

PHONE: (357) 22-404183  
(357) 24-802925  
AFTN: LCNCYNYX  
TELEX: 6065 CIVAIR CY  
FAX: (357) 22-404189  
SITA: NICTOYA

**REPUBLIC OF CYPRUS**

MINISTRY OF COMMUNICATIONS AND  
WORKS  
DEPARTMENT OF CIVIL AVIATION  
AERONAUTICAL INFORMATION  
SERVICE  
NICOSIA CYPRUS

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**Minimum Space for Seated Passengers**

1. **Applicability**

The requirements defined in this AIC are mandatory for all Cyprus registered aeroplanes over 5,700 kg MTWA, operated for the purposes of commercial air transport and configured to carry 20 or more passengers.

2. **Introduction**

- 2.1 Changes to the layout of cabin interiors must be approved under modification (change) approval procedures. As part of that approval, each seat type shall be approved as required by EASA Certification Standard (CS) 25.A.785.
- 2.2 At the initial evaluation of a seat an assessment of the limiting conditions of use is made. These are specified on the General Arrangement drawing, on the Declaration of Design and Performance (DDP) or specifically highlighted in a letter of approval. Included in these limitations is a minimum seat pitch at which approval for installation on an aeroplane has been granted. This minimum pitch is defined taking into account head, trunk and leg strike areas of the seat in front, the ability to occupy the seat and, if necessary, quickly vacate the seat and enter the aisle in an emergency.
- 2.3 Modern seat design allows the installation of seats in higher density configurations than has been the norm in the past. The effect that such lower seat pitches can have on the seat occupancy and the ease of vacating the seat in an emergency is of particular concern.
- 2.4 This AIC has been issued to formalise the minimum acceptable seating standards for aircraft on the Cyprus register. In formulating this AIC, the anthropometric data for the 5th percentile female to the 95th percentile male have been taken into account. In this regard, the critical dimension for the seated occupant is the buttock to knee length. Also taken into consideration is the ease with which the occupant can stand up and move from the seat to the main cabin aisle. This affects the minimum distance and the vertically projected distance between the seat and any seat or fixed structure immediately ahead of the occupant.

- 2.5 These three dimensions are used as the criteria for the determination of the acceptability of any seating configuration. They provide a realistic minimum standard that can be uniformly adopted, whether the seating being considered is placed adjacent to seats of the same or different types, or other typical interior structures. These Requirements are not intended to supersede or replace existing occupant protection criteria prescribed in CS 25.A.785.

### **3. Requirements**

- 3.1. The minimum distance between the back support cushion of a seat and the back of the seat or other fixed structure in front, shall be 26 inches. (Figure 1, Dimension A.)
- 3.2. The minimum distance between a seat and the seat or other fixed structure in front, shall be 7 inches. (Figure 1, Dimension B.)
- 3.3. The minimum vertically projected distance between seat rows or between a seat and any fixed structure forward of the seat, shall be 3 inches. (Figure 1, Dimension C.)

### **4. Additional Information**

- 4.1 The measurements required for the demonstration of compliance with the requirement given in paragraph 3.1 above are as follows:
- a) from a datum point in the centre of the seat back at a height of 3 inches above the mean uncompressed seat squab height to the seat or other fixed structure in front made in both vertical and horizontal arcs up to a limiting height of 25 inches above the carpeted floor level, over the full seat place width 'X'. (See Figure 1.)
  - b) from any point on the seat back within the centre one half 'Y' of the seat place width at a height of 3 inches above the mean uncompressed seat squab height to the seat or other fixed structure within the central 12 inch region in front made in vertical and horizontal arcs up to a limiting height of 25 inches above the carpeted floor level.
- 4.2 The full width of the forward edges of the seat squab cushion and the seat armrests shall be used as the datum points for the measurements of the minimum distance required by paragraph 3.2 above. From these points, the measurement of the distance shall be made in both horizontal and vertical unlimited arcs.
- 4.3 The vertically projected distance required by paragraph 3.3 above shall be measured between the forward edge of the seat squab cushion or the most forward extremity of the armrests and the most aft part of the seat or fixed structure in front.



- 4.4 Where a magazine rack is provided for the normal stowage of the cabin safety leaflet, sick bag and in-flight reading material provided by the operator, such normally provided material shall be in place during the measurements. Similarly, any fold down or other type of meal table attached to either seat or fixed structure should be in its normal stowed (take-off and landing) position for all measurements.
- 4.5 All measurements shall be made with the seats in the upright (take-off and landing) position, and the armrests shall be down.
- 4.6 No alleviation to these requirements will be granted on the basis of deformable soft furnishings.
- 4.7 All modifications to seats, their installation or any modification to adjacent fixed structures, necessary to achieve compliance with this AIC shall be the subject of the appropriate Part 21, Subpart E procedures.

Figure 1

