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## AIRWORTHINESS DIRECTIVE

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On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/A330/57 Amdt 1 and issues the following AD under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

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### Airbus Industrie A330 Series Aeroplanes

**AD/A330/57  
Amdt 2**

**Engine - Icing Conditions During  
Descent - Operational Procedure**

**10/2007**

**Applicability:** Airbus A330-201, -202, -203, -301, -302 and -303 series aeroplanes, all serial numbers except those on which Airbus modification 56554 has been embodied during production or Airbus SB A330-73-3048 dated 6 June 2007 has been embodied whilst in service.

**Requirement:** 1. If not previously accomplished in accordance with either AD/A330/57 (EASA AD 2006-0212-E) or AD/A330/57 Amdt 1 (EASA AD 2006-0259-E), incorporate the following amendment into the Aircraft Flight Manual (AFM):

**“ICING CONDITIONS EXPECTED DURING DESCENT**

- If icing conditions (including ice crystals) are expected during descent:
  - At top of descent, or at the latest before entering the expected icing conditions:

Select ENG ANTI ICE and WING ANTI ICE to ON.

Select PACK FLOW at HI.
  - Below 10 000 ft:

Resume normal operation.”

The amendment may be accomplished by including the text detailed below or by including A330 AFM TR 4.03.00/27 into the AFM.

2. If not previously accomplished in accordance with AD/A330/57 Amdt 1, amend the Aircraft Operations Manual (AOM) or Flight Crew Operating Manual (FCOM) by inserting the following dispatch restriction or by including a copy of this Amendment into the AOM or FCOM.

## Airbus Industrie A330 Series Aeroplanes

AD/A330/57 Amdt 2 (continued)

Dispatch restriction:

- Dispatch with the “Pack Flow Selection” inoperative (item numbered 21-51-02 in the associated MMEL) is prohibited when the aircraft is operating in icing conditions.

*Note 1: All the other published dispatch conditions remain unaffected by this AD. In particular the MMEL items relating to Air Conditioning Pack, Anti-Ice Protection and Bleed Air System are unchanged and remain valid.*

3. Modify the full authority digital engine control (FADEC) software of both engines in accordance with instructions defined in SB A330-73-3048 or later EASA approved revision.

Accomplishment of SB A330-73-3048 on both engines terminates the requirements of this Amendment.

*Note 2: EASA AD 2007-0215 refers.*

Compliance: For Requirements 1 and 2 - Within five days after the effective date of this Amendment.

For Requirement 3 - Not later than 31 January 2008.

This Amendment becomes effective on 27 September 2007.

Background: Several A330 aircraft equipped with General Electric (GE) CF6-80E1 engines experienced an engine flame out during descent, 2 to 3 seconds after engine acceleration upon aircraft altitude capture, under inclement weather conditions. In all cases, the engines restarted and then operated normally.

Analysis has shown that at high altitude an accretion of the conventional ice or ice crystals in the engine fan or booster stages during descent at low engine power can shed in significant amount into the core inlet upon engine acceleration when the variable bleed valve doors close. This ice ingestion will then increase the water/air ratio leading to flame smothering.

This situation if not corrected can lead to the temporary loss of both engines thrust in flight which constitutes an unsafe condition. In order to mitigate the risk of a dual engine flame out in flight, the original issue of this Directive mandated the operational procedure which increases the fuel/air ratio in the engine during the descent and under inclement weather conditions.

**Airbus Industrie A330 Series Aeroplanes**

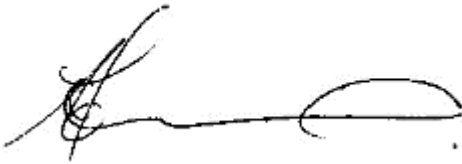
AD/A330/57 Amdt 2 (continued)

Amendment 1 introduced further operational requirements by amendment to the AOM and FCOM. This placed dispatch restrictions on the aeroplane in the case of the pack flow selection being inoperative under MEL conditions. In those circumstances the aeroplane is not allowed to be dispatched into icing conditions.

This Amendment continues the requirements of the previous issues and mandates the terminating action of the operational procedure together with the dispatch restriction by installation of new FADEC Software Version E1.O, which incorporates inclement weather logic improvement with other minor modifications.

The original issue of this Directive became effective on 19 July 2006.

Amendment 1 of this Directive became effective on 31 August 2006.

A handwritten signature in black ink, appearing to read 'Charles Lenarcic', with a long horizontal flourish extending to the right.

Charles Lenarcic  
Delegate of the Civil Aviation Safety Authority

14 August 2007