



## EASA Safety Information Bulletin

**SIB No.:** 2011-29  
**Issued:** 06 December 2011

**Subject:** Operation of Bombardier CRJ 100/200/440 and Challenger 850 and 600 series aircraft in cold weather or icing conditions during take-off.

**Applicability:** Bombardier CL-600-1A11, CL-600-2A12, CL-600-2B16 and CL-600-2B19 aircraft.

**Description:** This SIB is issued to raise awareness regarding the operation of Bombardier CRJ 100/200/440 and Challenger 850 and 600 series aircraft in cold weather or icing conditions during take-off. Attention is drawn to relevant revisions to limitations and procedures in the Aircraft Flight Manual (AFM) and to specific pilot training and awareness activities supported by the Bombardier “Take-Off Safety Enhancement (TOSE)” campaign.

**Background:** Several events including accidents have occurred where the affected aircraft experienced un-commanded roll during take-off in cold weather or icing conditions.

It has been found that in most cases this was due to asymmetric stall just after lift-off which resulted from contamination on the wing combined with high rotation rates. The common factor in these events was that the wing anti-ice system was off during take-off and in most of the events, rotation rates were above those recommended by the manufacturer.

The report and animation of one serious incident which occurred in January 2008 can be referenced at <http://www.aibn.no/Aviation/Reports/2011-09-eng>.

In response to these events, Transport Canada published two ADs in 2008 ([CF-2008-15R1](#) and [CF-2008-16R1](#)) addressed to the operators of the affected aircraft. These directives mandated changes in the AFM which resulted in consequential changes to the Quick Reference Handbooks (QRH) and Flight Crew Operating Manuals (FCOM). The ADs also mandated specific pilot training with regard to enhanced take-off procedures and winter operations. These ADs were endorsed by the Agency and they remain in force.

Since the publications of the ADs and where the AFM (e.g. use of wing anti-ice system and adequate rotation rates) has been followed, there have been no similar occurrences known to the Agency.

**Recommendations:** Operators should make every effort to ensure that the procedures and limitations in the AFM are known and strictly adhered to by flight crews operating the affected aircraft.

Operators should disseminate to all concerned flight crews, information regarding the dedicated website “*Winter Operations Awareness and Training*” established by Bombardier at:

<http://www.batraining.com/blog/index.php/2009/08/24/winterops/>

Operators should ensure that all crewmembers have successfully completed specific training, for take-off procedures, ground icing conditions and cold weather operations. Completion of the “*Enhancement to Take-Off Operational Safety Margins Training*” provided for free by Bombardier at:

<http://www.batraining.com/eLearning/Free%20Courses/TakeOffOperationalSafety/player.html>

meets the intent of this recommendation.

Operators’ safety management systems should be designed to identify safety issues concerning take-off in cold weather or icing conditions.

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