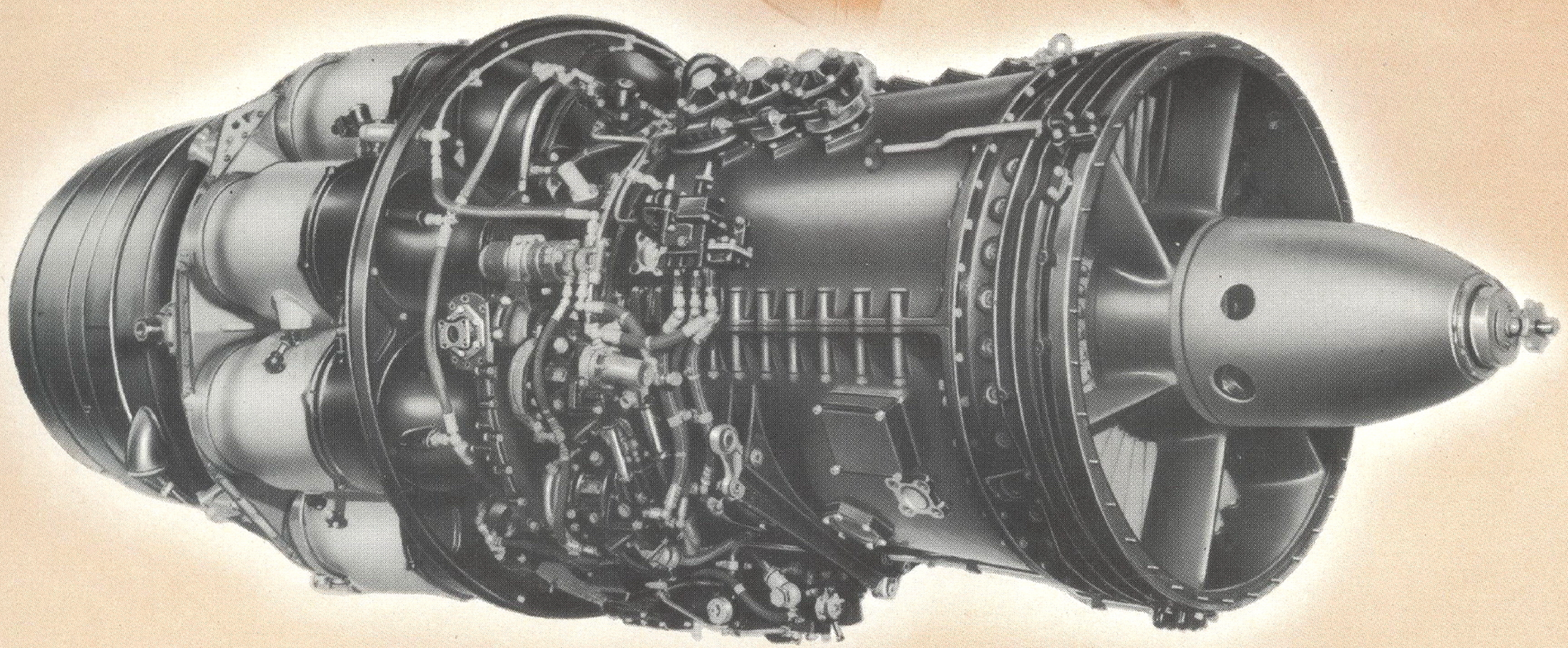
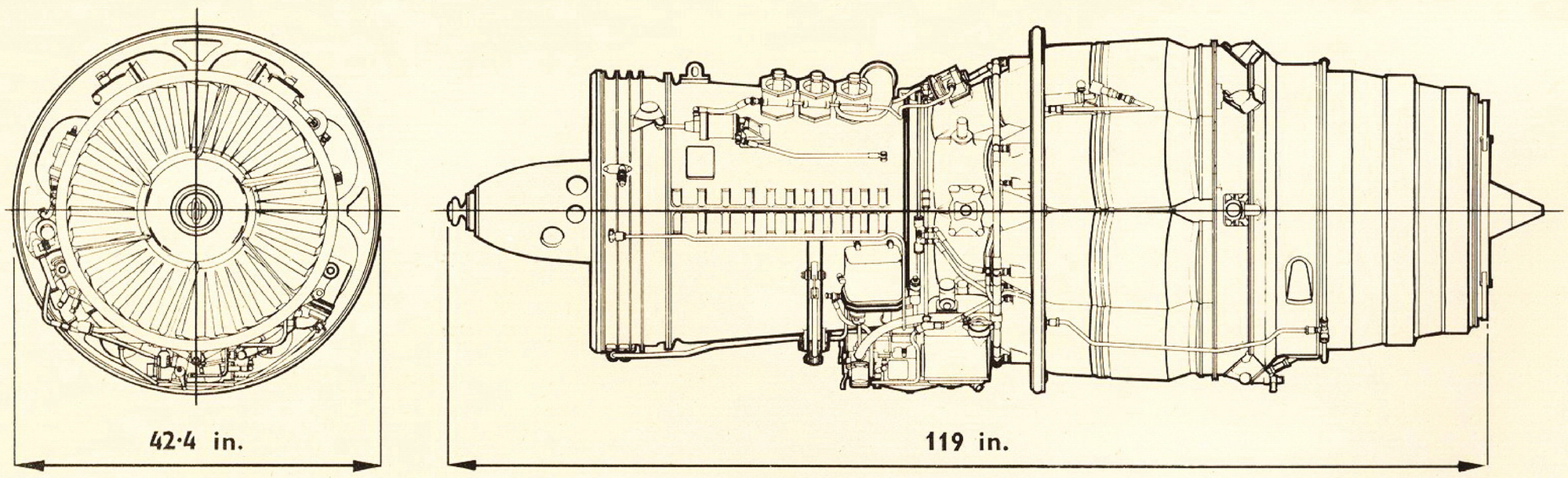
ROLLS-ROYCE

AVON

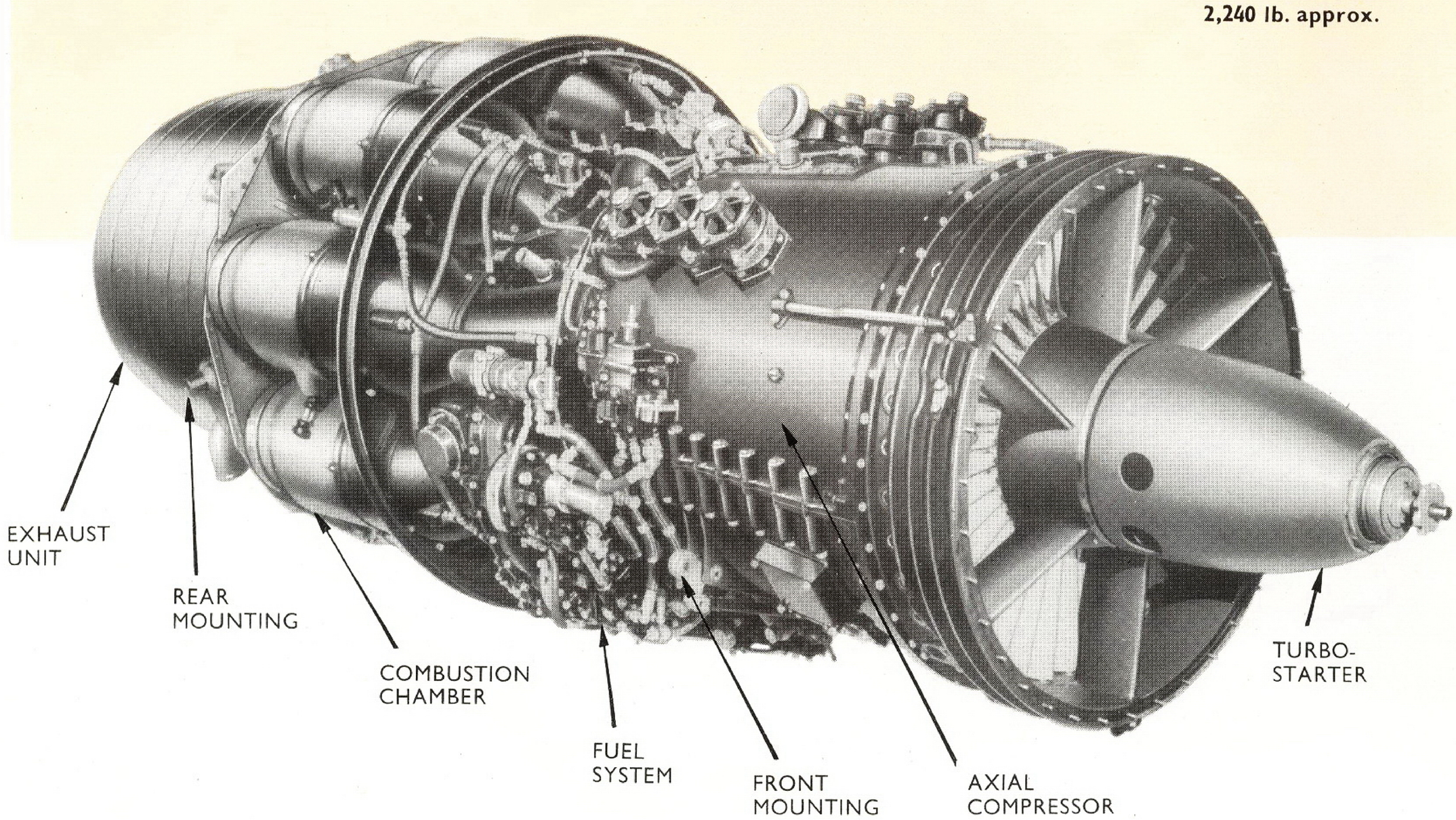
TURBO-JET AERO-ENGINES



AVON Mk. I AERO ENGINE



DRY WEIGHT
2,240 lb. approx.



THE ROLLS-ROYCE AVON

DESIGNED for high-speed, high altitude operation, the Avon is the latest and most powerful of the Rolls-Royce "River" class of turbo-jet engines to go into service and develops a sea-level static thrust of 6,500 lb.

To give the very high cruising speeds expected of modern aircraft, considerations of drag reduction and low specific fuel consumption have led to the choice of an axial flow compressor; this is the most radical change from previous "River" class engines in use.

In spite of the changed external appearance due to this type of compressor, well-tried features of the Derwent and Nene range have been adopted in the Avon design—features which should help this new engine to achieve the reliability of its predecessors.

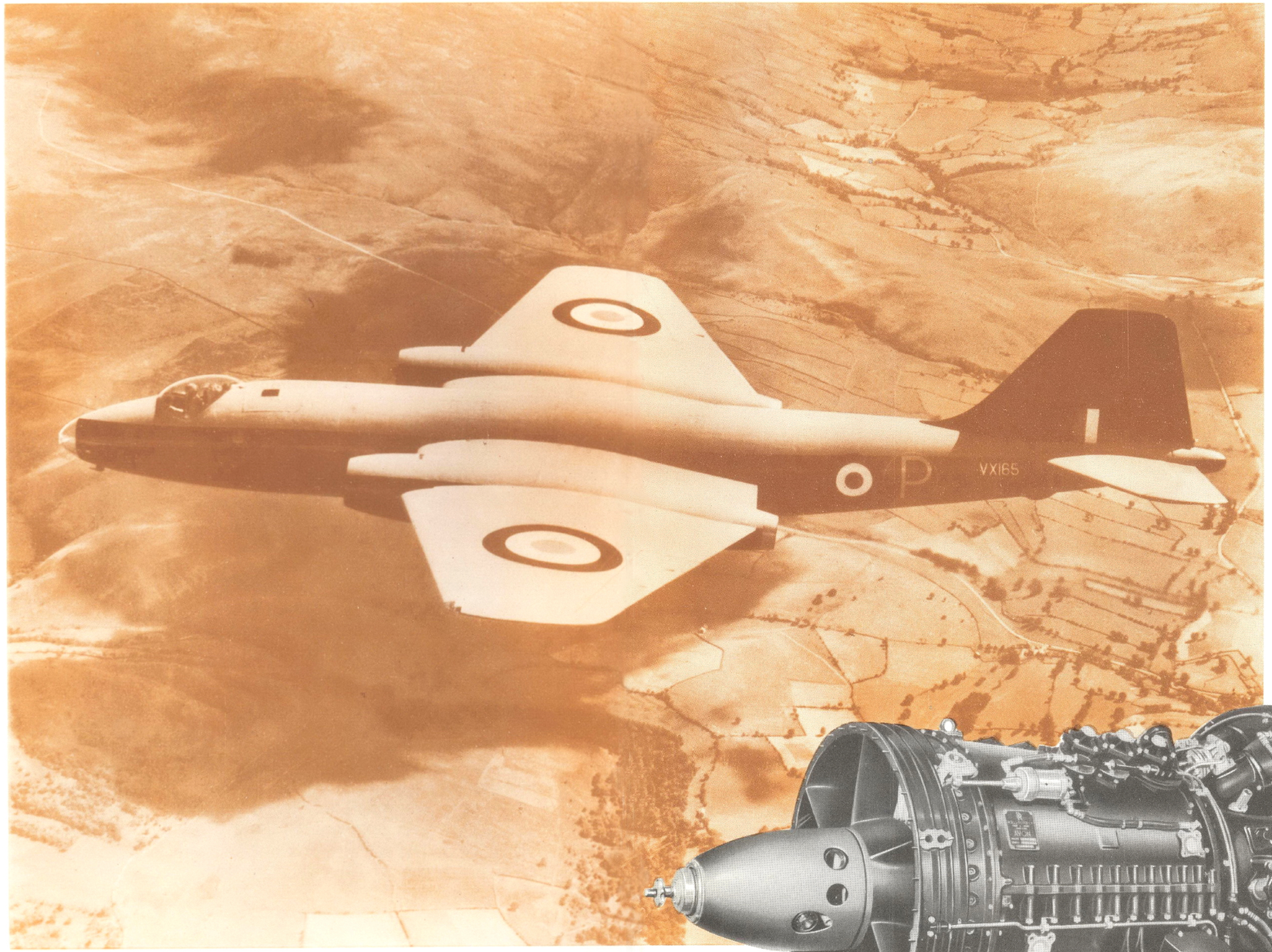
Performance details of the Avon may be disclosed only for sea-level static conditions, but the enormous power output available in flight can be judged by the climb of the Avon-powered Meteor from sea-level to 40,000 ft., which it achieves in considerably less than 4 minutes. This aircraft has been used for much of the extensive development flying to which the Avon has been subjected by Rolls-Royce test pilots.

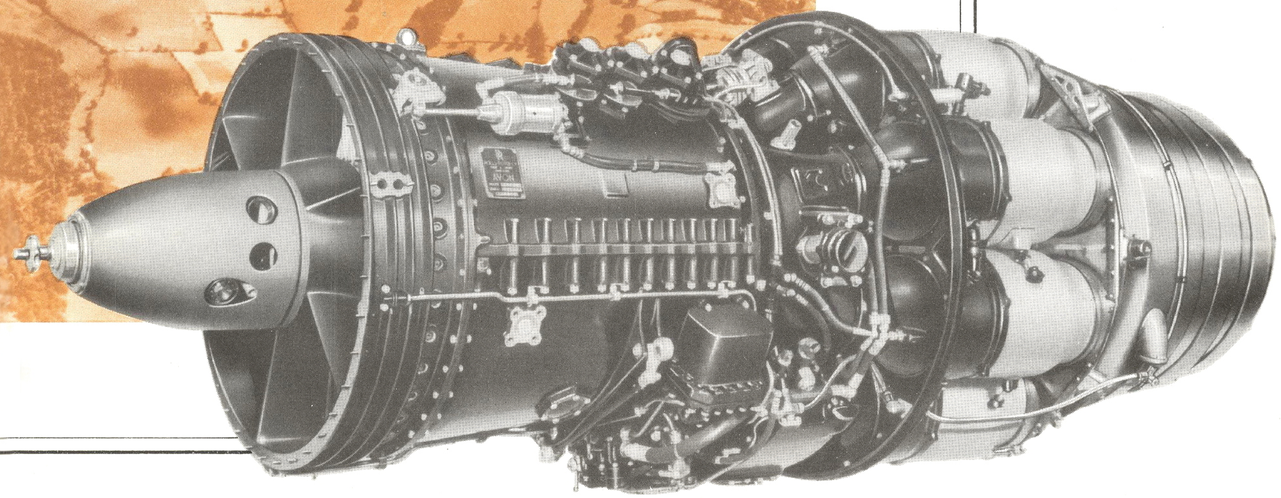
The first aircraft powered by Avons to go into service with the R.A.F.—the English Electric "Canberra"—has already made its mark by being chosen as the standard medium bomber for the large scale re-equipment of the Air Force.

The specific fuel consumption at the Maximum Continuous Rating is given as 0.865 lb./hr./lb. thrust under static sea level conditions.

This low specific consumption made possible the first North Atlantic crossing by a jet propelled aircraft without refuelling, which was achieved by a "Canberra" in only 4 hours and 37 minutes; it also makes the Avon eminently suitable for use in civil aircraft, where, coupled with the high power/weight ratio, the advantage gained can be turned to useful payload or extra range.

A current example of this is the conversion of a "Comet" airliner by the de Havilland Aircraft Company to take 4 Avons. This Series 2 machine, with a higher cruising speed and greatly enhanced range, is intended to take its place on those trunk and ocean routes where the longest and most severe stages occur, conditions for which the Avon is most suitable.

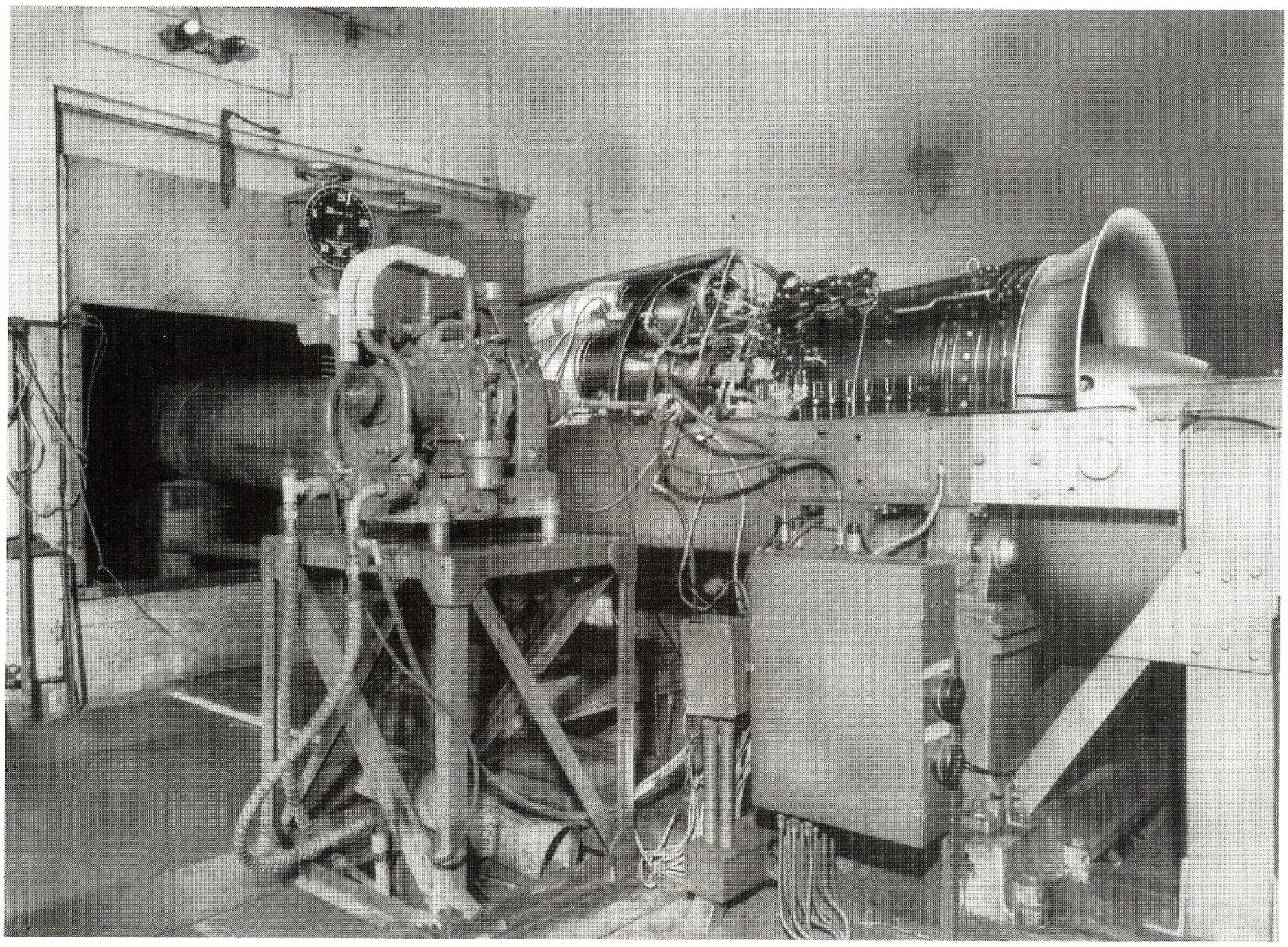




Powered by Rolls-Royce "Avon" engines the English Electric "Canberra", standard medium bomber of the R.A.F.

The Avon has been singled out as the most important power unit in the re-equipment plans of the R.A.F. To achieve the enormous output of engines planned, it is going into quantity production in the Derby and Glasgow Factories of Rolls-Royce, and, in addition, at such famous British aero-engine manufacturers as the Bristol Aeroplane Company and D. Napier and Sons Ltd. To extend their production capacity, Rolls-Royce have also obtained further factory space in the Glasgow area for production of Avons.

In addition to use in the Canberra, the Avon has been chosen to power a number of aircraft at present in the design and prototype stages and there is no doubt that the engine will be developed to give considerably greater performance. With the wide variety of applications planned for it and its general adoption for the R.A.F. a future comparable to that of the Merlin can be foreseen.



An Avon on the test bed

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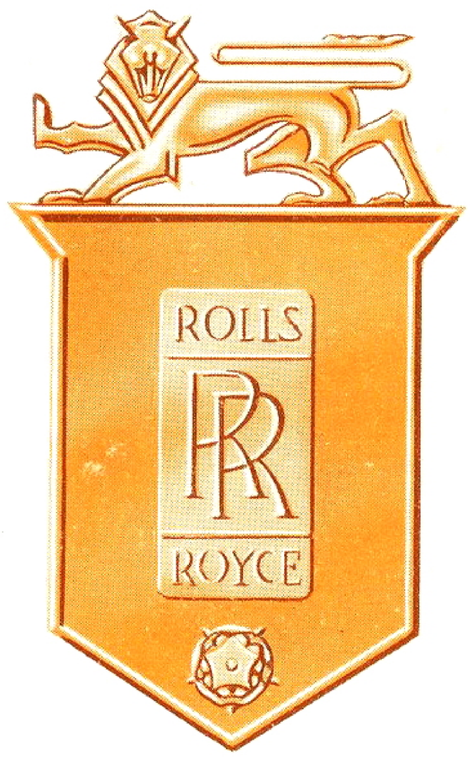

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