CABIN AND TOILET FIRE PROTECTION

1. Applicability

1.1 Aircraft with a MTWA above 5700 kg., certificated in the Transport Category (Passenger) for less than 20 passengers: Paragraphs 4, 5.1.3 and 5.1.4 of this Notice.

1.2 Aircraft with a MTWA above 5700 kg, certificated in the Transport Category (Passenger) for more than 20 passengers: Paragraphs 4 and 5 of this Notice.

2. Introduction

2.1 Experience has shown that the design of receptacles (e.g. towel dispensers, waste containers), provided within toilet areas for the carriage of flammable materials and in particular flammable waste, does not in some cases comply with the current interpretation of published airworthiness requirements. In other instances the receptacles are not sufficiently robust to withstand the effects of wear and deterioration in service. It has also been proved that, regardless of notices prohibiting smoking in toilets, smoking does occur and that even when ashtrays are provided they are often not used and cigarette ends are deposited in other receptacles. At least one major accident, with a high number of fatalities, has been attributed to a fire originating in a waste receptacle.

2.2 The purpose of this Notice is to publish requirements aimed at reducing the probability of persons smoking in toilet compartments, minimizing the potential fire hazard caused by persistent smokers and to introduce improved requirement for smoke/fire detection and fire fighting capability. Similar requirements have been introduced in the United Kingdom and the United States.

3. Compliance

Certificates of Airworthiness in the Transport Category (Passenger) will not be issued to aircraft types included in paragraph 1 of this Notice unless compliance can be shown with sub-paragraph 4.1 and paragraph 5 where applicable.

NOTE: All affected aircraft on the Malaysian Register at the date of issue of this Notice were either in compliance or the Subject of an appropriate modification program approved by the DCA.

4. Requirements - fire containment

4.1 The design of all receptacles provided in the toilet compartments of aircraft with a MTWA over 5700 kg. certificated in the Transport Category (Passenger), will be assessed by the DCA against the requirements of this paragraph. Proposals shall be made by the applicant to the DCA for the incorporation of any modifications necessary to show compliance. Unless otherwise agreed by the DCA, the applicant should consult the aircraft manufacturer regarding such modifications.

4.1.1 If smoking is allowed in any other compartment occupied by the crew or passengers, an adequate number of self-contained, removable ashtrays must be provided for all seated passengers.

4.1.2 Regardless of whether smoking is allowed in any other part of the aircraft, lavatories must have self-contained, removable ashtrays located conspicuously on or near the entry side of each lavatory door. One ashtray may serve more than one lavatory door if the ashtray can be readily seen from the cabin side of each lavatory served.

4.1.3 ‘No Smoking’ placards and ashtrays are required both inside and outside these compartments. The ‘No Smoking’ placards shall be displayed so as to be prominent to, and the ashtrays shall be obviously and conveniently placed for, those about to enter and those within these compartments.

4.1.4 All receptacles shall be inspected to ascertain that all entry flaps or doors operate, fit, seal and latch correctly. Any defects revealed by the inspection shall be corrected.

4.2 Repetitive inspection requirements
The inspection prescribed in 4.1.3 shall be repeated at 1000 hourly intervals, or at such lesser intervals as may be decided by the DCA on the basis of available data. This inspection shall be included in the Maintenance Schedules using the normal procedure. The placards and ashtrays required by paragraph 4.1.1 shall be inspected for satisfactory condition at the same time interval.

4.3 Prohibition of Smoking In Toilet Compartments.

Smoking shall not be permitted in toilet compartments.

4.4 Interpretation of requirements

4.4.1 Receptacles (but see 4.4.3 for towel dispensers) shall be constructed of materials which are flame resistant and which, in addition, will retain sufficient mechanical properties as to contain such a fire as may develop by burning of materials, such as paper towels, as may be within the receptacle (it should be noted that although a thermoplastic material may be “flame resistant” it would not necessarily retain adequate mechanical properties in the case of a fire). The receptacle shall be completely enclosed with the exception of a self-closing entry flap or door, which itself shall be rigid, and when closed form as airtight a seal as is practicable. Entry flaps or doors shall be designed so that they remain self closing even after exposure to a fire within the receptacle.

4.4.2 It is however, permissible for receptacles to be open-topped provided that they are mounted in a cabinet which itself complies with 4.4.1. In this instance, the door of the cabinet shall be of a robust construction and such as to ensure an adequate seal and to withstand misuse in service. Such cabinets shall not contain other flammable materials, potential fire sources (e.g. electrical apparatus) or apertures that would either allow air to feed a fire or permit a fire to spread beyond the cabinet (e.g. apertures provided for services).

4.4.3 It is accepted that some receptacles, e.g. paper towel dispensers, cannot readily be designed to meet the above requirements. In such instances they shall be so designed and positioned within the compartment to ensure that:

(a) the likelihood of the depositing of cigarette ends, etc., into them is minimized and

(b) a fire, which could be expected to start in another container, cannot readily spread to them; for example, a paper towel dispenser must not be positioned adjacent to, or immediately above, either the entry flap or door of a waste container or an ash tray provided in the compartment.

4.4.4 The DCA will, on request, provide advice on acceptable alternate methods for flame resistance testing.

5. Requirements — smoke/fire detection and fire fighting capability

5.1 Issue of a Malaysian Certificate of Airworthiness

5.1.1 Each lavatory shall be equipped with a smoke detection system of a type approved by the DCA which provides a warning light in the cockpit, or provides a warning light or audible warning in the passenger cabin, so located as to be readily seen or heard by a flight attendant performing his normal duties throughout the flight.

5.1.2 Each lavatory must be equipped with a built-in fire extinguisher for each disposal receptacles for towels, paper or waste, located within the lavatory. The extinguisher must be designed to discharge automatically into each disposal receptacle upon occurrence of a fire in that receptacle.

5.1.3 In addition to the extinguishers provided for use in the flight deck, accessible cargo compartments and upper and lower deck galleys, there shall be at least the following number of approved handheld fire extinguishers strategically located throughout the passenger compartment:

<table>
<thead>
<tr>
<th>Passenger Seating Capacity</th>
<th>No. of Extinguishers</th>
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<tbody>
<tr>
<td>Up to 60</td>
<td>2</td>
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<tr>
<td>61—200</td>
<td>3</td>
</tr>
<tr>
<td>201—300</td>
<td>4</td>
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<td>301—400</td>
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<td>401—500</td>
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<td>501—600</td>
<td>7</td>
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<td>600 or more</td>
<td>8</td>
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5.1.4 At least half, but not less than two, of the required handheld fire extinguishers installed in the passenger cabin shall contain HALON 1211 (bromochlorodifluoromethane BCF) or its equivalent as the extinguishing agent.

6. Additional Information

6.1 FAA AC 25-17 Transport Airplane Cabin Interiors Crashworthiness Handbook provides an acceptable means of compliance to the requirement of this notice.

6.2 It is recommended that, wherever possible, the use of access points and/or built-in distribution spray systems should be provided so as to ensure an effective distribution of extinguishant from a handheld fire extinguisher into toilet compartment waste receptacles and adjacent regions.

7. Cancellations

This Notice cancels Airworthiness Notice No. 32 Issue 1, dated 1 April 1987, which should be destroyed.

DIRECTOR GENERAL
DEPARTMENT OF CIVIL AVIATION
MALAYSIA