

Proposed Special Condition on Service compartment reconfiguration

Applicable to DHC 8-311

Introductory note:

The following Special Condition has been classified as an important Special Condition 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."

Statement of Issue

The Bombardier DHC-8-311 aircraft in the Swedish Coastguard Maritime Patrol Aircraft (MPA) configuration has novel or unusual features associated with the alteration of the main deck baggage compartment to accommodate mission requirements and an air-operable exterior baggage door.

The main deck baggage compartment of the DHC-8-311 is classified as a "Class B" cargo compartment pursuant to FAR § 25.857 at Amdt. 25-32.

The Swedish Coastguard Maritime Patrol Aircraft (MPA) configuration eliminates the passenger seats and adds equipment for the conduct of patrol missions, including mission consoles, seats for up to five mission crew members, plus executive seating for up to four mission observers.

The aft baggage compartment bulkhead is moved forward, and specific equipment is incorporated into the compartment including:

- Alterations to the exterior baggage door to make it openable in flight subject to limitations;
- A sliding liferaft launcher that can be moved into position across the exterior baggage door opening when the door is open;
- A launch tube plus provisions for flares, sonobuoys and other similar items;
- Provisions for connection of crew member headsets into the aircraft's mission audio system as a means of two way voice communication with other occupants of the aircraft;
- Equipment racks for mission components including radios, inverters, power supplies and auxiliary equipment;
- Stowage provisions for a road stretcher;

- A wardrobe;
- Stowage provisions for crew luggage; and
- Provisions for the carriage of up to 450 kilograms of supplies related to the conduct of the mission. These materials will be stored under approved cargo nets along the aft section starboard half of the main floor of the cargo compartment.

The applicable airworthiness requirements of FAR part 25 do not envisage the regular use of the baggage compartment for purposes other than the carriage of baggage, or that the area could be routinely accessed by crew members in the execution of their duties, or that flights are carried out with the exterior baggage door open.

DHC 8-311 Special Condition D-02

- Service Compartment Reconfiguration -

The following special condition criteria define the design requirements to be complied with in addition to the applicable standards of the basis of certification. These criteria address airworthiness issue only and do not include any additional operational limitations, which may be considered necessary by the aircraft State of Registry to authorise operations with the baggage door open in flight.

1 Limitations on Use of Compartment / air operable baggage door

- Occupancy of the Service Compartment shall be limited to no more than two persons.
- The compartment shall not be occupied during taxi, take-off and landing.
- The air-operable baggage door shall be closed during taxi, take-off and landing.
- Operating limitations must be established and furnished in the AFM Supplement for flight with the air-operable baggage door open.
- The visual warning means to the flight crew as required by FAR 25.783(e) must not cause unacceptable nuisance door warnings when the air-operable baggage door is opened on purpose.

2 Placards and Signs

Appropriate placards and signs shall be conspicuously located at locations both inside and outside of the compartment to indicate the following:

- The maximum number of occupants allowed in the compartment is two.
- Occupancy is restricted to trained crew members only.
- Smoking is prohibited.
- The stowage of cargo or baggage in the compartment is limited to personal

effects of the occupants of the aircraft and materiel related to the conduct of the mission.

- (e) The compartment access door must be secured closed during taxi, take-off and landing and at all other times when the compartment is unoccupied.
- (f) The compartment access door must be secured open when the compartment is occupied, except that the door may be closed when in-flight operations are conducted with the exterior baggage door open.
- (g) An appropriate placard defining the operating instructions necessary for egress in the event that the compartment access door becomes jammed.
- (h) There must be a sign, meeting the requirements of FAR § 525.791(b) that is readily visible to occupants from any location in the Service Compartment, to notify when the occupants shall return to their seats and fasten their seat belts.

3 Compartment Evacuation

The Service Compartment access door must be designed to preclude anyone from becoming trapped inside the compartment. A means shall be provided to enable the occupants of the Service Compartment to directly return to the passenger compartment if the Service Compartment access door becomes jammed.

Information Note: *Frangible door design is an acceptable means of compliance to this requirement.*⁴ **Emergency Illumination**

- (a) In the event that the aircraft normal electrical power system should fail, emergency illumination of the Service Compartment must be automatically provided. The illumination level shall be sufficient for the occupants of the Service Compartment to locate and operate the normal and emergency means of opening the Service Compartment access door.
- (b) Unless two independent sources of normal lighting are provided, the emergency illumination of the Service Compartment must be automatically provided if the Service Compartment normal lighting system should fail.

5 Communication

- (a) A communication means shall be installed in the Service Compartment, to alert the compartment occupants in the event of an emergency situation.
- (b) A communication means shall be provided for two-way communication between the Service Compartment and the flight deck.
- (c) The communication means provided shall be operable under foreseeable failure conditions of the aircraft normal electrical power system.

6 Ventilation

The Service Compartment shall be designed to provide ventilation

commensurate with that for a crew member compartment, as specified in FAR § 25.831.

7 Fire Protection

- (a) In addition to the requirements of this SC, the compartment shall continue to meet the requirements of a "Class B" cargo compartment, as specified in FAR § 25.855 and § 25.857 at Amendment 25-32.
- (b) The following equipment must be provided in the Service Compartment or adjacent to the Service Compartment:
 - (1) One fire extinguisher, in addition to that required by FAR § 25.851, appropriate to the kinds of fires likely to occur;
 - (2) One protective breathing equipment, approved to TSO-C116 or equivalent, suitable for fire fighting; and
 - (3) One flashlight.
- (c) One ashtray must be provided outside the Service Compartment or adjacent to the entry door.

8 Safety Equipment

- (a) A helmet shall be provided for each occupant of the Service Compartment.
- (b) Means shall be provided to enable occupants of the service compartment to steady themselves in moderately rough air.
- (c) For use with the air- operable baggage door open, the Service Compartment shall be equipped with the following:
 - (1) An acceptable safety lanyard and provisions for attachment to airframe structure for each occupant; and
 - (2) An acceptable safety harness for each occupant.