

EDITORIAL

Aero medical involvement in cockpit design is related to the study of human strengths and weaknesses to achieve an optimal interface between the Pilot and his aircraft. The design and development of aircraft cover a vast array of Human Engineering problems ranging from the comfort criteria for seating arrangements in a large civil airliner to the single crew operation of a modern high performance combat aircraft. Human Engineering aspects of cockpit design relate to anthropometry, visual requirements, data display, controls, display - control relationships and physiological considerations.

Over the last 15 years, the use of new engine technologies and lightweight structures of carbon fibre composites have increased the manoeuvrability of aircraft. These, with complex avionics systems, enable today's pilot to achieve flight profiles required for modern mission accomplishment, but not without problems, such as those of pilot workloads. The big question is, "How do we provide an acceptable environment in which the tasks of the pilot are within his limited capabilities?"

Indian aeronautical industry is engaged in the design and development of the Light Combat Aircraft for the

90's. This issue of AVIATION MEDICINE contains a Symposium on the aero medical aspects of the design of a modern high performance aircraft.

Jayal, in his paper on the ORs of such an aircraft, emphasises the need for data generation to define quality requirements. Kapur examines the human engineering challenges and is confident of providing the aircrew with a work space compatible with mission effectiveness and flexibility. Ranjit Kumar describes the physiological basis of cabin environmental control stressing the need for compromises in comfort and physiological acceptability in the interest of optimal weight and power considerations. High G cockpit is the result of modern technological advances and poses physiological limitations on the human operator. Gupta discusses the design requirements in the light of G-induced loss of consciousness and performance restrictions of the aircrew.

AVIATION MEDICINE is being published from Bangalore with the current issue. The shifting process has resulted in certain unavoidable delays. We are trying our best to ensure that all future issues reach you on time. Your suggestions to improve the quality of the Journal are most welcome.