



EASA Safety Information Bulletin

SIB No.: 2010-17R1
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Subject: Flight in Airspace with a low contamination of Volcanic Ash

Ref. Publication: Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds, ICAO Document 9691-AN/954 (ISBN 92-9194-888-8), second edition, 2007.

Reason for revision: This SIB is revised to provide information on the availability (free download) of the ICAO publication referenced above. Details are provided in the 'Contacts' section of this SIB.

Applicability: All turbine-powered aeroplanes and helicopters operating into, or near, airspace that is known or suspected to be contaminated with volcanic ash.

Description: Flight in Airspace with a low contamination of Volcanic Ash may have medium and long term consequences for the airworthiness of the aircraft, which need to be addressed with priority, in order to ensure safe continuation of operations.

Aircraft and Engine TC-Holders are being requested by EASA to develop the instructions necessary for continued safe flight, such as specific pre- and post-flight inspections, and those for continued airworthiness, taking into account the effects of operation of aircraft in airspace with low contamination volcanic ash. Special emphasis is requested for those systems that are most sensitive to any exposure to volcanic ash.

The sensitive systems are known to be, but may not be limited to, engine compressors and turbines, engine oil systems, aircraft pitot- and air data systems, aircraft environmental control systems, and those aircraft systems that provide cooling air for computer systems installed on the aircraft.

The International Civil Aviation Organization (ICAO) recently informed the Agency that it will start work on setting global standards for the concentration of volcanic ash that could affect flight safety of aircraft and engines. EASA will work closely with ICAO and the aviation industry to define specific instructions for continued airworthiness (ICA).

Recommendations: Owners and operators of turbine powered aeroplanes and helicopters are recommended to take the following actions, in no particular order:

Unless specific pre- and post-flight inspections and ICA have been defined by the aircraft and engine TC holders, and until those instructions have been made available to the operators and owners,

(1) Accomplish daily inspections when operating in an area of low volcanic ash contamination, to detect any erosion, accumulation of volcanic ash, or aircraft- and/or engine damage or system degradation:

- wing leading edges
- navigation and landing lights, radomes
- landing gear
- horizontal stabiliser
- all extruding structure
- pitot tubes and static ports
- windows and windshields
- engine inlets and nacelles
- engine compressors and turbines
- engine oil systems
- rotor blades

Based on the results of the above inspections, more detailed inspections may be necessary.

Unless specific instructions have already been provided by aircraft and engine TC holders to be applied after encountering a volcanic ash, the above inspections should also be performed after each flight, whenever the following phenomena are observed or detected or experienced during flight

- Acrid odours similar to electrical smoke
- Rapid onset of engine problems
- St. Elmo's fire
- Bright white/orange glow appearing at the engine inlets
- Dust in the cockpit or cabin
- Sudden (unexpected) outside darkness
- Airspeed fluctuations
- Landings lights casting sharp, distinctly visible beam

(2) Report any encounter with volcanic ash, or any other relevant findings, to the engine- and aircraft TC holders, the National State of Registry of the aircraft and to the National Authority of the State through which flight was conducted.

In addition, operators should report to EASA for EASA to produce a synthesis of findings and trends resulting from these inspections so that improvements could be brought to the procedures recommended by this SIB.

Contacts:

For further information contact the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA; E-mail: ADs@easa.europa.eu.

Reports can be submitted to EASA by E-mail: volcano@easa.europa.eu.

To download ICAO Document 9691-AN/954, go to <http://www.icao.int/icao/en/9691.pdf>

Please note that, prompted by the EASA SIB, ICAO has decided to make this document (normally a saleable publication) available for free download until 3 May 2010, with the intention to provide maximum information to address the current situation with the volcanic ash in European airspace.

After 3 May 2010, the document is available only for purchase, through the ICAO Customer Services Unit, telephone +1 514-954-8022, facsimile +1 514-954-6769, or by e-mail request to sales@icao.int.