

VICKERS VIKING

Review of Latest Post-war Civil Aircraft : Excellent Pay-load and Performance for Low Operating Costs

By C. B. BAILEY-WATSON

IN announcing their new post-war civil passenger aircraft Vickers-Armstrongs, Ltd., are heralding their intention of furthering their excellent reputation in the commercial aviation field—a reputation which the older readers of *Flight* will remember was propagated with the Vickers Victoria. The magnificent work the company have done during the war years provides a first-class precedent for their work in the future.

Furthermore, in deciding to concentrate on the "medium" aircraft field, Vickers-Armstrongs are showing a sense of realism. This is stated advisedly, as there can be little doubt that, whilst the construction of mammoth air liners sounds important and adds lustre to the constructor's name, the number of mammoths required will be very small, whereas by supplying aircraft in the medium class a larger number of potential buyers is being catered for, so providing a reasonably constant flow of production with its financial stability and harmonious labour situation.

The Viking V.C.1 (V.C. signifies Vickers Commercial) is an aircraft specifically designed for ease of production, which factor has been aided by the employment of "standard" components wherever possible, the only major item of the aircraft which is wholly new being the fuselage, and this is a stressed-skin structure, whereas the wings and tail unit are fabric-covered.

On the whole the Viking is a completely orthodox aircraft; certainly this can be said of its appearance, which conforms to the present standard for civil passenger machines in having an almost parallel length of fuselage tapered sharply at nose and tail.

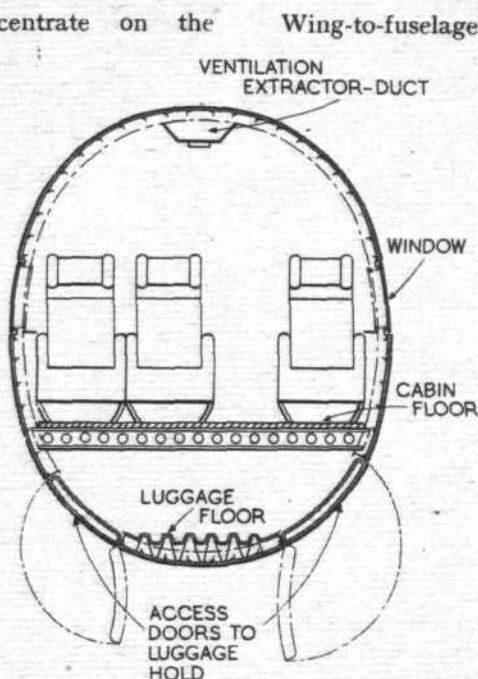
New Design Features

Structurally the machine is also conventional, with the exception of one or two points which maintain the Vickers precedent of introducing some new design concept in every

new type they build. In the Viking the tradition is upheld by the introduction of a revolutionary form of wing/fuselage attachment and by the employment of a luggage floor in the fuselage which acts as a massive "longeron-keel."

Geodetic-type wings are used, and the wing span is 89ft. 3in.

Wing/Fuselage Attachment

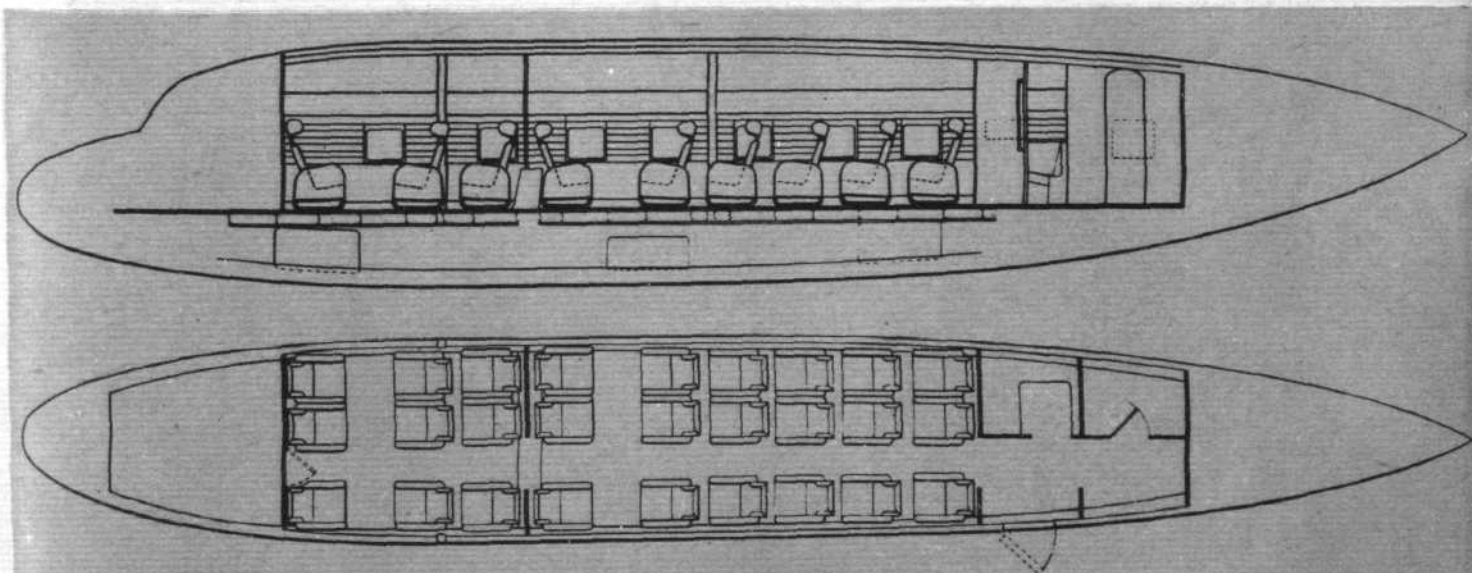


Cross section of fuselage, showing luggage hold and passenger cabin. The larger luggage door is the normal size, that on the left being beneath the wing.

Wing-to-fuselage attachment is unique in that it is flexible; the main spar (the wing is of the monospar type) passes through the fuselage without attachment of any kind, being free to "float" vertically, although fore-and-aft movement is restrained. Attachment proper is by link arms at the leading- and trailing-edge sub-spars, the two link arms at each sub-spar end being pivoted on pins retained in Silentbloc rubber/metal bushes in the fuselage frames at the respective stations. To relieve the link arms and main spar from bending loads, a drag beam is secured to the fuselage on each side and carries at its after end a spigot which engages in a sliding block attached to the wing-root rib. This unconventional method of wedding wings and fuselage should provide the passengers with a very pleasant ride, for engine and airflow vibrations of the wing structure will be virtually isolated from the fuselage. Relative movement between fuselage and wings is to be measured only in terms of hundredths of an inch; nevertheless, the flexible mounting is deemed to be quite capable of eliminating

almost entirely the transmission of vibration.

Whilst on the subject of wings, it may be stated that basic geodetic wings are employed, and are fitted with ailerons of the full Frise type having mass balancing in their leading edge tubes and conventional trim tabs. A further departure from geodetic practice is that the inboard wing panels, i.e., inboard of the nacelles, are metal-skinned, although the outboard panels are fabric-covered.



This accommodation layout is for the 27-seater version and should be compared with the 21-seater shown in our special cut-away drawing. The above layout necessitates moving the front bulkhead forward and so restricts the available control cabin space. Three extra seats are incorporated in each of the passenger compartments.