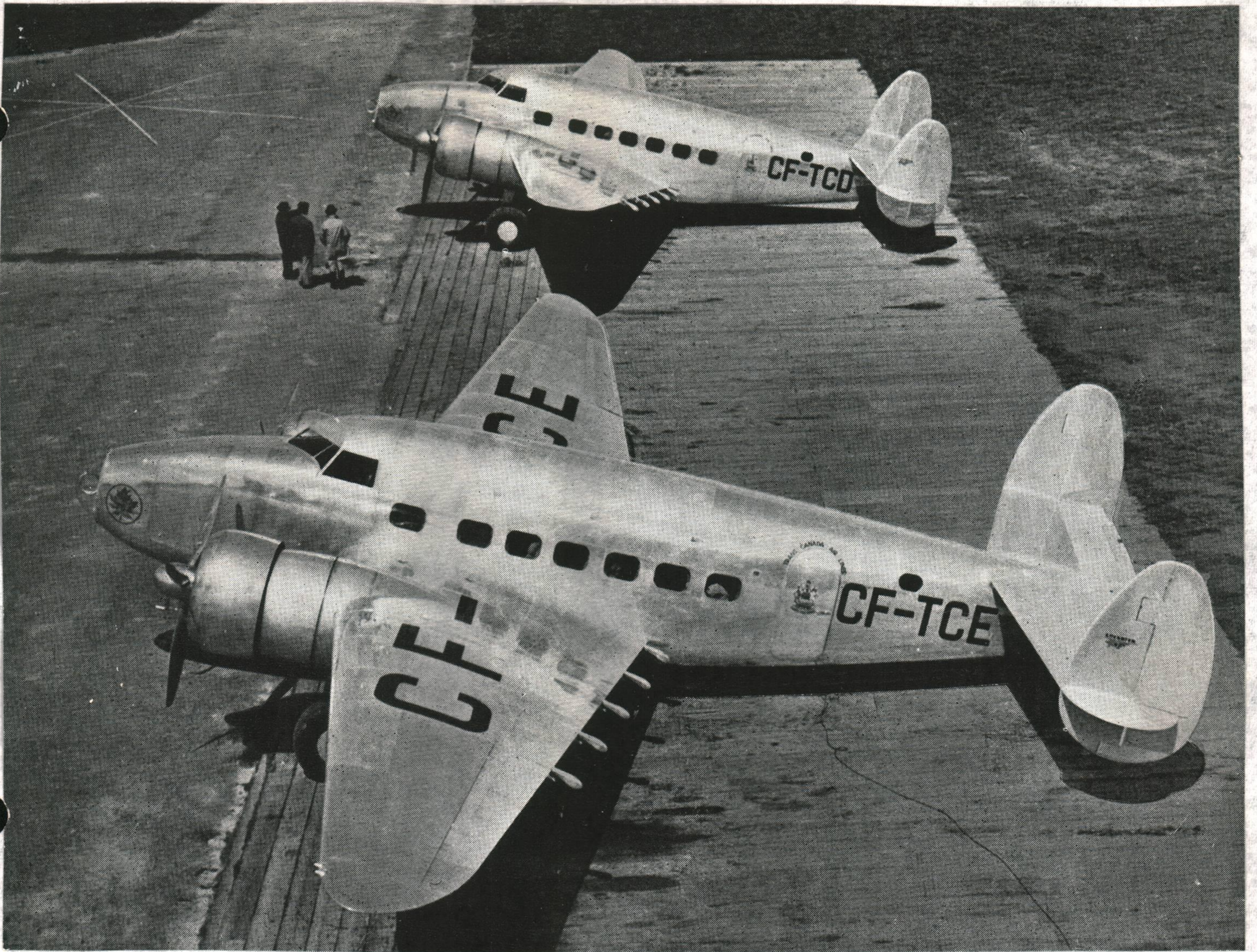
Address \_\_\_\_\_ Years in High School \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Years in College \_\_\_\_\_



Plans showing the side, top and front elevation of the Lockheed 14.

LOCKHEED 14

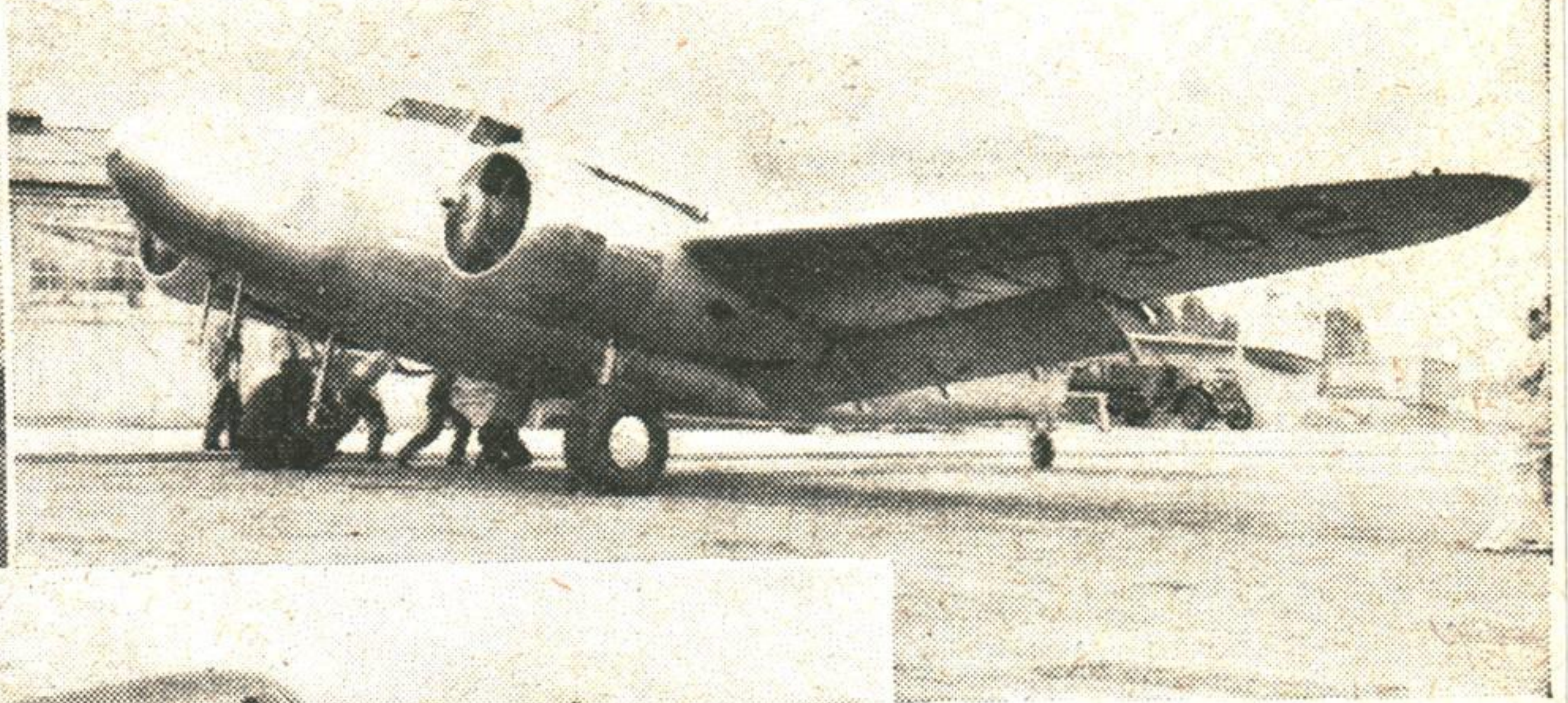
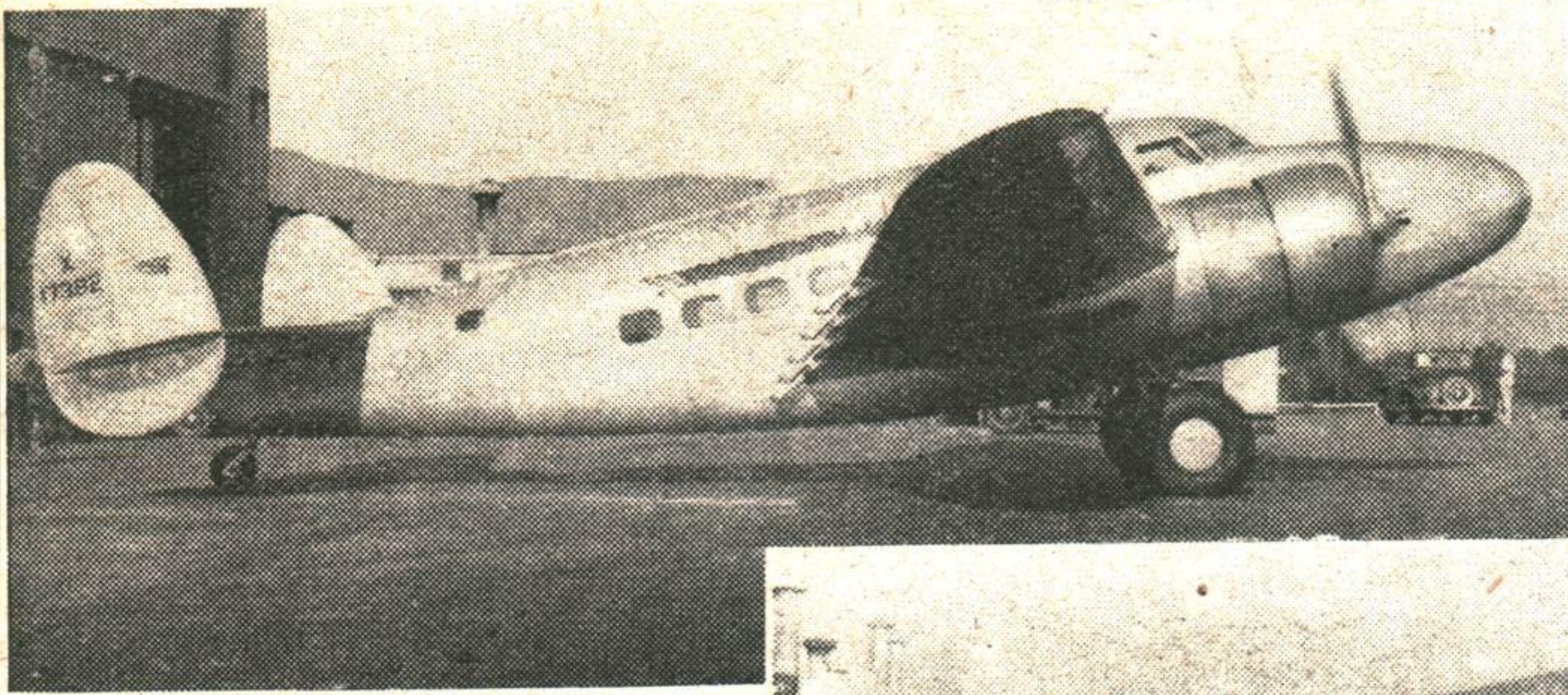


*Lockheed planes operating on Trans-Canada Air Lines service are equipped with manifolds of "Inconel".*



*Top to bottom: A Hurricane of the Advanced Air Striking Force in France, 1940; a Morane Saulnier 406C1 of the French Air Force during the same period; a Blenheim IV in standard R.A.F. day bomber markings of 1940-41 and a Lockheed Lodestar of B.O.A.C. in the recommended camouflage for civil aircraft.*

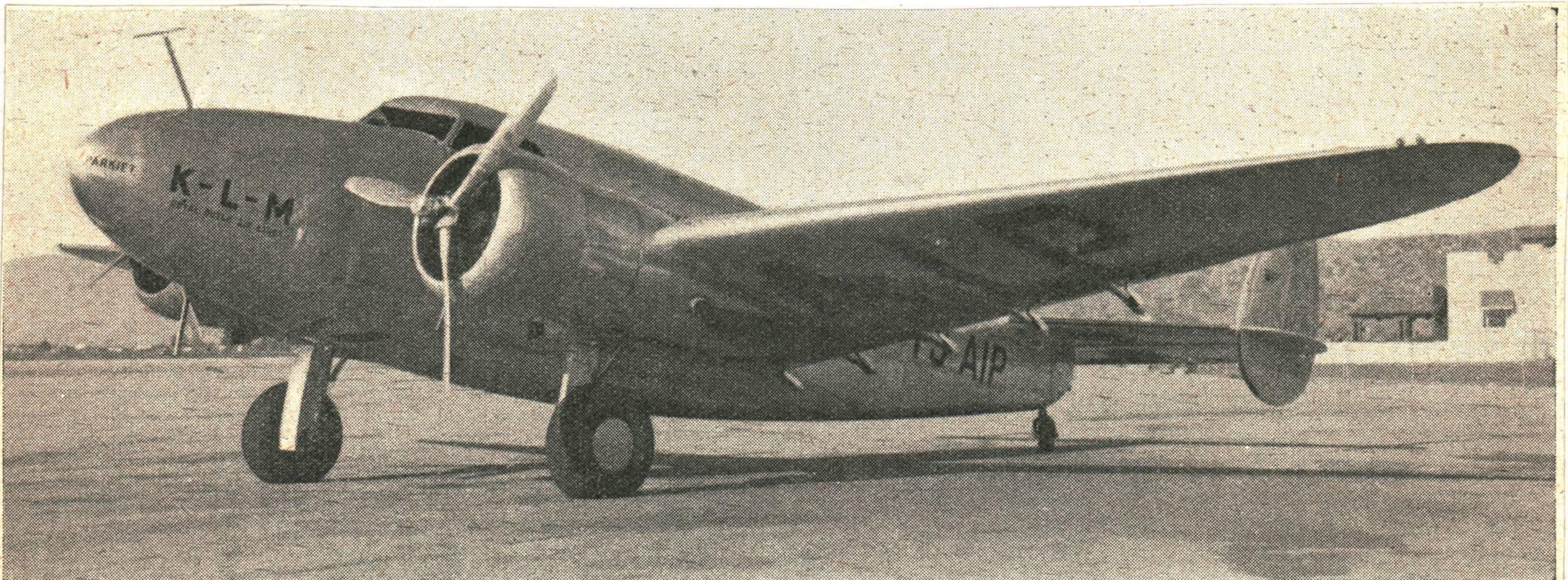
# COMMERCIAL AVIATION



**FOWLER-FLAPPED:** The first photographs of the new Lockheed 14, or Super-Electra, transport. It will be noted that although this machine bears the "X" licence markings it carries the insignia of Northwest Airlines.



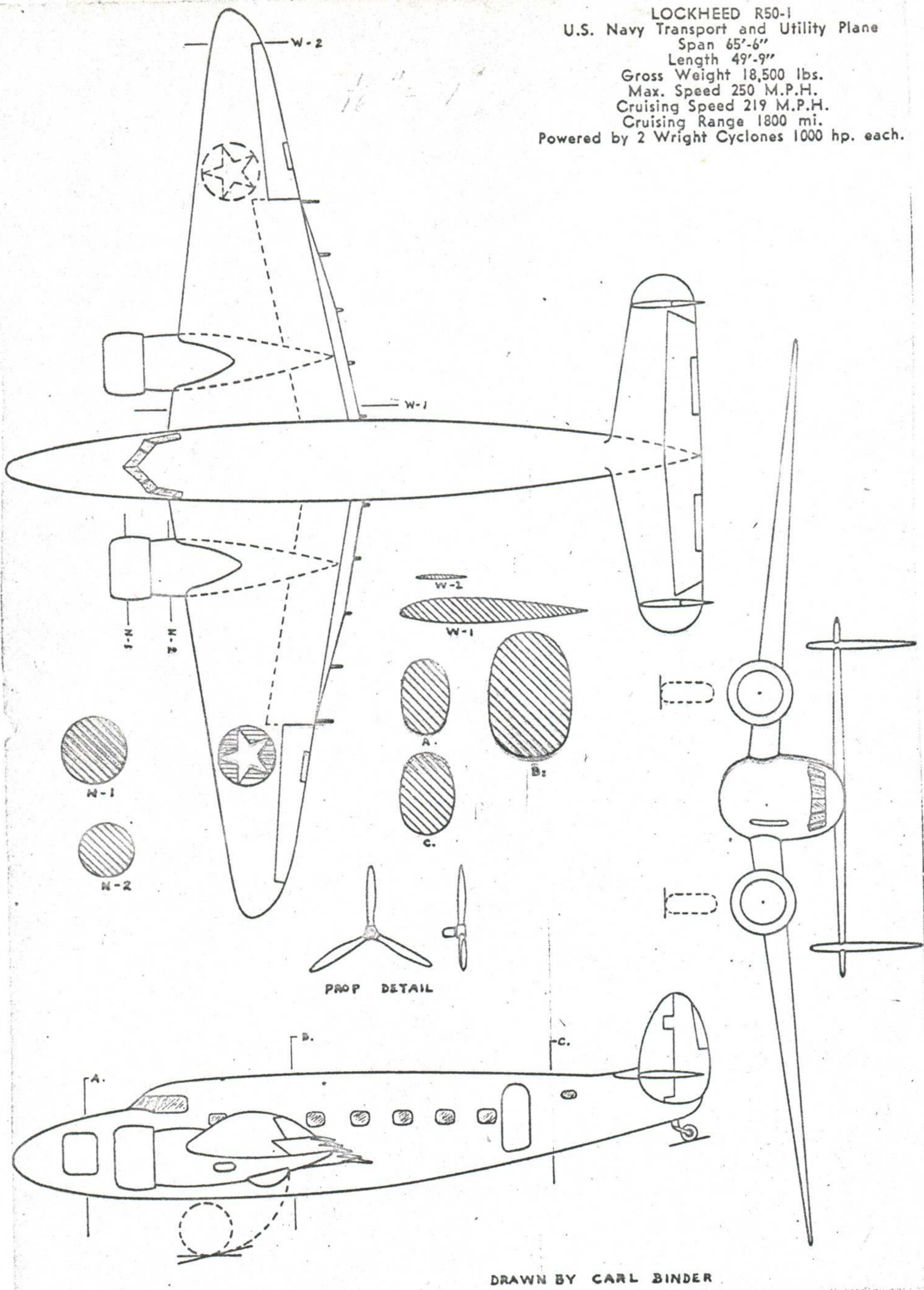
Points of technical interest include the Fowler flaps, the shape of the fuselage (in particular the nose) and the tail unit, the latter of a type which has given such encouraging results on the Electra and "12."



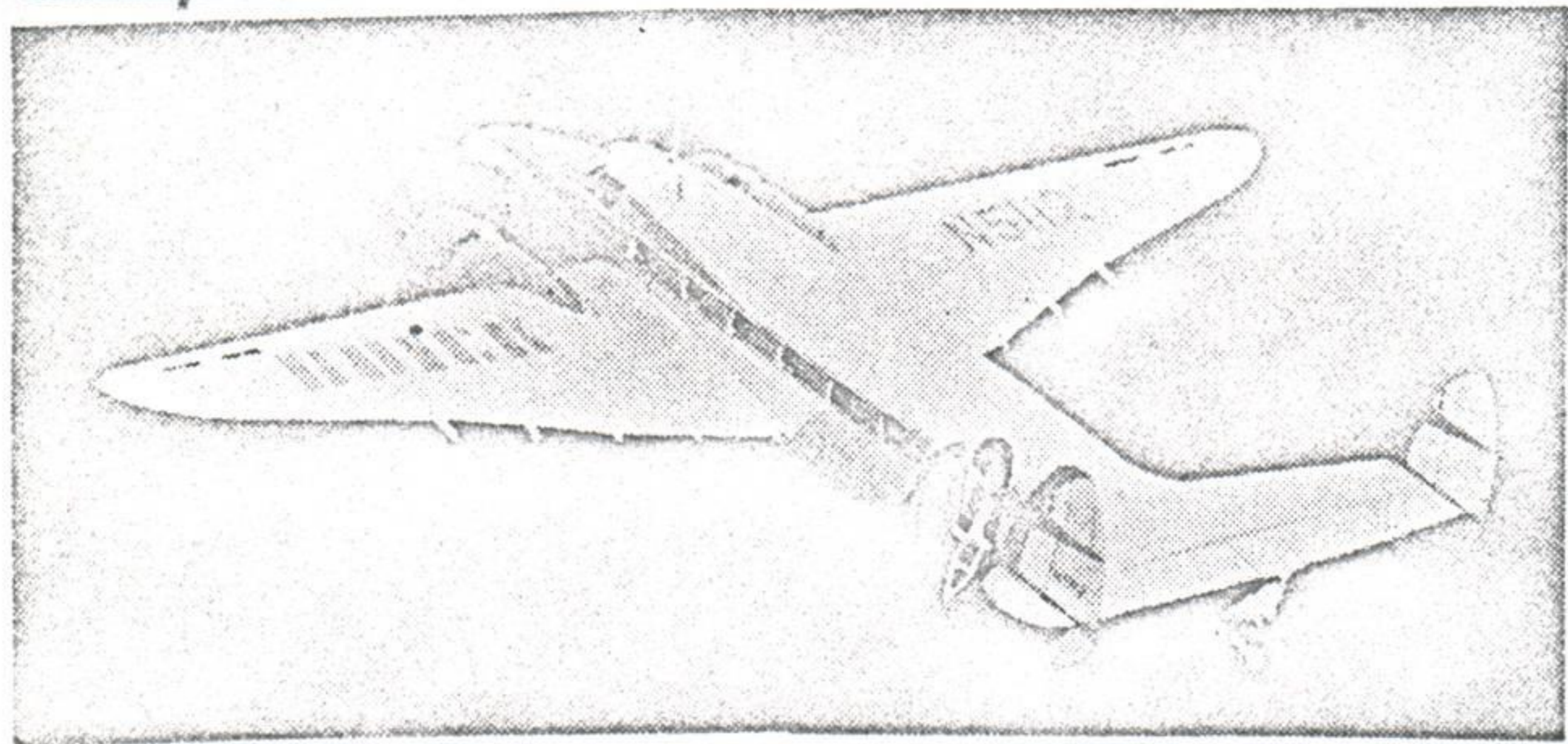
**CYCLONE-POWERED "FOURTEEN":** The first Lockheed 14 transport for the Royal Dutch Air Lines. This model has Wright Cyclone G engines (850/1,000 h.p.) which, it is estimated, should give it a top speed of over 265 m.p.h. Machines of this type will be used on K.L.M.'s West Indian services, and this particular 14 has recently been flown to Curaçao by Cdr. Geisendorffer.

LOCKHEED R50-1 LODESTAR

LOCKHEED R50-1  
U.S. Navy Transport and Utility Plane  
Span 65'-6"  
Length 49'-9"  
Gross Weight 18,500 lbs.  
Max. Speed 250 M.P.H.  
Cruising Speed 219 M.P.H.  
Cruising Range 1800 mi.  
Powered by 2 Wright Cyclones 1000 hp. each.

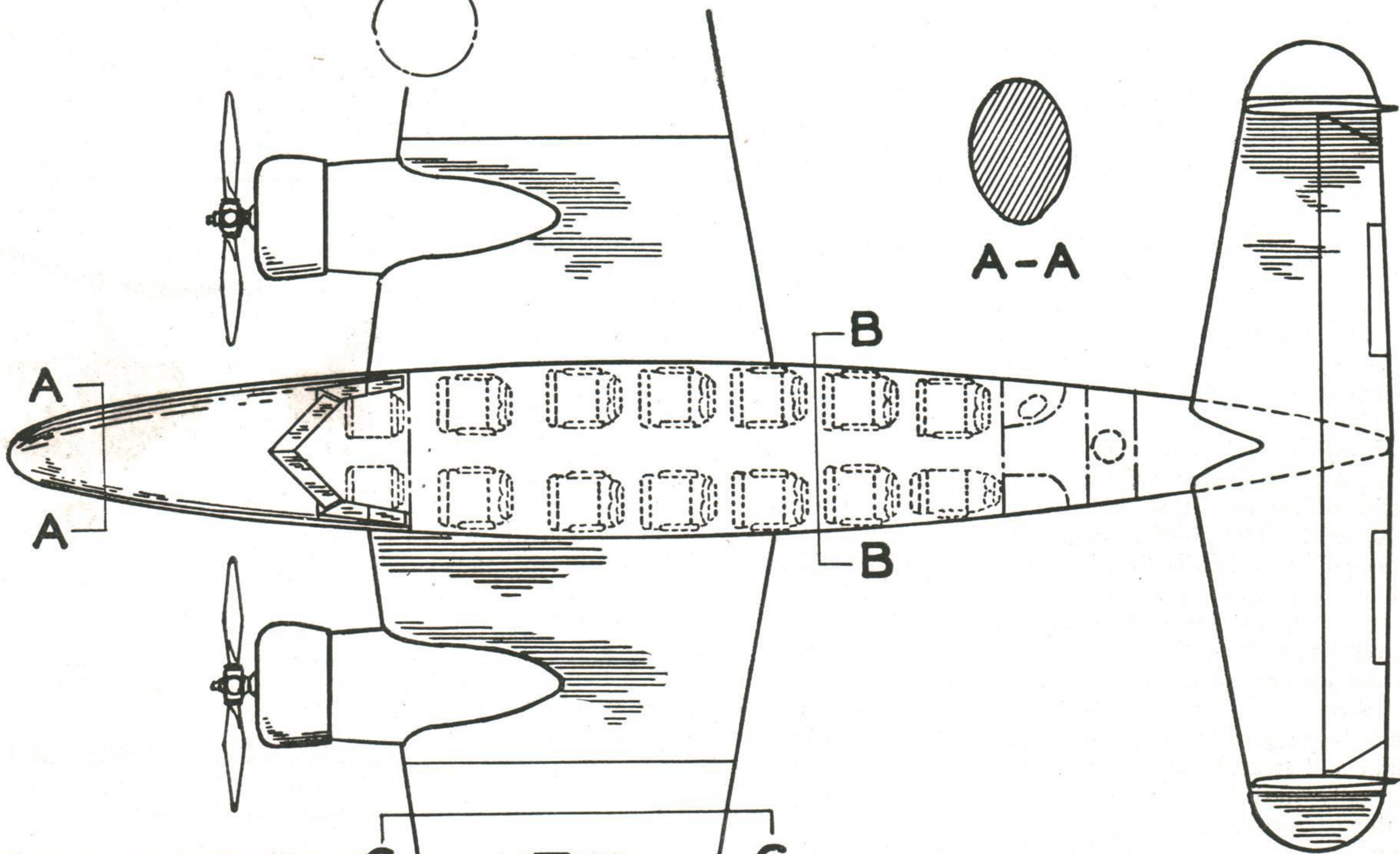
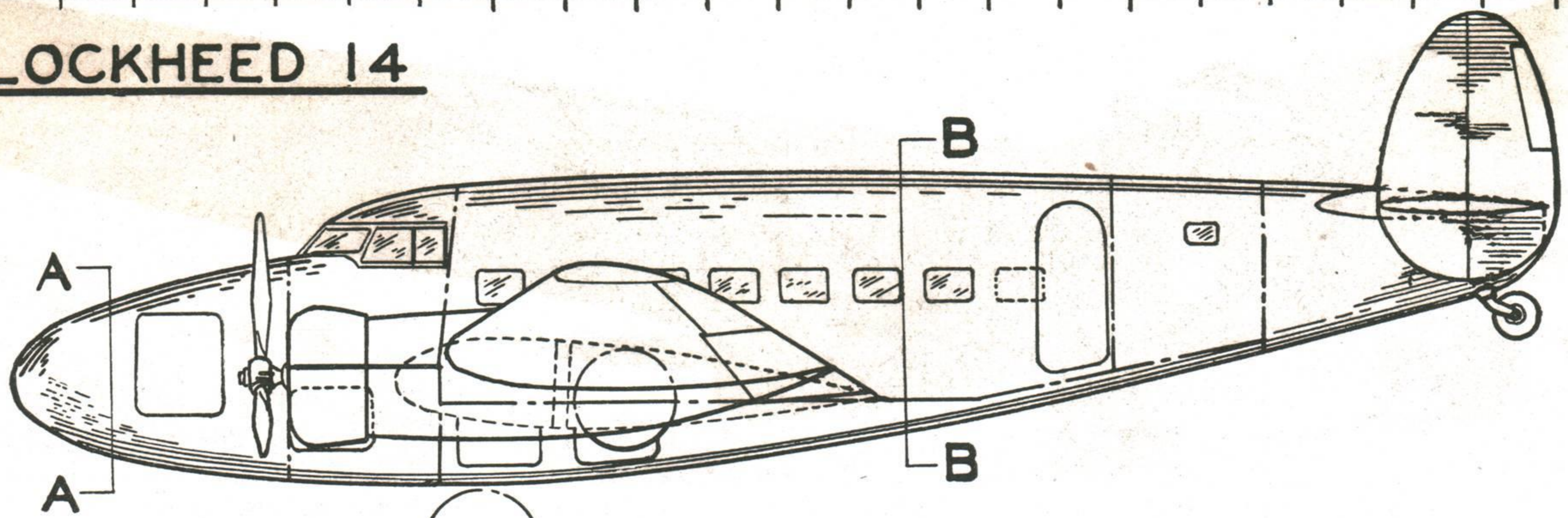


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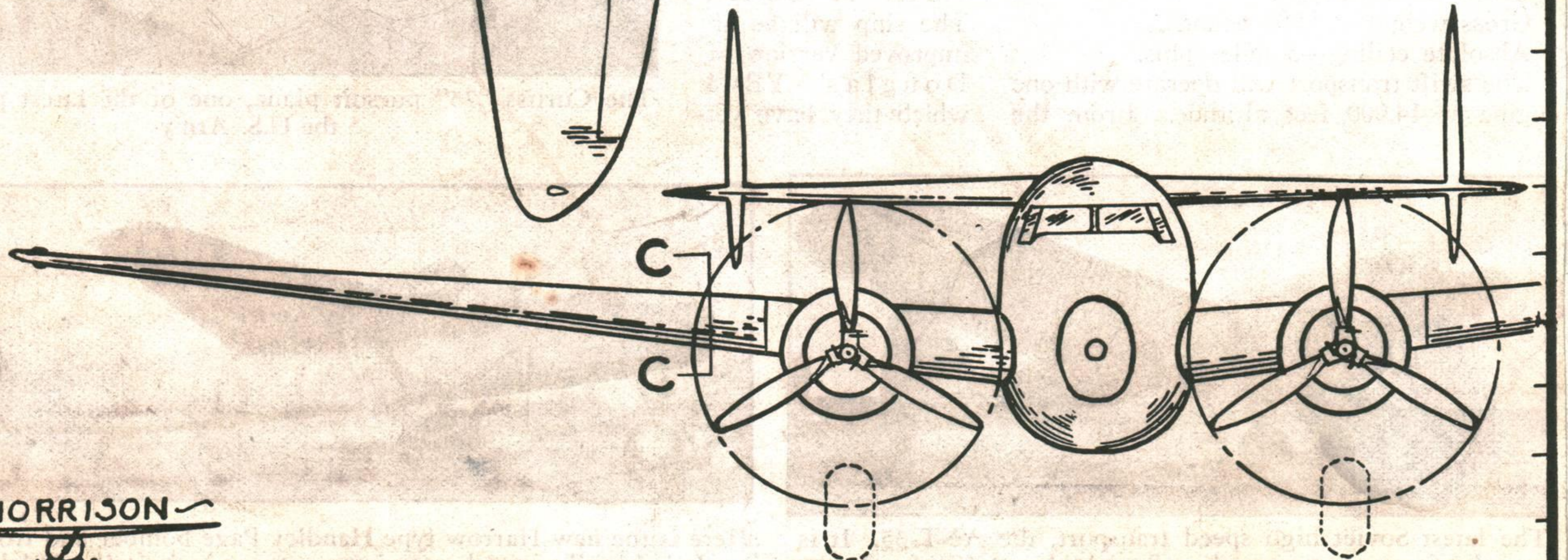


S. SCHLIFER  
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**LOCKHEED 14**



**SCALE**  
**TWO FEET**



**R.C. MORRISON**