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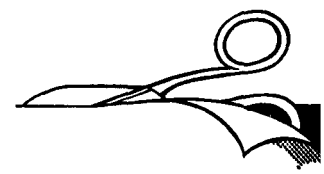

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WOOD, S. W. H.

Problems of Undercarriage Design for V/STOL Aircraft

The author has been responsible for the design of landing gear for seven separate V/STOL aircraft projects, four of which are now flying.

The landing gear problems encountered fall into three categories, problems associated with V/STOL aircraft operation, problems particular to each aircraft type due to the influence of engine installation, and problems of providing rough/soft ground capability.

Whereas for conventional aircraft the basic landing gear requirements are laid down in AvP 970, and the equivalent for civil aeroplanes, for jet-borne V/STOL aircraft this experience does not exist, and helicopter requirements are not directly applicable.

From the early prototypes much has been learnt from measurements taken of vertical velocity and applied loads and these data have been fed into the design of production equipment.

SINGER, J.

Buckling of Cylindrical Panels Under Lateral Pressure

The stability of simply-supported cylindrical panels under lateral pressure is investigated by linear theory. First, panels with classical simple supports are analysed with the usual Donnell 8th order equation. Numerical results are presented which confirm that panels may buckle at lower pressures than corresponding complete cylindrical shells. Then the effect of circumferential restraint along the straight edges is studied by analysis of a panel with SS4 ($u=v=0$) boundary conditions and comparison with classical SS3 ($u=N_{\phi}=0$) supports. The coupled Donnell equations are reduced to a set of algebraic equations and the eigenvalues are solved by an iterative technique. Circumferential restraint along the straight edges results in considerable stiffening under lateral pressure.

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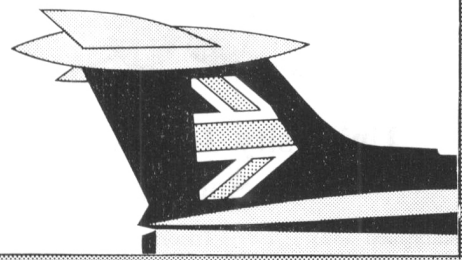

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