

ACCESS TO AND OPENING OF EMERGENCY EXITS

1. Applicability

- 1.1 This Airworthiness Notice is applicable to all Myanmar registered aeroplanes over 5700 kg. MTWA, certificated in the Transport Category (Passenger) and configured to carry 20 or more passengers and equipped with Type III emergency exits and/or Type IV exits or other equivalent. Exits considered to be equivalent to Type IV exits are referred to as Type IV exits in this Notice.
- 1.2 For the purpose of this Notice, exits which are smaller in size than Type III emergency exits (including elliptical exits) shall be deemed to be Type IV emergency exits, even though they are not formally classified as such.

2. Introduction

- 2.1 From a review of accidents, where rapid evacuation of the aeroplane was a critical factor governing passenger survival, Issue 1 of this Notice stated that it appeared that mid-cabin Type III emergency exits, although only rated for a relatively small number of passengers, could, in certain circumstances, become a major escape route.
- 2.2 As a result of a further review it has been decided to extend the applicability of this Notice to include Type IV emergency exits and also to clarify some of the original requirements.
- 2.3 Aircraft on the Myanmar register at the date of issue of this Notice, of types to which it is applicable, were certificated to the requirements of FAR 25.813(c) (1) or BCAR Section D, Chapter D4-3 paragraph 4.2.5(d); the two requirements are similar as far as technical objectives in respect of emergency exits are concerned. JAR requirements are similar and published in JAR 25.813(c) (1).
However in these current requirements, no specific dimensions are quoted for the minimum width of access to such exits from between adjacent seat rows and tests by other regulatory authorities have demonstrated that, in practice, seat pitches down to approximately 30 inches have little or no effect on the rate of exit egress. The major constraint on the location of seats relative to such exits is brought about by the need to ensure that the seats do not impede the removal and disposal of the exit hatches.
- 2.4 The DCA believes that Type III and Type IV emergency exits need to be made more effective pending possible international adoption of radical improvements in access to and ease of opening of such exits. Such new regulations, if adopted, will of necessity be on a relatively long timescale. In the interim, the DCA has established that, whilst only small improvements can be made in exit egress rates, immediate action can be taken that will provide greater space adjacent to the exit and thereby facilitate the more rapid opening of such exits and reduce the time taken for the initiation of passenger egress. Accordingly, this Notice has been issued to ensure

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effective opening, handling and disposal of the hatch and to define the additional minimum access requirements for Type III and Type IV emergency exits.

- 2.5 To realize the full potential of improved exit access, it is also essential that passengers seated adjacent to the exits are readily able to determine the correct method of opening and disposal of exits in an emergency. Whilst such information is provided in the Cabin Safety Leaflet, operating instructions, comparable to those contained in such Leaflet, are required by this Notice to be repeated on the backs of all seats on the seat row immediately forward of the exits.
- 2.6 To encourage a smooth passenger flow through the relatively small Type III and Type IV emergency exits, it is important that passengers are encouraged to approach the exit from the cabin aisle via an access route which is sensibly normal to the exits. Alternative routes such as can be created by climbing over seat backs which have been pushed forward should be discouraged. To achieve, where possible, an orderly approach to the exit from the aisle, the DCA has decided that the seat backs of those seat rows immediately forward and aft of the exit access route from the aisle shall be restricted in both recline and break forward not only to maintain the minimum access width but also to maintain the seat back in an essentially up-right attitude.
- 2.7 Whilst the revised seating arrangements required by this Notice should minimize the likelihood of passengers either kneeling or standing on seats to reach the exit, it is nevertheless considered necessary to ensure that the seat design in such that a person's foot, say, may not be trapped.

3. Compliance

With effect from January, 2008 all aeroplanes defined in paragraph 1 above must comply with the requirements of this Notice.

4. Requirements

- 4.1 To facilitate rapid opening and disposal, each Type III and Type IV emergency exit, in addition to meeting the current requirements of FAR 25.813(c) (1), BCAR Section D, Chapter D4-3, paragraph 4.2.5(d) or JAR 25.813(c) (1) as applicable, shall have access space meeting the requirements specified in either paragraph 4.1.1 or 4.1.2 for Type III exits or either paragraph 4.1.3 or 4.1.4 for Type IV exits.

Access Space Requirements for Type III

- 4.1.1 Where seats are arranged such that there is a single access route between seat rows from the aisle to a Type III exit, the access shall be of sufficient width and be located fore and aft so that no part of any seat which is beneath the exit extends beyond the exit centre line and the access width between seat rows vertically projected, shall not be less than half the exit hatch width including any trim, or 10 inches, whichever is the greater (see Figure 1).

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NOTE: The outboard arm rest must not protrude across the exit aperture nor impede the removal of the exit hatch.

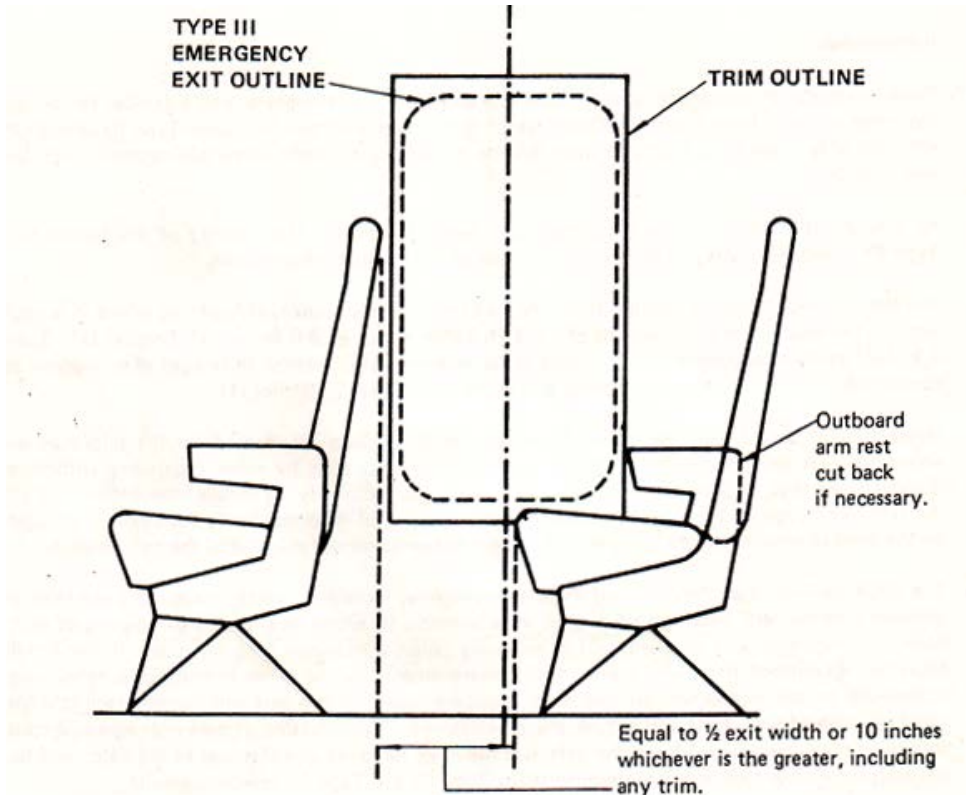


FIGURE 1 : MINIMUM ACCESS SPACE REQUIRED BY PARAGRAPH 4.1.1.

- 4.1.2 Seat may only be located beyond the centre line of a Type III exit provided there is a space immediately adjacent to the exit which projects inboard from the exit a distance no less than the width of a passenger seat and the seats are so arranged as to provide two access routes between seat rows from the cabin aisle to the exit.

NOTE: Where more than one access route from the cabin aisle to a Type III exit is provided, the minimum access width referred to in paragraph 4.1.1 need not apply (see paragraph 5.4 of this Notice).

Access Space Requirements for Type IV

- 4.1.3 Where seats are arranged such that there is a single access route from the aisle to a Type IV emergency exit then the projected exit aperture shall not be obstructed from the exit inboard for a distance equal to one passenger seat to the aisle (see Figure 2 and paragraph 5.4 of this Notice.)

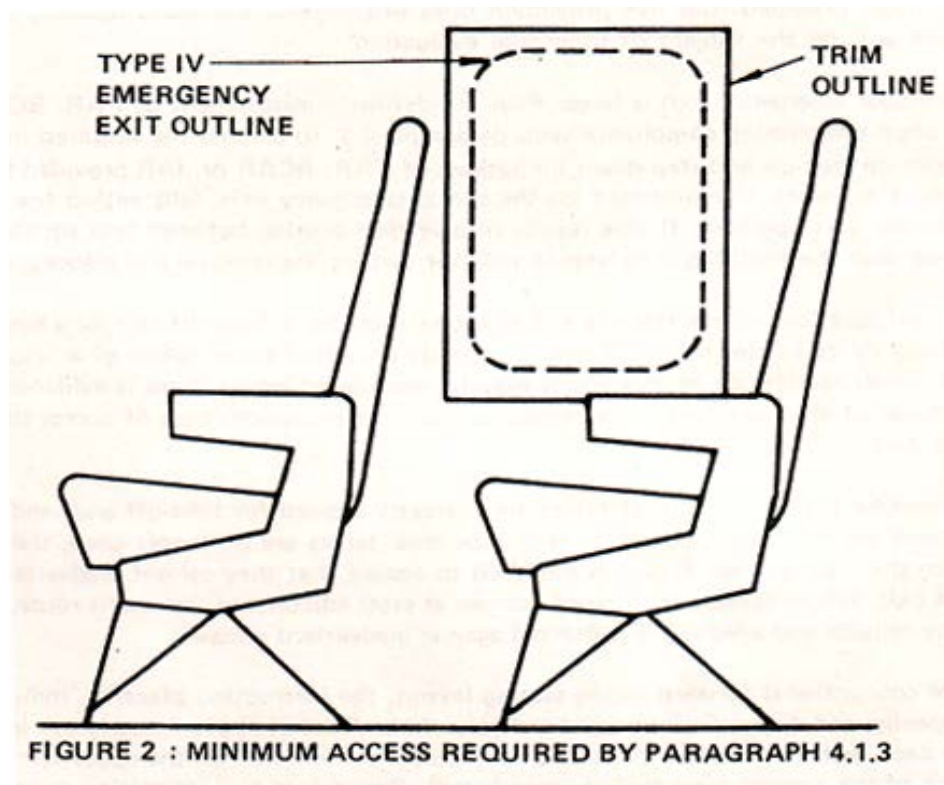
NOTE: (1) Some incursion into the projection area of the emergency exit hatch, including its trim, may be acceptable so long as it can be shown that the incursion does not impair the rapid removal of the exit hatch.

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(2) The outward arm rest must not protrude across the exit aperture nor impede the removal of the exit hatch.

- 4.1.4 Seats may only be located in line with a Type IV exit such that the seat back is within the projected exit aperture provided there is a space immediately adjacent to the exit. Such a space shall project inboard from the exit a distance no less than the width of a passenger seat and be so arranged as to provide two access routes between seat rows from the cabin aisle to the exit. (See paragraph 5.4 of this Notice).



- 4.2 Instruction Placards, clearly indicating the method of opening and disposal of each Type III and Type IV emergency exit, (additional to existing opening instructions at the exit), shall be located in a prominent position in front of, and clearly visible to, the occupant of each seat which forms the access route from the cabin aisle to the exit (see paragraph 5.6 and 5.9 of this Notice).
- 4.3 The seat back of each seat which forms the boundary of the access route to each Type III and Type IV emergency exit shall be restricted in its movement (break forward and recline, where fitted) so as to maintain the minimum access to the exit required by paragraph 4.1, and ensure that the seat back is in an essentially upright position (i.e. fully forward or fully back, but not exceeding +/- 35 degrees from the vertical), without overlapping the projected opening of the exit.

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- 4.3.1 The seat back shall be capable of maintaining the essentially upright position under loads of up to 300 lb which should be applied horizontally, in each direction of travel, at the top of the seat back structure at the most adverse position relative to its support structure. The seat back, when under load, should remain upright within +/- 35 degrees of the vertical and any permanent deformation should not significantly impede access to the exit.
- 4.3.2 Permanent deformation should be kept to a minimum particularly where access dimensions are close to the minima specified in this Notice. The seat manufacturer or organization responsible for any necessary seat modifications should declare such deformation data to enable an assessment to be made of its significance in the specific seating layout. (See paragraph 5.3 and 5.7).
- NOTE: The seat backs of aisle seats need not be maintained in the essentially upright position where this would facilitate improved access to the escape routes, provided that the minimum access to the exit required by paragraph 4.1 is maintained.
- 4.4 The interior surface of each exit hatch shall be free of any significant projection which might inhibit or otherwise delay the exit opening. The past practice of mounting stub armrest on the exit shall be continued.
- 4.5 The seat pan and lower back rest suspension of all seats bounding the access route(s) from the cabin aisle to the emergency exit shall be free from any gaps which might entrap a foot or other part of a person standing or kneeling on the seat. (See paragraph 5.8 of this Notice)

5. Additional Information

- 5.1 When measuring the minimum access width between seat rows leading to Type III emergency exit, seat pans (if able to tip up) are to be down and seat backs must be in the upright (take-off and landing) position .
- 5.2 No alleviation to these requirements will be granted on the basis of deformable soft furnishings, except that for Type III emergency exits only some projection of the seat cushion above the lower sill height may be permitted provided that this projection does not impede the rapid opening of the exit. Such configurations will be the subject of individual evaluation.
- 5.3 Where a particular emergency exit is larger than the defined measurement of FAR, BCAR or JAR, it is permissible when establishing compliance with paragraph 4.3, to assume the minimum required exit size and the maximum step-up and step-down limitations of FAR, BCAR or JAR provided that this required minimum exit size, when superimposed on the actual emergency exit, falls within the boundary of the actual emergency exit aperture. If this results in a vertical overlap between seat squab and lower sill it shall be shown that the resulting interference will not restrict the removal and disposal of the exit hatch.

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- 5.4 For seating configurations where there is a dual access route to a Type III exit, or a single or dual access route to a Type IV exit from the cabin aisle, a vertically projected access width of at least 6 inches should be provided. Small reductions in this access may be considered where there is evidence to demonstrate that the features of the specific configuration can achieve equivalent ease of access to, and egress rate through, the exit.
- 5.5 It is a requirement that fold-up meal tables are correctly stowed for take-off and landing. If, however, having increased the seat pitch, particular seat back meal tables are no longer used, they must either be removed from the seat, or their function inhibited to ensure that they cannot inadvertently obstruct the access to the exit. Where tables are retained for use at seats adjacent to the access route, the latches shall be sufficiently reliable and adequately protected against inadvertent release.
- 5.6 For the more conventional forward facing seating layout, the instruction placards, indicating the correct method of opening and disposal of the exit hatch, should be fixed at approximately eye level to the seated occupant on each seat immediately forward of the access route either on the upper seat back itself or on the outer face of the stowed meal table (where fitted). Where face to face seating makes such a location ineffective, placards, again at approximately eye level to the seated occupant, mounted on either side of the exit and visible to the occupants of the affected seat rows would be acceptable. Where such seating is not symmetrical about the exit centre line it may be necessary to locate an additional placard on the exit itself, to ensure good visibility to the seated passengers. Wherever possible, a pictorial instruction placard, comparable with that contained in the Cabin Safety Leaflet, should be use. (See paragraph 5.9 of this Notice.)
- 5.7 Where break forward facilities are provided on seat backs in seat rows bounding access routes, it is recommended that, wherever practicable, this feature should be retained but limited in travel only to an extent necessary to ensure compliance with paragraph 4.3 of this Notice.
- 5.8 The assessment of potential entrapment should be made both with and without the seat cushion in place. Ideally the seat upholstery and seat suspension should be free of any gaps into which it would be possible to place a foot, hand or arm in such a way as to delay or hamper free movement of passengers to the exit. Where gaps are unavoidable, their location and shape should be evaluated subjectively to assess the likely hazard. Any gap of greater than one inch into which a hand or foot may enter is considered to be unacceptable.
- 5.9 Each passenger carrying aeroplane shall have an emergency lighting system, independent of the main lighting system that -
- (i) Illuminates passenger exit marking and locating sign;
 - (ii) Provides enough general lighting in the passenger cabin; and
 - (iii) Includes floor proximity emergency escape path marking.

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Each passenger emergency exit and the means of opening that exit from the outside shall be marked on the outside of the aeroplane.

- 5.10 All modifications to seats, or to their installation, necessary to achieve compliance with the requirements of this Notice shall be the subject of the normal DCA approval procedure. The Instruction Placards required by paragraph 4.2 together with the associated Cabin Safety Leaflet should be submitted to the DCA for approval.