

## **Proposed Special Condition on Fire Containment Containers Applicable to Dassault Aviation Falcon 2000**

### **Introductory note:**

The following Special Condition (SC) has been classified as an important SC and as such shall be subject to public consultation, in accordance with EASA Management Board decision 12/2007 dated 11 September 2007, 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."

### **Statement of issue:**

On Falcon aircraft models F2000, the Forward Servicing Compartment (FSC) is the compartment located between frames 26 and 33. This compartment is un-pressurized, not accessible in flight, and accessible on ground from a lockable external door located in the lower aft fuselage.

To be able to transport particular design features in the FSC, Dassault Aviation applied for approval of the installation of Removable Storage Lockers.

In consideration of the proposed lockers design, it is EASA's opinion that the proposed configuration corresponds most closely to, but does not fully meet, the cargo classification class F as per CS 25.857(f) at amendment 11, in its Fire Containment Container (FCC) option, as detailed in AMC to CS 25.857(f).

The CS 25.857(f) at amdt 11 states:

*Class F. A Class F cargo or baggage compartment is one in which -*

- (1) There is a separate approved smoke detector or fire detector system to give warning at the pilot or flight engineer station;*
- (2) There are means to extinguish or control a fire without requiring a crewmember to enter the compartment; and*
- (3) There are means to exclude hazardous quantities of smoke, flames, or extinguishing agent from any compartment occupied by the crew or passengers.*

It is noted that per CS 25.857(f)(1) a Class F compartment rule requires an approved fire or smoke detection, while the current design of the FCS does not have the provisions for such equipment.

However, EASA recognizes that the limited nature of the items proposed to be carried (golf/ski equipment) in the lockers, combined with a robust demonstration of their fire containment capability can result in an overall acceptably safe design.

In addition, JAR/CS 25.601 is a general design requirement stating:

*The aeroplane may not have design features or details that experience has shown to be hazardous or unreliable. The suitability of each questionable design detail and part must be established by tests.*

The FCS area is designed to host several critical systems, therefore, considering past experience on cargo loading, appropriate design/procedures should be in place to ensure safe installation.

Consequently EASA, based on JAR/CS 25.601, CS 25.857(f) and AMC to CS 25.855 & 25.857, consider that the Special Condition as defines below provide an acceptable design standard for the "Lockers"

### **Special Condition**

In order to be acceptable a container to be placed in the aft un-pressurized compartment on F2000 aircraft models (FSC) shall be compliant with the following Special Condition.

1. The container should be constructed of materials compliant with Part III of CS25 Appendix F, and sufficiently durable to withstand in-service conditions.
2. It should be demonstrated by test that the container is capable of containing a wide range of internal fire threats, for any period of time, whilst ensuring that adjacent systems, structure and occupied areas are protected from the effects of smoke, flames, extinguishing agent, heat, or any other adverse effect.
3. There should be a Content Limitation, as agreed with the Agency, which is clearly identified with placards on the container, addressed in the AFM and appropriate weight and balance or loading document. The Content Limitation should be justified on the bases of operational need and demonstrated low fire risk.
4. The loading, installation & de-installation of the container should be subject to appropriate Procedures, e.g. aircraft flying crew verification of content before each flight, installation/de-installation only by qualified personnel. It should be demonstrated that these Procedures are easy, and such that damage to aircraft structure and/or systems cannot occur. Placards detailing these Procedures should be placed on the container and/or in the compartment hosting the container.