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Safety Considerations - Flight Deck Seats for Transport Aircraft

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1. PURPOSE:

The pilot's seat is the basic link that supports and ties the pilot to the aircraft structure. It is essential that this function be accomplished in a manner that will provide the maximum safety and security during all normal and emergency flight conditions.

2. SCOPE:

The recommendations listed in Section 3 shall apply to all regularly assigned flight crew member's seats located on the flight deck.

3. DETAIL RECOMMENDATIONS:

- 3.1 The Federal Aviation Regulations, Technical Standards Order Requirements and SAE AS 290, for air transport crew seats, shall be considered as minimum requirement only.
- 3.2 The seat and its floor attachments should be stronger than the surrounding aircraft structure. The floor attachments should be designed to allow angular and rotational misalignment with the floor of the aircraft while sustaining these loads.
- 3.3 When the seat load is within 10% of the seat ultimate load, the seat assembly basic structure should be designed to deform progressively and during deformation to absorb as much energy as possible.
- 3.4 Deformation of the seat secondary structure under crash landing conditions should not affect the strength of the seat basic structure, nor on deformation should it leave projections which could cause injury to the occupant.
- 3.5 The design of the seat and restraint system should include consideration of the dynamic loading environment on all components such as webbing material, slack, stitch patterns and thread, attachments and fittings, cushions, latches, locking devices, single point restraint harness release mechanism, and the overall characteristics and properties of the human body subjected to impact loading.
- 3.6 The seat structure should be suitably protected against corrosion of all types to which it may be subjected in service and the design should avoid trapped areas where spilled liquids can accumulate and cause corrosion which would decrease the strength and design integrity.
- 3.7 Seat structure should be designed and constructed so it will not be possible to drop a lighted cigarette, cigar, etc., down into the seat structure where it cannot be easily removed with the seat installed in the aircraft.