

Proposed Equivalent Safety Finding to JAR 25.1411(b): “(Safety Equipment) General”

Applicable to Boeing 737-700 / -800 / -900ER

Introductory note:

The hereby presented Equivalent Safety Finding has been classified as important and as such shall be subject to public consultation, in accordance with EASA Management Board decision 02/04 dated 30 March 2004, Article 3 (2.) of which states:

"2. Deviations from the applicable airworthiness codes, environmental protection certification specifications and/or acceptable means of compliance with Part 21, as well as important special conditions and equivalent safety findings, shall be submitted to the panel of experts and be subject to a public consultation of at least 3 weeks, except if they have been previously agreed and published in the Official Publication of the Agency. The final decision shall be published in the Official Publication of the Agency."

Due to certification/operational needs, exceptionally the consultation time of this ESF will be limited to two weeks. This derogation to the above quoted decision is based on the fact that this ESF is a variation on an existing ESF.

Statement of issue

Boeing introduced a new interior architecture into the 737-700, -800, -900ER model aircrafts, that incorporates a change to the overhead life vest stowage compartment.

This configuration does not directly comply with stowage provisions of JAR 25.1411(b) for required emergency equipment being arranged such that the stowed equipment is “directly accessible” and its location is obvious.

This ESF addresses the utilization of overhead life vests in a sequential manner for directly accessible per JAR 25.1411(b) (1).

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Applicant Proposal:

The life vests are located in a dedicated compartment above each passenger seat row that now stows the three life vests in a sequential manner resulting in occupants having to take turns in retrieving the life vests.

The life vest compartment is separate from the standard Passenger Service Units (PSU) panel containing the oxygen masks, chemical generators, reading lights, and individual air outlets.

These two compartments are installed sequentially throughout the cabin and positioned to ensure each passenger seat row has access to both.

The life vest compartment is manually opened by pushing a designated push bar at any point along the surface making the life vests available for retrieval. This push bar is located on the overhead surface within reach of each seated occupant and placarded to indicate the location of the life vests. The life vests are installed to provide easy access to each seated occupant.

The compartment is designed with smooth surfaces free from features that could trap or damage the life vests but will retain the life vests until a passenger removes it. The life vest design is limited to a specific range of dimensions to ensure free movement for removal. When all life vests are removed, the compartment will retract to within 10 degrees of the closed position. In the event all life vests are not removed, the inside of the compartment is placarded with instructions of how to close and secure door. A viewport is provided on the bottom of the panel to facilitate verification that the life vests are installed.

Applicant Safety Equivalency Demonstration

With respect to the new location for the overhead life vests proposed by Boeing, the following safety benefits associated with its implementation are:

- The overhead life vest location is readily visible to a seated passenger.
- Accessing the life vests is simple and obvious.
- The centralized location of the life vest stowage offers a means for passengers to assist other people with life vest retrieval if required, similar to oxygen mask installation.
- It provides an additional means for passengers to recognize their life vest stowage location by observing other passengers.
- This location is more readily accessible to the larger passengers.
- This location is not subject to damage from luggage or other passengers.
- This location will minimize pilferage due to compartment visibility.
- In a ditching situation the life vests will be available even during rising water. This location provides an improvement to the visibility and retrievability for life vests as compared to the traditional under seat stowage. This improvement in combination with data from testing conducted at the Civil Aerospace Medical Institute (CAMI report AM-03/9) and the National Transportation Safety Board Safety Study 85/02 provides a rationale to compensate for the directly accessible requirement.