



Service public fédéral Mobilité et Transport
Federale Overheidsdienst Mobiliteit en Vervoer

Direction générale Transport aérien – Directoraat-generaal Luchtvaart

CIRCULAIRE

CIR/OPS-08

Objet :

Cette circulaire a pour but de préciser, à l'intention des exploitants d'avions d'une masse totale maximum autorisée égale ou supérieure à 5.700 kg et utilisés pour le transport aérien commercial, le nombre maximum de passagers admis à bord de ces avions en fonction du nombre et de l'emplacement des issues disponibles.

Réf. :

- 1) Règlement fixant les mesures techniques à prendre pour l'exploitation dans le transport aérien commercial des avions d'un poids total maximum autorisé égal ou supérieur à 5.700 kg, établi par l'A.M. du 13 février 1970, en particulier le § 5.3.12 a) et b)
- 2) EASA Certification Specifications CS 23, Book 1, Subpart D
- 3) EASA Certification Specifications CS 25, Book 1, Subpart D, Emergency provisions
- 4) TGL (JAR-OPS) 26 Guidance Document for MEL Policy
- 5) JAA-Administrative and Guidance Material, Section Four/Part Two (JAR-OPS), Appendix 6 (JAR-OPS 1), Item 17

Le Directeur Général,
De Directeur-Generaal,

J. Kneepkens

Betreft :

Deze circulaire heeft tot doel om, ten behoeve van de exploitanten van vliegtuigen met een hoogst toegelaten totale massa van 5.700 kg en meer en die uitgebaat worden in het handelsluchtvervoer, het maximum aantal passagiers te bepalen dat aan boord van deze vliegtuigen toegelaten mag worden in samenhang met het aantal en de plaats van de uitgangen.

Ref. :

- 1) Het M.B. van 13 februari 1970 houdende reglement waarbij de technische maatregelen worden vastgesteld die moeten genomen worden voor de exploitatie van de vliegtuigen in het handelsluchtvervoer, met een hoogst toegelaten totaalgewicht van 5.700 kg en meer, in het bijzonder §.5.3.12 a) en b)
- 2) EASA Certification Specifications CS 23, Book 1, Subpart D
- 3) EASA Certification Specifications CS 25, Book 1, Subpart D, Emergency provisions
- 4) TGL (JAR-OPS) 26 Guidance Document for MEL Policy
- 5) JAA-Administrative and Guidance Material, Section Four/Part Two (JAR-OPS), Appendix 6 (JAR-OPS 1), Item 17

L'édition 6 comprend
De 6^{de} uitgave bevat

13 Pages datées : 31.07.2007
blz. gedagtekend

Règles de base

1. L'exploitant est tenu de respecter les conditions techniques et opérationnelles stipulées dans la présente circulaire et son annexe.
2. Le nombre de passagers à bord d'un avion ne peut jamais être supérieur au :
 - a) nombre maximum indiqué sur la fiche de navigabilité;
 - b) nombre maximum indiqué sur le certificat de navigabilité;
 - c) nombre de sièges (ou de couchettes) passagers équipés d'une ceinture de sécurité;
Note : Seules les personnes ayant atteint l'âge de deux ans sont prises en considération pour la détermination du nombre de sièges (ou de couchettes).
 - d) nombre maximum qui peut être autorisé en vertu des exigences en matière d'équipements de sécurité tels que sorties de secours, oxygène, gilets de sauvetage, canots de sauvetage, etc. ...
3. Le nombre maximum de sièges passager autorisé pour chaque avion utilisé par l'exploitant, à l'exclusion des sièges équipages cockpit et cabine, sera spécifié dans le manuel d'exploitation de l'exploitant et soumis pour approbation à l'Administration de l'Aéronautique.

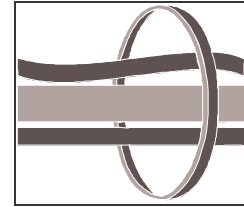
L'exploitant peut soumettre à l'approbation de l'Administration de l'Aéronautique plusieurs versions d'aménagement cabine pour un même avion ou type d'avion.

4. Les exigences de la sixième édition de cette circulaire sont applicables à partir du 1^{er} octobre 2007.

Basisregels

1. De exploitant is verplicht de technische en operationele voorwaarden, bepaald in deze circulaire en zijn bijlage, na te leven
2. Het aantal passagiers aan boord van een vliegtuig mag nooit groter zijn dan :
 - a) het maximum aantal zoals aangegeven in de luchtwaardigheidsfiche;
 - b) het maximum aantal zoals aangegeven in het bewijs van luchtwaardigheid;
 - c) het aantal passagierszetels (of kooien) uitgerust met een veiligheidsgordel;
Nota : Alleen de personen, die twee jaar en meer zijn, worden in aanmerking genomen om het aantal zetels (of kooien) te bepalen.
 - d) het maximum aantal dat kan toegelaten worden op grond van de eisen op gebied van veiligheidsuitrustingen zoals nooduitgangen, zuurstof, zwemvesten, reddingsboten, enz ...
3. Het maximum aantal van toegelaten passagierszetels, voor elk vliegtuig door de exploitant gebruikt, met uitsluiting van de stuur- en cabinepersoneel zetels, zal in het exploitant vluchthandboek gespecificeerd worden en voor goedkeuring aan het Bestuur van de Luchtvaart voorgelegd worden.

De exploitant mag, voor een zelfde vliegtuig of vliegtuig type, verschillende versies of cabine inrichtingen voor goedkeuring aan het Bestuur van de Luchtvaart voorleggen.
4. De eisen van de zesde uitgave van deze circulaire zijn van toepassing vanaf 1^{ste} oktober 2007.



CIVIL AVIATION ADMINISTRATION, BELGIUM
a member of the
JOINT AVIATION AUTHORITIES

PASSENGER SEATING CONFIGURATION

I. OPERATING AN AEROPLANE WITH ALL THE EXITS OPERATIVE

1. Emergency evacuation.

- a) Each crew and passenger area must have emergency means to allow rapid evacuation in crash landings, with the landing gear extended as well as with the landing gear retracted, considering the possibility of the aeroplane being on fire.
- b) For aeroplanes having a seating capacity of more than 44 passengers, it must be shown that the maximum seating capacity, including the number of crew members required by the operating rules, can be evacuated from the aeroplane to the ground under simulated emergency conditions within 90 seconds. Compliance with this requirement must be shown by actual demonstration using the test criteria outlined in Appendix J of the EASA Certification Specifications CS 25.

2. Passenger emergency exit types.

Refer to Appendix C for the definition of the types of exits.

3. Passenger emergency exit ratings.

TABLE I

Emergency Exit Type	Passenger Exit Ratings (per exit pair)
Type A	110
Type B	75
Type C	55
Type I (Large) *	60
Type I	45
Type II	40
Type III	35

* «Type I (Large)», with an exit pair rating of 60, applies only to the forward and rear doors of the Boeing B-737 series and to the Bae146 and Avro RJ family.

4. Emergency exit access.

Each required emergency exit must be accessible to the passengers and located where it will afford an effective means of evacuation. Further details on this subject may be found in the EASA Certification Specifications CS 25.813.

In addition to these requirements, the passenger seating configuration must be such that no passenger will have to pass an exit except in those compartment of an aeroplane where very limited numbers of passengers can be accommodated, such in First or Business Class.

5. Width of the aisle.

The passenger aisle width at any point between seats must equal or exceed the values in the following table:

Passenger seating capacity	Minimum passenger aisle width	
	Less than 64 cm from floor	64 cm and more from floor
10 or less	30 cm(*)	38 cm
11 to 19	30 cm	51 cm
20 or more	38 cm	51 cm

(*) A narrower width not less than 23 cm may be approved when substantiated by tests found acceptable by the Belgian CAA.

6. Maximum number of seats abreast.

On aeroplanes having only one passenger aisle, no more than 3 seats abreast may be placed on each side of the aisle in any one row.

II. OPERATING AN AEROPLANE WITH AN INOPERATIVE EXIT

1. An operator shall not operate an aeroplane with an inoperative exit, if so permitted by the MEL, unless the appropriate maximum permitted aeroplane capacity tables have been specified in that document. Such tables will in no circumstances permit operation outside the constraints of the MMEL.
2. Maximum Permitted Aeroplane Capacity tables are to be produced for each inoperative exit in every aeroplane type and passenger seating configuration used. The operator is responsible for the accuracy and amendment status of these tables.
3. Cabin crew procedures should reflect those detailed in Appendix A, and are to be specified in the Cabin Crew volume of the Operations Manual.
4. For aeroplanes in passenger or combi configuration, not more than one exit may be inoperative. On aeroplanes that have more than one deck, not more than one exit may be inoperative on each deck.

Note: Flights with an Inoperative Exit on the upper deck of Boeing 747 aeroplanes shall only be made in accordance with the policy at Appendix B.

5. For aeroplanes in all cargo configuration, any in excess of one non-cockpit emergency exit may be inoperative.
6. The operator must take the following into account :
 - a) An exit is considered to be inoperative when :
 - i) the exit does not function correctly;
 - ii) the evacuation slide, if required, is not serviceable;
 - iii) the exit sign is not serviceable;
 - iv) the floor proximity exit identifier is not serviceable;
 - v) the exit interior emergency lighting is not serviceable; or
 - vi) the exit exterior emergency lighting is not serviceable during night-time operations.
 - b) The MEL "Rectification intervals" and "Remarks or exceptions" entries must comply with the JAA Temporary Guidance Leaflet (JAR-OPS), Leaflet N° 26 – Section 3 – ATA 52-22.
 - c) Aeroplanes with inoperative exits may only operate in accordance with the appropriate maximum permitted aeroplane capacity tables included in the aeroplane type MEL.
 - d) The inoperative exit must be secured closed prior to passengers boarding and must not be used for any purpose whilst passengers are on board. In the event of an exit that has been used for boarding becoming unserviceable, then, prior to take-off, all passengers must be fully briefed on the inoperative exit and the revised emergency procedures to be used. The unserviceable exit must be secured in accordance with Appendix A paragraph 3.

**III. CALCULATION OF REDUCED PASSENGER CAPACITY FOR
AEROPLANES OPERATED WITH INOPERATIVE EXITS**

1. The calculation assumes that the other exit of the exit pair is also inoperative.
2. The total number of passengers allowed shall not exceed the maximum approved passenger seating configuration (MAPSC), the combined exit capacities of the remaining exit pairs, or for operations on which liferafts are required to be carried, the combined rated capacity of the usable slide/raft pairs, whichever is most limiting of the three conditions.

Note : The MAPSC is entered in Appendix 2 to the Airworthiness Certificate issued for aircraft registered in Belgium.
3. The maximum number of passengers permitted for each inoperative exit pair is calculated as follows.
 - a) A plan of the passenger compartment clearly showing the position of exits, type of exits, zones and the number and position of all passengers in each zone must first be constructed.

Note : A zone is defined as that space between longitudinally adjacent exits or between an exit and the front or rear of the aeroplane.
 - b) Add together the passenger exit ratings (refer to Part I, paragraph 3, Table I) for all operative exit pairs and note the total this produces.
 - c) If liferafts are required to be carried, add together the rated capacities of all usable slide/raft pairs and note the total this produces.
 - d) The more limiting figure of the paragraphs 2, 3.(b) and 3.(c) above now becomes – for that inoperative exit pair – the Maximum Permitted Aeroplane Capacity (MPAC). This number is to be entered in the appropriate column of the Maximum Permitted Aeroplane Capacity Table.
 - e) Within each column, the passenger capacity of any zone is calculated by subtracting from the MPAC the passenger capacities of all other zones that are not affected by the inoperative exit pair.
 - f) Twin over-wing emergency exits are to be considered as a single exit when an associated slide or common exit sign is unserviceable. In these circumstances passenger reduction figures are to be calculated as if both exit pairs were inoperative.
4. Except for aeroplanes having an emergency exit configuration installed and approved prior to 1 April 1999, an operator shall not operate a large aeroplane having a MAPSC of more than 19 with an emergency exit deactivated, when such a deactivation results in an emergency exit being more than 18,3 m from any adjacent passenger emergency exit on the same side of the same deck of the fuselage, as measured parallel to the aeroplane's longitudinal axis between the nearest exit edges (refer to EASA Certification Specifications CS 25.807(d)(7) and JAR 26.100).
5. Passenger capacity must be reduced in a zone, from that calculated above, when the maximum calculated capacity of that zone exceeds the number of passengers that can use the associated pair of exits.
6. As required in Part I, paragraph 4 above, no passenger shall have to pass an exit, operative or inoperative, to get to their nominated exit except in those compartments of an aeroplane where very limited numbers of passengers can be accommodated.
7. Where the calculation described above results in a reduced passenger capacity, the operator is to identify

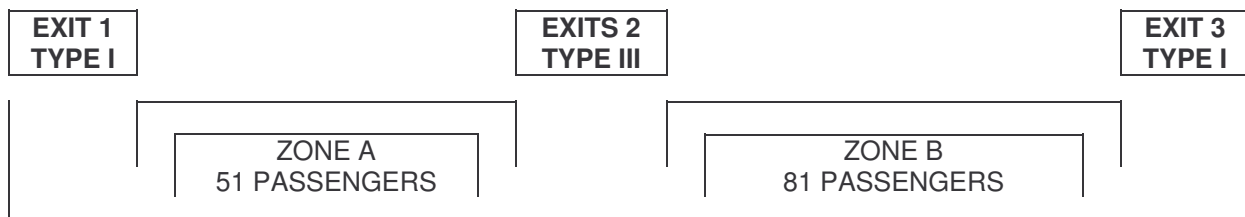
a number of seats equal to the reduction, in a block in the affected zone closest to the inoperative exit and;

8. The seats shall be blocked off with conspicuous tapes or ropes that contrast with the interior, prior to loading passengers. Only the seats in these areas shall be blocked: passenger aisles, cross aisles and exits must not be blocked.
9. Cabin crew should, if appropriate, remain stationed in the vicinity of each exit within the blocked areas. The existence of an inoperative exit does not affect the required number/distribution of cabin crew.
10. The mass and balance documentation must be revised as necessary to ensure safe loading and, if applicable, a revised tail trim setting.

**IV. EXAMPLES OF MAXIMUM PERMITTED AEROPLANE CAPACITY
TABLE**

Note: The examples are for illustration purposes only and may not reflect the actual passenger seating layout of any particular aeroplane. It is assumed that the slide/raft capacity calculated in accordance with II.3(c) is greater than the passenger exit rating calculated in accordance with II.3(b).

**MAXIMUM APPROVED PASSENGER SEATING CONFIGURATION (MAPSC) = 132 Pax
AEROPLANE PLAN**



**MAXIMUM PERMITTED AEROPLANE CAPACITY TABLE
AEROPLANE WITH INOPERATIVE EXIT
132 PASSENGER LAYOUT**

	Exit 1 Inoperative L/H or R/H Passenger Exit Rating: 55	Exit 2 Inoperative L/H or R/H Passenger Exit Rating: 35	Exit 3 Inoperative L/H or R/H Passenger Exit Rating: 55
Maximum Permitted Aeroplane Capacity	90 (55+35) (Sum of exit ratings for operative exit pairs)	110 (55+55) (Sum of exit ratings for operative exit pairs)	90 (55+35) (Sum of exit ratings for operative exit pairs)
Passenger capacity of ZONE A	9 (35-26) (limited by Zone B ca- pacity and exit 2 rating) Pax leave by exit 2	51 (Not limited by exit 1 rating) Pax leave by exit 1	51 (Zone not affected by the inoperative exit pair) Pax leave by exit 1
Passenger capacity of ZONE B	81 (Zone not affected by the inoperative exit pair) 26 Pax leave by exit 2 55 Pax leave by exit 3	55 (Limited by exit 3 rating) Pax leave by exit 3	35 (Limited by exit 2 rating) Pax leave by exit 2
Total number of seats to be blocked by inop- erative exit.	42 (132-90) (9+81=90)	26 (132-106) (51+56=106)	46 (132-86) (51+35=86)

Note : No seating/number combinations may be used in an aeroplane with an inoperative exit unless the individual cases have been evaluated and have been included in the MEL Table.

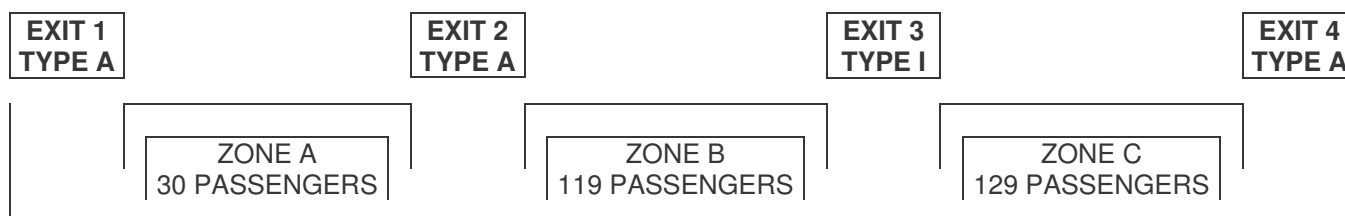
PASSENGER SEATING CONFIGURATION CIR/OPS-08

Annexe

Bijlage

MAXIMUM APPROVED PASSENGER SEATING CONFIGURATION (MAPSC) = 278 Pax

AEROPLANE PLAN



MAXIMUM PERMITTED AEROPLANE CAPACITY TABLE

AEROPLANE WITH INOPERATIVE EXIT

278 PASSENGER LAYOUT

	Exit 1 Inoperative L/H or R/H Pass. Exit Rating: 110	Exit 2 Inoperative L/H or R/H Pass. Exit Rating: 110	Exit 3 Inoperative L/H or R/H Pass. Exit Rating: 45	Exit 4 Inoperative L/H or R/H Pass. Exit Rating: 110
Maximum Permitted Aeroplane Capacity	265 (110+45+110=265) (Sum of exit ratings for operative exit pairs)	265 (110+45+110=265)+ (Sum of exit ratings for operative exit pairs)	278 (110+110+110=330) (Sum of exit ratings for oper. exit pairs exceeds MAPSC)	265 (110+45+110=265) (Sum of exit ratings for operative exit pairs)
Passenger capacity of ZONE A	17 (110-93) (limited by exit 2 rating & zone C capacity) Pax leave by exit 2	30 (Not limited by exit 1 rating) Pax leave by exit 1	30 (Zone not affected by the inop. exit pair) Pax leave by exit 1	30 (Zone not affected by the inop. exit pair) Pax leave by exit 1
Passenger capacity of ZONE B	119 (Zone not affected by the inop. exit pair) 93 Pax leave by exit 2 26 Pax leave by exit 3	26 (45-19=26) (Limited by exit 3 rating and Zone C capacity) Pax leave by exit 3	110 (Limited by exit 2 rating) Pax leave by exit 2	119 (Zone not affected by the inop. exit pair) 110 Pax leave by exit 1 9 Pax leave by exit 3
Passenger capacity of ZONE C	129 (Zone not affected by the inop. exit pair) 19 Pax leave by exit 3 110 Pax leave by exit 4	129 (Zone not affected by the inop. exit pair) 19 Pax leave by exit 3 110 Pax leave by exit 4	110 (Limited by exit 4 rating) Pax leave by exit 4	36 (45-9) (Limited by exit 3 rating and Zone B capacity) Pax leave by exit 3
Total number of seats to be blocked by inoperative exit.	13 (278-265) (17+119+129=265)	93 (278-185) (30+26+129=185)	28 (278-250) (30+110+110=250)	93 (278-185) (30+119+36=185)

Note : No seating/number combinations may be used in an aeroplane with an inoperative exit unless the individual cases have been evaluated and have been included in the MEL Table.

**Appendix A – CABIN CREW PROCEDURES ASSOCIATED WITH AN
INOPERATIVE EXIT**

1 Cabin crew briefing

The senior cabin crew member should include the following in a special pre-departure briefing of all cabin crew members:

Awareness of all crew members of the condition and location of the inoperative exit.

Revision of passenger pre-flight safety briefing.

Revision of emergency drills for all affected crew member(s). This should take into account assessment of exit, redirection strategy and any other appropriate evacuation techniques for cabin crew member(s) normally responsible for the operation of the inoperative exit.

Cabin crew should identify the status of other exits in their vicinity and passenger movement to operative exits, away from inoperative exits.

2 Seating of passengers

When load factor permits, passengers should be seated as far away from the inoperative exit as the aeroplane mass and balance allows, within the constraints of the approved passenger reduction table. Liaison with the flight deck crew on this issue is essential.

3 Exit markings

All the emergency exit and/or exit markings, signs and lights, including floor proximity lights, associated with the inoperative exit must be obscured prior to passenger embarkation. The exit unserviceable placard (usually stowed on the flight deck) must be affixed to the inoperative exit prior to passenger embarkation.

4 Passenger pre-flight briefing

The pre-take-off briefing to passengers must accurately represent the current state and condition of the aeroplane's escape facilities. An oral briefing by cabin staff, or a briefing using automatic audio/visual means, or a briefing by reference to a briefing card, must be immediately qualified by an oral announcement to draw the passengers' attention to the fact that a particular exit is inoperative.

5 Assessment of inoperative exit usability in extreme circumstances

In the event of an emergency evacuation being required, in extreme circumstances, as a last resort it may be possible for the exit to be used i.e. if no other exits are available. For example an exit without a slide on one side of the aeroplane in an undercarriage collapse situation, may provide a suitable means of egress. Cabin crew must assess the conditions on the day and make appropriate judgements as to possible actions.

Appendix B – BOEING 747 (UPPER DECK POLICY)

I. BOEING 747-100/-200

1 Passenger, Cargo or Combi Configuration with one exit on the upper deck.

This exit may be inoperative provided only those flight crew members essential to the flight (including official observer in forward observer seat) occupy the upper deck during take-off or landing. (Total of 5 Flight Crew members.)

2 Passenger, Cargo or Combi Configuration with two exits on the upper deck.

One may be inoperative provided upper deck occupancy is limited to 16 passengers.

Both may be inoperative provided only those flight crew members essential to the flight (including official observer in forward observer seat) occupy the upper deck during take-off or landing. (Total of 5 Flight Crew members.)

3 Cargo Configuration, or Cargo with Upper Deck Occupants with two exits.

One may be inoperative provided only those flight crew members essential to the flight (including official observer in forward observer seat), plus those persons as identified by the Aircraft Flight Manual, occupy the upper deck during take-off or landing. (Total of 8 Flight Crew members.)

Both may be inoperative provided only those flight crew members essential to the flight (including official observer in forward observer seat) occupy the upper deck during take-off or landing. (Total of 5 Flight Crew members.)

II. BOEING 747-300/-400 (UPPER DECK POLICY)

1 Passenger or Combi Configuration with two exits on the upper deck.

One may be inoperative provided upper deck occupancy is limited to 24 passengers and aircraft capacity is limited to 550 passengers.

Both may be inoperative provided only those flight crew members essential to the flight (including official observer in forward observer seat) occupy the upper deck during take-off or landing. (Total of 5 Flight Crew members.)

2 Freighter with one exit on the upper deck.

May be inoperative provided only those flight crew members essential to the flight (including official observer in forward observer seat) occupy the upper deck during take-off or landing. (Total of 5 Flight Crew members.)

APPENDIX C TYPES OF EMERGENCY EXITS

1. Type A.
This type is a floor level exit with a rectangular opening of not less than 1,07 m wide by 1,83 m high, with corner radii not greater than 1/6 the width of the exit.
2. Type I (large) (Applicable to B-737 series and to Bae 146 and Avro RJ family only)
This type is a floor level exit with a rectangular opening of not less than 76 cm wide by 1,22 m high, with corner radii not greater than 1/3 the width of the exit.
3. Type I.
This type is a floor level exit with a rectangular opening of not less than 61 cm wide by 1,22 m high, with corner radii not greater than 1/3 the width of the exit.
4. Type II.
This type is a rectangular opening of not less than 51 cm wide by 1,12 m high, with corner radii not greater than 1/3 the width of the exit. Type II exits must be floor level exits unless located over the wing, in which case they may not have a step-up inside the aeroplane of more than 25 cm nor a step-down outside the aeroplane of more than 43 cm.
5. Type III.
This type is a rectangular opening of not less than 51 cm wide by 91 cm high, with corner radii not greater than 1/3 the width of the exit, and with a step-up inside the aeroplane of not more than 51 cm. If the exit is located over the wing, the step-down outside the aeroplane may not exceed 69 cm.
6. Type IV
This type is a rectangular opening of not less than 48 cm wide by 66 cm high, with corner radii not greater than 1/3 the width of the exit, located over the wing, with a step-up inside the aeroplane of not more than 74 cm and a step-down outside the aeroplane of not more than 91 cm.
7. Ventral.
This type is an exit from the passenger compartment through the pressure shell and the bottom fuselage skin. The dimensions and physical configuration of this type of exit must allow at least the same rate of egress as a Type I exit with the aeroplane in the normal ground attitude, with landing gear extended.
8. Tail cone.
This type is an aft exit from the passenger compartment through the pressure shell and through an openable cone of the fuselage aft of the pressure shell. The means of opening the tail cone must be simple and obvious and must employ a single operation.