



AIRWORTHINESS DIRECTIVE

This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) to ADs.

Number:

CF-2016-25

Effective Date:

5 September 2016

ATA:

26

Type Certificate:

A-142

Subject:

Fire Protection - Inadvertent Discharge of Multiple Fire Extinguishing Bottles

Applicability:

Bombardier Inc. model DHC-8-400, -401 and -402 aeroplanes, serial numbers 4001, 4003 through 4504.

Compliance:

As indicated below, unless already accomplished.

Background:

An operator reported having a false SMOKE warning light for the Aft Baggage compartment, which caused the pilots to discharge the Aft Baggage compartment fire extinguishing bottles per Aircraft Flight Manual procedures. Subsequently, there were continuous engine and Auxiliary Power Unit (APU) fire warning lights, and the fire extinguishing bottles for both engines (forward and aft) and the APU were automatically discharged. Post event investigation of the Fire Control Amplifier (FCA) revealed a burnt 2600-P2 connector. The FCA was also found to have sustained significant thermal damage. In a separate event involving a different operator, several fire extinguishing bottles discharged after an electrical short was introduced into the FCA by a shorted squib tester (external ground support equipment) during maintenance.

The FCA manufacturer has identified the most likely failure condition to be an electrical short at the discharged squib. The squib's burst disk may have caused a short circuit of the bridgewires, which caused the FCA's internal power wires to experience thermal damage, consequently powering other squibs and fire alarm lines and resulting in the uncommanded discharge of the fire extinguishing bottles and false fire indications.

Bombardier (BA) has issued service bulletin (SB) 84-26-16 to change two 7.5 amp circuit breakers to lower current rating 1 amp circuit breakers to prevent damage to squib discharge circuits and the inadvertent discharge of fire extinguishing bottles.

This AD mandates the incorporation of BA SB 84-26-16 to prevent the inadvertent discharge of fire extinguishing bottles.

Corrective Actions:

Within 6000 hours air time or 3 years, whichever occurs first, from the effective date of this AD, replace two 7.5 amp circuit breakers with 1 amp circuit breakers, in accordance with BA SB 84-26-16 Revision A dated 12 February 2016, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Compliance with the original issue of BA SB 84-26-16, dated 14 August 2015, prior to the effective date of this AD, meets the mandated requirements of this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 22 August 2016

Contact:

Hilary Ross, Continuing Airworthiness, Ottawa, telephone 1-888-663-3639, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.