European Union Aviation Safety Agency

Safety Information Bulletin

Operations – Aerodromes

SIB No.: 2019-02

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Subject: **Explosive Door Openings on Parked Aeroplanes**

Ref. Publications:

- Regulation (EU) 2018/1139 dated 04 July 2018.
- Commission Regulation (EU) No 965/2012 dated 05 October 2012.
- Commission Regulation (EU) No 139/2014 dated 12 February 2014.
- Commission Regulation (EU) No 1178/2011 dated 03 November 2011.
- Commission Regulation (EU) No 1321/2014 dated 26 November 2014.

Applicability:

Air operators, aerodrome operators, approved training organisations (ATOs), maintenance organisations, continuing airworthiness management organisations (CAMOs) and competent authorities.

Description:

There have been several occurrences of explosive door openings on parked aeroplanes, resulting in injuries, including fatalities, to persons inside or outside the aeroplane. The main factor leading to these occurrences was an inadvertent development of an excessive differential pressure between the inside and the outside of the aeroplane.

When an aeroplane is parked, cooling or heating of the aeroplane cabin can be provided through the air-conditioning system powered up by the auxiliary power unit (APU) or an external source of air (e.g. ground air-conditioning cart) ducted to the aeroplane cabin. Closing all aeroplane doors helps to reach and maintain the desired temperature. However, it may also result in an undesired build-up of excessive differential pressure between the cabin and the outside environment, if the outflow valve is closed. As a result, this may cause an explosive door opening. This may happen during normal operation of the aeroplane, during maintenance activities, or when conducting practical training of personnel on the aeroplane on ground. Therefore, operational procedures must be in place to mitigate this hazard.
Such procedures should ensure that there are always means to release the cabin air pressure before conditioning the cabin on ground with the APU or an external source, and before opening the aeroplane door. Such procedures must take into account the instructions provided by the aeroplane Type Certificate Holder (TCH) – see Note 1.

Note 1: Regulation (EU) 2018/1139, Annex V, paragraph 1.2; and Commission Regulation (EU) No 965/2012, ORO.GEN.110, paragraph (h).

The procedures should include:

- Verifying, if possible, that the outflow valve(s) (component of the cabin pressurisation control system) or any other “external valves”, which should prevent the cabin pressure from building-up (such as the avionics extraction valves), are in the open position and whilst maintenance takes place, a pressure build-up relief mechanism is operated before opening a fuselage door of a pressurised aeroplane.
- Alternatively, ensuring that at least one aeroplane cabin fuselage door remains open, as the flight crew or maintenance personnel may not be able to control the aeroplane’s outflow valve or other “external valve” positions without the APU or an aeroplane engine running.

At this time, the safety concern described in this SIB does not warrant the issuance of an operational directive under Commission Regulation (EU) 965/2012, Annex II, ARO.GEN.135(c), nor any safety directive action under Commission Regulation (EU) 139/2014, Annex II, ADR.AR.A.040.

Recommendation(s):

EASA recommends that:

1. Air operators, ATOs, maintenance organisations and CAMOs identify if the risk described in this SIB is present in their operations or activities, and establish procedures that reflect the associated instructions provided by the aeroplane TCH. Air operators ensure that all personnel involved in handling of the aeroplane (such as aircrew, aircrew instructors, maintenance, ground handling, personnel assigned to perform certain task(s) inside the cabin, etc.) are made aware of the risks and that their training and procedures include the case of explosive door opening and its prevention. Maintenance organisations and CAMOs ensure that all affected personnel are aware of the risk of explosive door opening.

2. Aerodrome operators ensure that rescue and firefighting personnel are made aware of the risk of an explosive door opening, if their intervention is required.

3. Other individuals that need to access the aeroplane seek the advice from the operator or the maintenance organisation in-charge before operating a door of a potentially pressurised aeroplane.

Contact(s):

For further information contact the EASA Safety Information Section, Certification Directorate.
E-mail: ADs@easa.europa.eu.