GEODETIC FIN STRUCTURE

STEWARD'S TIP-UP

PERFORMANCE	
Max. W.M. Cruising speed at 10,000ft	At mean weight of 31,090 lb,
m.p.h. 1,500 miles Take-off distance to clear 50ft 850 yd. (at 33) Total distance start to stop with engine failure at take-off 1,600 yd. (at 33) Landing distance from 50ft 850 yd. (at 31) * Maximum except take-off.	,000 lb.) 3,000 lb.) ,000 lb.)

MAIN PASSENGERS' COMPARTMENTS (15 SEATS)

G EDGE

the Vickers Viking shows clearly as illustrating the structural the wing passes through the but the leading and trailing to the massive double frames a flexible wing mounting to ngine and airflow vibration.

SPARE LUGGAGE STOWAGE

MAIN

FUSELAGE STRUCTURE CARRYING FIN, RUDDER, TAIL PLANE & TAIL WHEEL

STEWARD'S CABIN

## GEODETIC TAIL PLANE STRUCTURE

is interesting in that neither the beaded-L stringers nor the fluted-channel-section frames are notched for passage of each other. The stringers are mounted outside the frames and are attached to them by shear cleats. An important production and cost factor is that the fuselage frames are rolled on the same specialised machines as used for pro-

ducing the geodetic members for the Wellington and Warwick. The metal skin is riveted to the stringers, and plates are laid with a lap joint at horizontal edges, but at vertical meeting edges a butt joint to an internal strap is employed. Wherever openings occur in the fuselage, L-section plates are riveted to the web of the frames as a substitute for not taking the frames out to the skin.

The luggage floor is a very clever piece of work indeed, for not only does it serve the utilitarian purpose of forming a 300 cu. ft. luggage hold beneath the cabin but it is also an extremely strong longitudinal and lateral tie for the fuselage structure, and, as such, facilitates the handling of compressive strains. Additionally, the floor provides a very rigid keel for belly-landing or ditching; in the latter connection, together with the

MILLAR

cabin floor, it enhances the buoyancy factor. Having such a floor in the fuselage will also have the effect of lowering the neutral axis. Great strength is inherent in

the luggage floor structure, as the floor itself is composed of heavy sheet deeply corrugated fore and aft with, from each corrugation, lipped plates secured underneath to the fuselage frames. Outboard edges of the floor are attached to the fuselage stringers by shear plates, and lashing rails are provided at frequent intervals across the corrugations. High-density unit loads can be carried on the luggage floor, and this should prove a boon for an aircraft operating as a passenger/freighter in the less well-developed regions of the world. External doors, 44in. long  $\times$  23in. effective height, give access direct from the ground to the luggage hold on each side.

RETRACTED

FAILPLANE

MAIN SPAR

The floor of the cabin is of five-ply wood, supported on light channel beams spanning the fuselage and attached to