Safety Information Bulletin

Airworthiness

SIB No.: 2016-20R1

Issued: 21 February 2017

Subject: ATR Flight Controls – Crew Resource Management – Avoiding Dual and Opposite Flight Control Inputs

Revision: This SIB revises EASA SIB 2016-20 dated 20 December 2016.

Ref. Publications:
ATR All Operators Message (AOM) 42/72/2016/03 issue 1, dated 05 February 2016,
ATR AOM 42/72/2016/13 issue 1, dated 19 July 2016, and ATR AOM 42/72/2017/01 Issue 03, dated 17 February 2017.
ATR Service Bulletin (SB) ATR42-55-0015 and SB ATR72-55-1008, both dated 19 July 2016.

Applicability:
ATR42 and ATR72 aeroplanes, all models, all serial numbers.

Description:
Aircraft accidents and incidents in the past 15 years have indicated that rapid and large alternating control inputs, especially in combination with large changes in pitch, roll, or yaw, and full control inputs in more than one axis at the same time, should be avoided as they may result in structural failures at any speed, including below the maneuvering speed. Crew Resource Management principles should be emphasized to avoid abrupt, harsh, dual or antagonist inputs by operating crews. At high speed, pitch control inputs should be done with care, as resulting vertical acceleration may lead to overstressing the airframe.

Specifically ATR aeroplanes are equipped with a pitch uncoupling mechanism (PUM) which allows the disconnection of both elevators in case one control channel is jammed. Thereafter, pitch control is ensured through the free control column. In-service experience shows cases where the flight crew disconnected the PUM through dual and opposite inputs on the control columns. In pitch disconnect configuration, the combination of dual inputs and large opposite elevator deflection at high speed can induce structural damage to the horizontal stabilizer due to the resulting torsion loads.

ATR issued AOM 42/72/2016/03 to inform all ATR operators about the release of new operational and maintenance instructions to address in-flight pitch disconnect occurrences. ATR also issued AOM 42/72/2016/13, SB ATR42-55-0015 and SB ATR72-55-1008, applicable to specific configuration aeroplanes equipped with carbon horizontal and vertical stabilizers (ATR modification 4441), to provide additional inspection instructions and to ensure that there have been no unreported occurrences.

Since EASA SIB 2016-20 was issued, ATR published AOM42/72/2017/01 issue 03 to provide operators with an advance copy of the planned Aircraft Flight Manual and Flight Crew Operating Manual temporary revisions, addressing events of rapid and large alternating control inputs and dual opposite inputs on flight controls.

At this time, the safety concern described in this SIB is not considered to be an unsafe condition that would warrant Airworthiness Directive (AD) action under Regulation (EU) 748/2012, Part 21.A.3B.

Recommendation(s):
EASA recommends operators of the affected aeroplanes to review and implement the actions recommended by ATR, as specified in the referenced service publications.

Contact(s):
For further information contact the EASA Safety Information Section, Certification Directorate.
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For further technical or operation assistance, or to obtain a copy of the applicable service publication(s), contact ATR Techdesk, 1 Allee Pierre Nadot, 31712 Blagnac CEDEX, France
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