

ENGLISH ELECTRIC CANBERRA



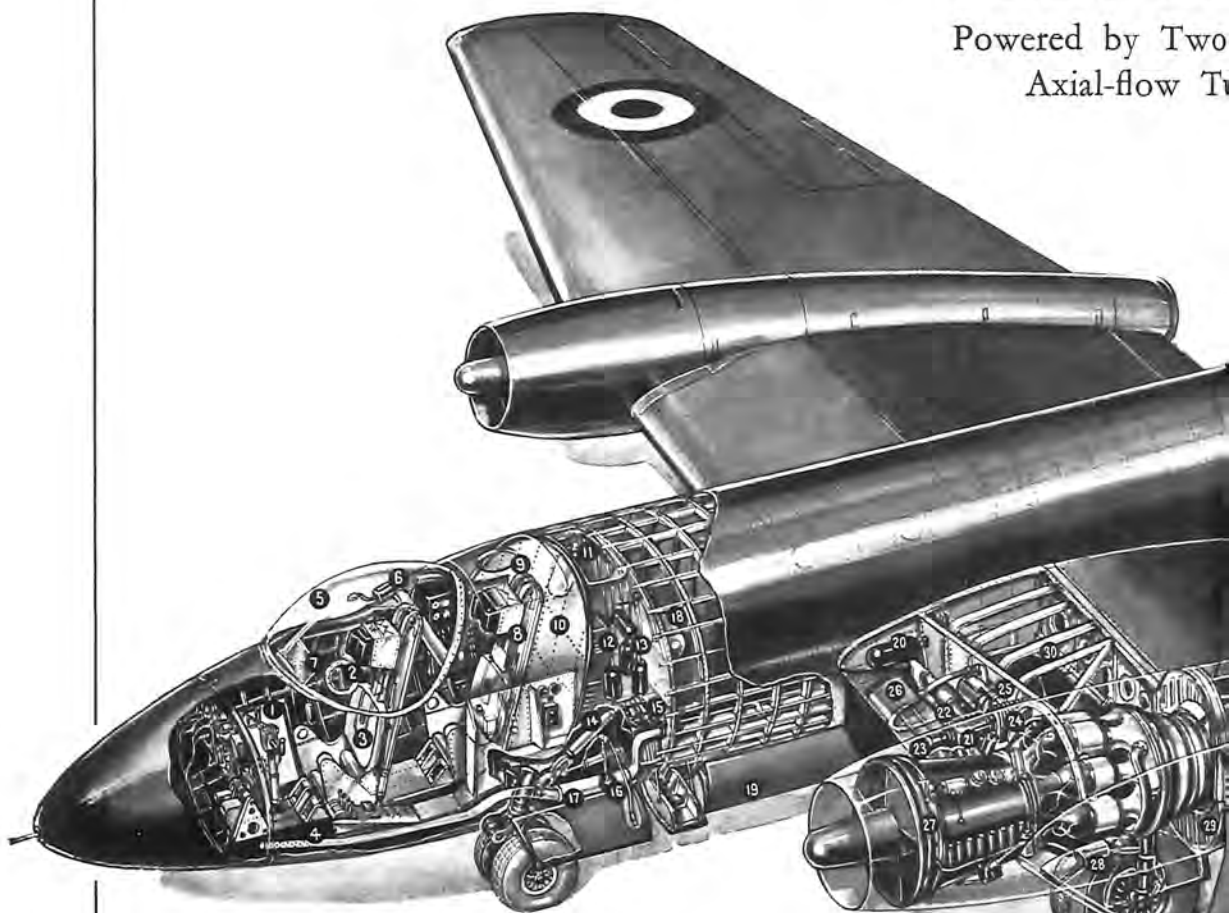
Roland Beamont & Arthur Reed

English Electric's

Britain's First

Powered by Two

Axial-flow Turbo-jets



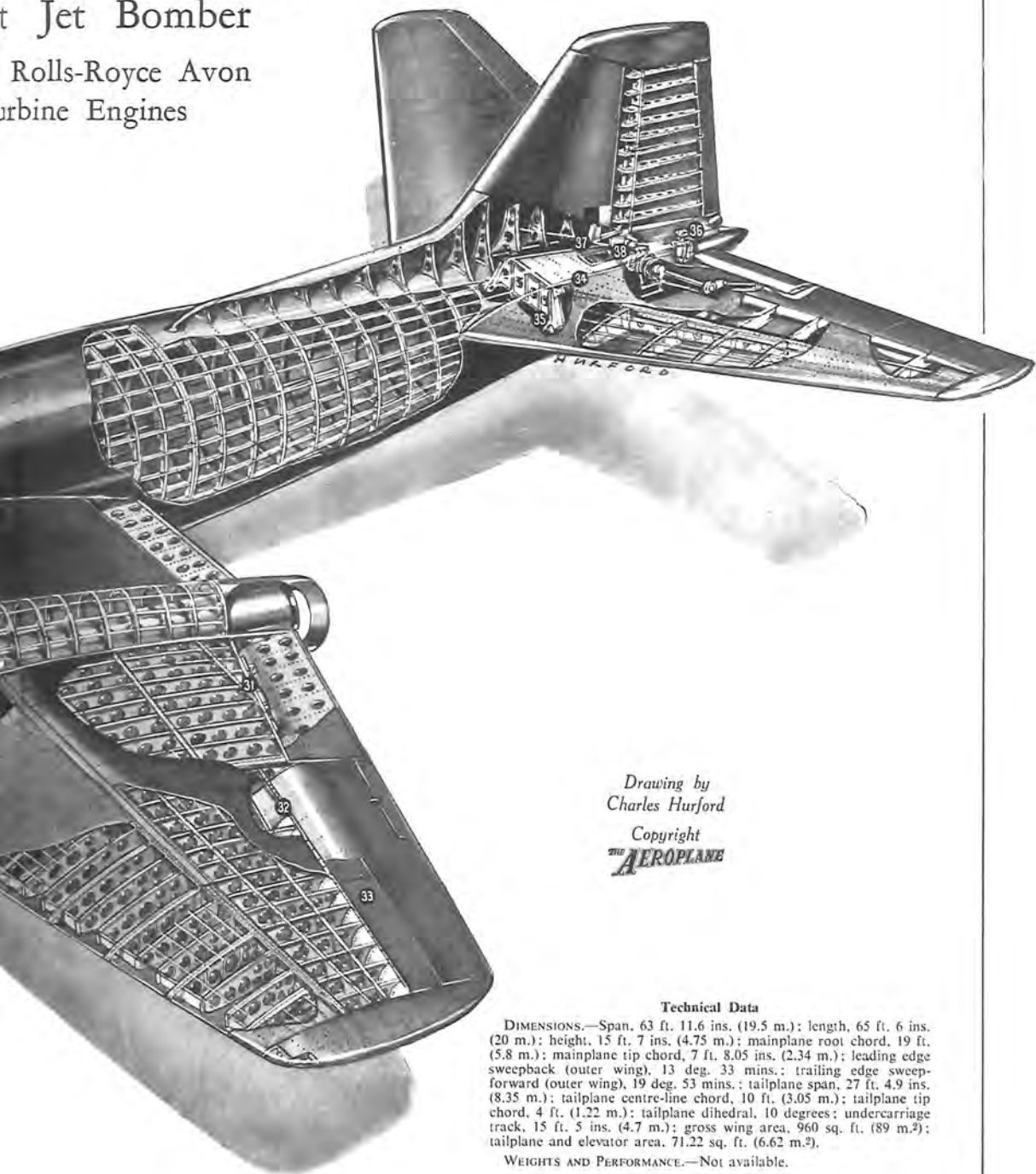
KEY

1. Entry hatch.
2. Direct vision panel.
3. Pilot's ejector seat.
4. Pressurizing air entry to cabin.
5. Dry-air sandwich canopy.
6. Canopy air-drying canister.
7. Auxiliary windscreen.
8. Navigator's ejector seat.
9. Navigator's escape hatch.
10. Pressure bulkhead.
11. Hydraulic reservoir.
12. VHF equipment.
13. Oxygen stowage.
14. Nosewheel radius rod and jack.
15. Accumulator stowage.
16. Nosewheel door jack, crosshead and links.
17. Cabin air silencer.
18. Air bottle stowage.
19. Retracting bomb doors.
20. Nitrogen bottle.
21. Port auxiliaries gearbox.
22. 28-v, 6-kW generator.
23. Lockheed pump.
24. Marshall cabin supercharger.
25. Air mixing valve.
26. Air cooler.
27. Rolls-Royce Avon axial-flow turbo-jet engine.
28. Oil cooler.
29. Firewall.
30. Port mainwheel bay.
31. Port outboard flap jack and links.
32. "Beak-type" aileron (Irving-type mass balance).
33. Hinged aileron shroud.
34. Variable incidence tailplane.
35. Tailplane hinge.
36. Electrical tailplane actuator.
37. Rudder mass balance.
38. Rudder electrical actuator.

Canberra B. Mk. I

t Jet Bomber

Rolls-Royce Avon
Turbine Engines



*Drawing by
Charles Hurford*

*Copyright
THE AEROPLANE*

Technical Data

DIMENSIONS.—Span, 63 ft. 11.6 ins. (19.5 m.); length, 65 ft. 6 ins. (20 m.); height, 15 ft. 7 ins. (4.75 m.); mainplane root chord, 19 ft. (5.8 m.); mainplane tip chord, 7 ft. 8.05 ins. (2.34 m.); leading edge sweepback (outer wing), 13 deg. 33 mins.; trailing edge sweep-forward (outer wing), 19 deg. 53 mins.; tailplane span, 27 ft. 4.9 ins. (8.35 m.); tailplane centre-line chord, 10 ft. (3.05 m.); tailplane tip chord, 4 ft. (1.22 m.); tailplane dihedral, 10 degrees; undercarriage track, 15 ft. 5 ins. (4.7 m.); gross wing area, 960 sq. ft. (89 m.²); tailplane and elevator area, 71.22 sq. ft. (6.62 m.²).

WEIGHTS AND PERFORMANCE.—Not available.

Dedication

To the designers, engineers, technicians and administrators at English Electric and the test pilots and aircrews of Warton, Samlesbury and Boscombe Down, and to the aircrews of the Royal Air Force and of the air forces around the world who have together made the name 'Canberra' famous in the history of aviation.

Cover:

Canberra aerobatics by an instructor of 231 OCU, RAF Bassingbourn. MoD via RAF Wyton

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Acknowledgements

The task of recording events and personalities connected with nearly 40 years of procurement, development and in-Service experience of 22 variants of one type of aircraft has proved fascinating but formidable, and the authors have found it impossible in the space available to do justice to all the many thousands of skilled and dedicated professionals whose efforts have in total resulted in one of the most successful military aircraft of its time, even of all time.

Nevertheless it was felt that tribute should be paid to at least some of those carrying particular responsibility and a list of these is to be found at Appendix 5. To those not mentioned here or elsewhere in the text, who feel that they should have been, go the author's apologies, coupled with the thought expressed not infrequently by Freddy Page to frustrated members of the English Electric team — never mind, righteousness has its own reward!

The views and opinions expressed are the authors' own and do not necessarily reflect those of any other persons and authorities mentioned in the text.

Our grateful thanks are due to all those who have contributed memories, anecdotes, memorabilia and photographs. Among these have been Sir Frederick Page, Frank Roe, Ted Loveless, Ollie Heath, Bill Eaves, Ronnie Fox, Len Asher, Derek Hargreaves, Walter Shirley, Alec Johnston, Trevor Tarr, Eric Bucklow, Johnny Squier, Bob Mikesh, Dave Walker, Joe Sarginson, Allan Parkinson, Bob Fairclough, Air Commodore Geoffrey Cooper, James P. Woolsey, Derek Wood, Paul Jackson, David Dorrell, Gp Capt Ken Lovett (Commanding Officer) and Flt Lt Bob Latchem and others at RAF Wyton, Sqn Ldr Dave Cunliffe, the Air Historical Branch of the RAF, Gp Capt Alan Hollingsworth; and especially Chrys Butcher whose enthusiastic research and support throughout the project have been of the greatest value.

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1 Introduction

In the history of aviation, of the many thousands of types of aircraft designed and built throughout the world for a multitude of purposes in war and peace, a relatively small number have proved to be so successful in combining performance, utility and maintainability with ease of operation and popularity with aircrew as to make them historically famous.

The first examples of this were undoubtedly the Avro 504 of 1914 and the Curtis 'Jenny' which together set for the first time standards of good, viceless controllability leading to the practical training of tens of thousands of pilots during World War 1 and on into the late 1920s.

In the 1930s the Hurricane, Spitfire and Douglas DC-2/DC-3 began their historic careers, followed during the war years of 1939-45 by the Lancaster, Mustang, Mosquito, B-17 Fortress, FW 190 and the Japanese Zero, each of which was the best in its class in the world. In the last months of that war the Me262 began to show that, as the world's first operational jet, it was also in this category of exceptional and memorable aeroplanes.

The immediate postwar period brought many prototype attempts at making good use of the newly available and powerful centrifugal and axial flow jet engines, but it was not until the emergence of the North American F-86 Sabre in 1948 and the Hawker Hunter in 1950 that the first of the 'classic' jet fighters appeared.

Similarly in the bomber field, the late 1940s produced a crop of twin and multijet prototypes in France, America and Britain of which the Boeing B-47 Stratojet and the English Electric A1 emerged as exceptional. It is the latter aircraft, later named Canberra, Britain's first jet bomber and the first design of a small team of specialist engineers and designers selected for the purpose and based initially in a deserted garage in the centre of industrial Preston at the end of World War 2, that is the subject of this book.

From its first public demonstration at the Farnborough display in 1949, the Canberra drew and held the attention of the aviation world. Here was a bomber which could outmanoeuvre all the fighters of the time and climb to 10,000ft and more above their ceiling; and one which was simple to maintain and a delight to fly. And it was British.

Right:

A B(I) Mk 12 for South Africa on production test from Samlesbury in 1963. *British Aerospace*

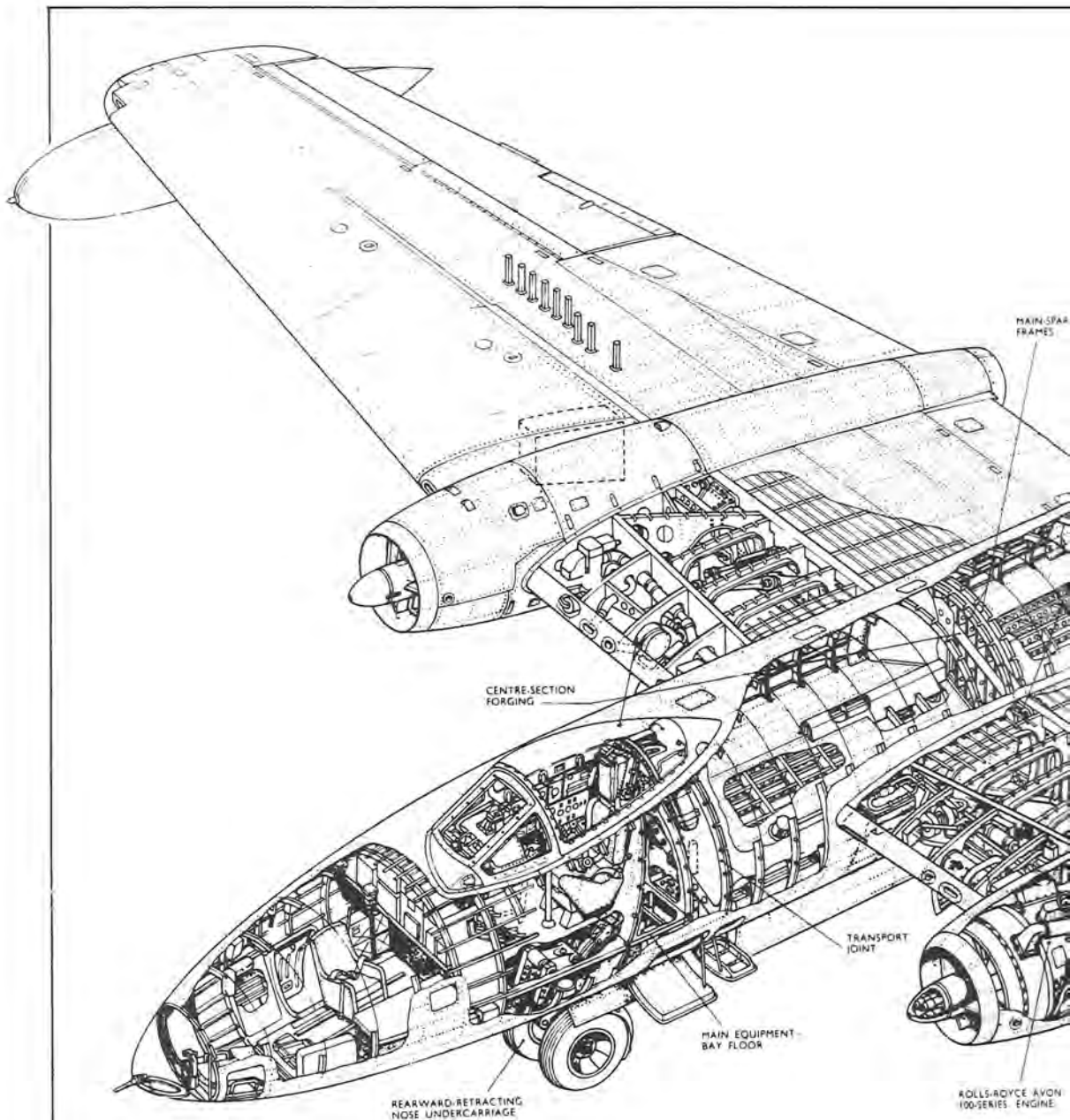
Left:

On test from Warton on 25 July 1950, the prototype B Mk 2, VX1165, posed by the author for Charles Sims's camera (no telephoto lens!) in the tail turret of a Lancaster from RAE.

Noteworthy are the internal 'blast protection' windscreen and absence of the final standard canopy rear fairing.

The Aeroplane





MAIN-SPAR
FRAMES

CENTRE-SECTION
FORGING

REARWARD-RETRACTING
NOSE UNDERCARRIAGE

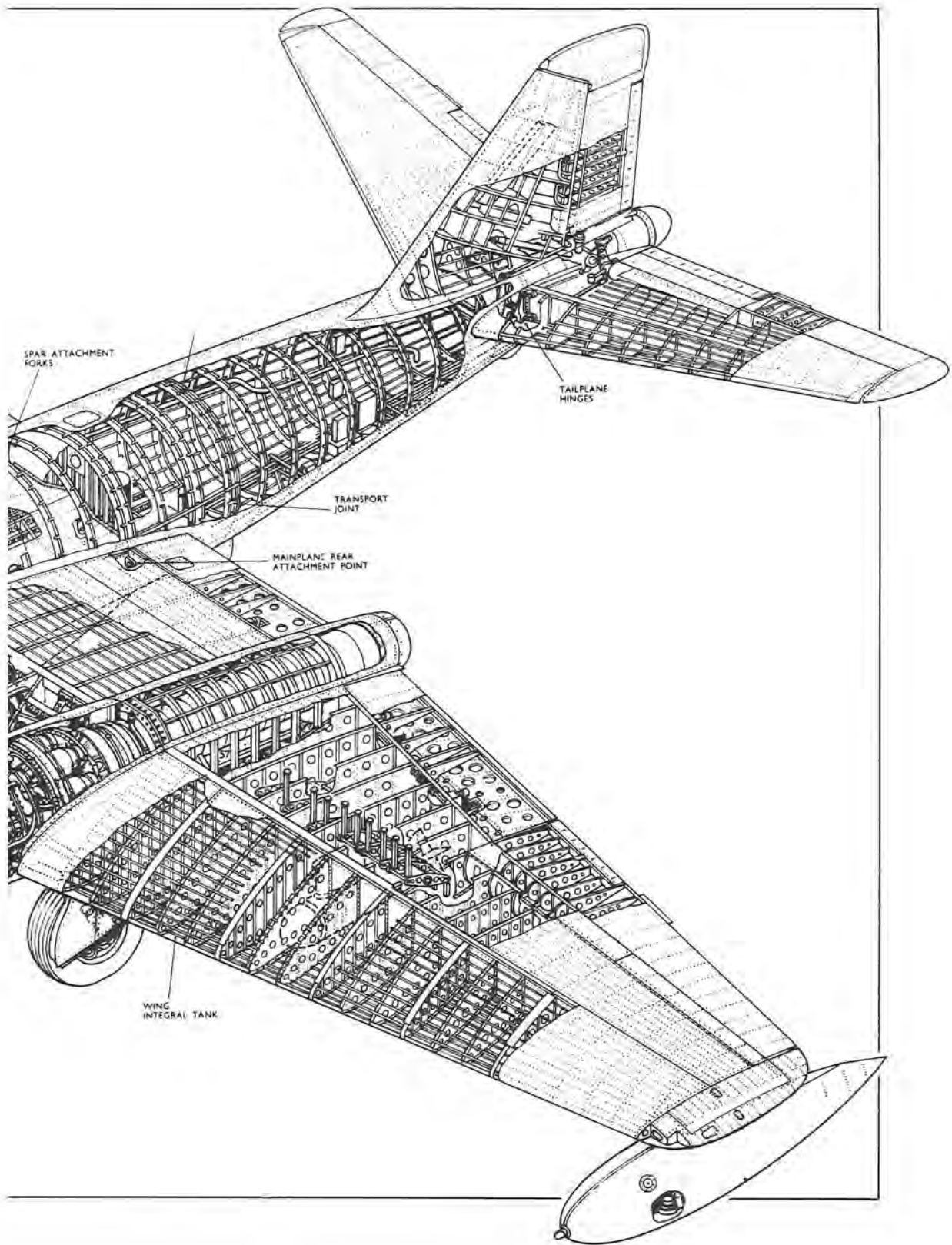
MAIN EQUIPMENT
BAY FLOOR

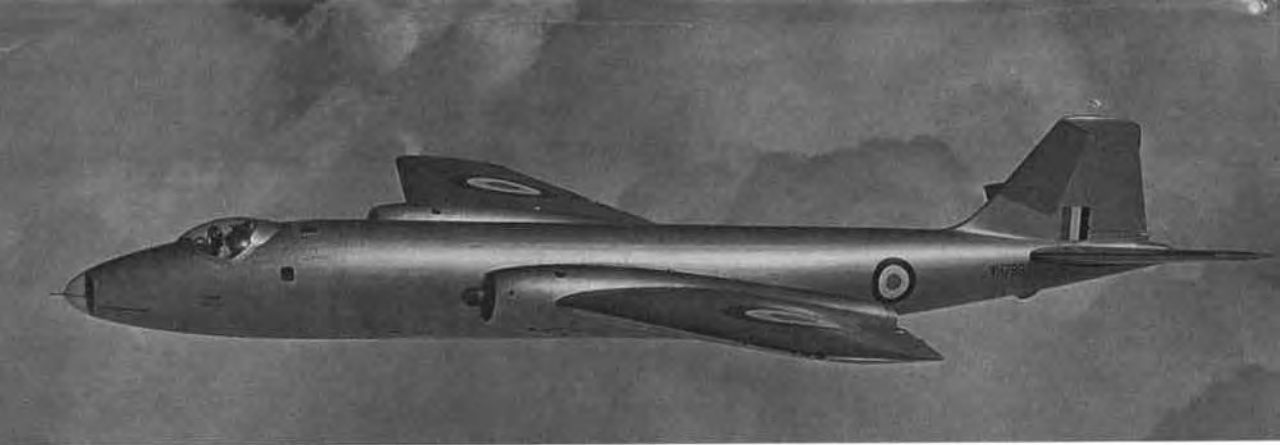
TRANSPORT
JOINT

ROLLS-ROYCE AVON
100-SERIES ENGINE



DICK ELLIS





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