

# PŘÍKAZ K ZACHOVÁNÍ LETOVÉ ZPŮSOBILOSTI

**CAA-AD-T-023/99**

Datum vydání: 8. února 1999

## LETADLO - LETOVÁ PŘÍRUČKA (AFM) - ZMĚNA

**Týká se:** všech letadel ATR 72.

**Datum účinnosti:** ihned po obdržení

**Provést v termínech:** jak je popsáno v DGAC AD 1999-015-040(B).

**Postup provedených prací:** dle DGAC AD 1999-015-040(B).

*Poznámky: Provedení tohoto PZZ musí být zapsáno do letadlové knihy. Případné dotazy týkající se tohoto PZZ adresujte na ÚCL technický inspektorát - Ing. Toman. Pokud to vyžaduje povaha tohoto PZZ musí být zpracován do příslušné části dokumentace pro obsluhu, údržbu a opravy letadla. Tento PZZ byl vypracován na základě DGAC AD 1999-015-040(B).*

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**Ředitel technického inspektorátu**  
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GSAC

AIRWORTHINESS DIRECTIVE

released by DIRECTION GENERALE DE L'AVIATION CIVILE

Inspection and/or modifications described below are mandatory. No person may operate a product to which this Airworthiness Directive applies except in accordance with the requirements of this Airworthiness Directive.

**Translation of 'Consigne de Navigabilité' ref. : 1999-015-040(B)**

In case of any difficulty, reference should be made to the French original issue.

**AEROSPATIALE**

**ATR 72 Aircraft**

Icing conditions - Revise the Airplane Flight Manual (AFM) (ATA 30)

### 1. APPLICABILITY:

All series of ATR 72.

### 2. REASON :

Airworthiness Directive to minimize the potential hazards associated with operating the airplanes in severe icing conditions, outside the certification envelope, by increasing

maneuver/operating icing speeds by 10 kt.

A recently reported in-flight incident has led to recall that a prolonged exposure to severe icing conditions outside the certification envelope can lead to stall.

Reason for prolonged exposures are late detection and/or non or late application of the AFM procedures, which require to immediately exit severe icing conditions as soon as detected.

It is however recognized that, even if the exit maneuver is initiated rapidly, it may take a few minutes before the airplane is out of the severe icing conditions.

Experience has shown that the currently recommended airspeeds in icing conditions, computed to provide adequate stall margins when flying in normal icing conditions, provide little margin to stall speeds when the airplane has accreted a large amount of ice following prolonged flight in severe icing conditions.

The purpose of this AD is therefore to amend the AFM to :

- reinforce severe icing detection means by adding a criteria related to unusual performance degradation.
- increase the speed during the exit maneuver in order to provide improved margin to stall.

Other editorial improvements are also introduced to highlight the need to exit immediately severe icing conditions as soon as detected.

### 3. ACTIONS:

3.1. Revise the approved Airplane Flight Manual (AFM) by incorporating the following into the Emergency Procedure Section (page 4-05, page 1 of the DGAC AFM) and replacing the previous one. This may be accomplished by inserting a copy of this AD in the AFM.

## EMERGENCY PROCEDURES

### MISCELLANEOUS

#### 4.05.05 - SEVERE ICING

##### DETECTION

Visual cue identified with severe icing is characterized by ice covering all or a substantial part of the unheated portion of either forward side window, possibly associated with water splashing and streaming on the windshield

and/or

Unexpected decrease in speed or rate of climb.

THE FOLLOWING MAY BE USED AS SECONDARY INDICATIONS OF SEVERE ICING CONDITIONS /

- Unusually extensive ice accreted on the airframe in area not normally observed to collect ice.
- Accumulation of ice on the lower surface of the wing aft of the protected area.

- Accumulation of ice on the propeller spinner farther aft than normally observed.

**THE FOLLOWING WEATHER CONDITIONS MAY BE CONDUCTIVE TO SEVERE IN-FLIGHT ICING:**

- Visible rain at temperature close to 0 degrees Celsius ambient air temperature.
- Droplets that splash or impact at temperatures close to 0 degrees Celsius ambient air temperature.

**EXIT THE SEVERE ICING ENVIRONMENT :**

This procedure is applicable to all flight phases from initial climb to landing. Monitor the ambient air temperature. While the severe icing may form at temperatures as cold as -18 degrees Celsius, increased vigilance is warranted at temperatures around freezing with visible moisture present.

**If severe icing, as determined above, is encountered :**

- Increase and bug the minimum maneuver/operating icing speeds by 10 kt. Increase power up to MAX CONT, if needed.
- Immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the severe icing conditions in order to avoid an extended exposure to flight conditions more severe than those for which the airplane has been certificated.
- Avoid abrupt and excessive maneuvering that may exacerbate control difficulties.

3.2 Revise the approved Airplane Flight Manual (AFM) by incorporating the following into the Limitation Section (page 2-06, page 1 of the DGAC AFM). Replace the following paragraph:

- Severe icing :

**WARNING :**

Severe icing may result from environmental conditions outside of those for which the airplane is certificated. Flight in freezing rain, freezing drizzle, or mixed icing conditions (supercooled liquid water and ice crystals) may result in ice build-up on protected surfaces exceeding the capability of the ice protection system, or may result in ice forming aft of the protected surfaces. The ice may not be shed using the ice protection systems, and may seriously degrade the performance and controllability of the airplane.

- During flight, severe icing conditions that exceed those for which the airplane is certificated shall be determined by the following visual cue. If the following visual cue exists, immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the icing conditions.

Severe icing is characterized by ice covering all or a substantial part of the unheated portion of either forward side window, possibly associated with water splashing and streaming on the windshield.

by:

- Severe icing :

**WARNING:**

Severe icing may result from environmental conditions outside of those for which the airplane is certificated. Flight in freezing rain, freezing drizzle, or mixed icing conditions (supercooled liquid water and ice crystals) may result in ice build-up on protected surfaces exceeding the capability of the ice protection system, or may result in ice forming aft of the protected surfaces. The ice may not be shed using the ice protection systems, and may seriously degrade the performance and controllability of the airplane.

- During flight, severe icing conditions that exceed those for which the airplane is certificated shall be determined by the following:

Visual cue identified with severe icing is characterized by ice covering all or a substantial part of the unheated portion of either forward side window, possibly associated with water splashing and streaming on the windshield.

and/or

Unexpected decrease in speed or rate of climb.

If one of these phenomena is observed, immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the icing conditions. Apply procedures specified in the Emergency Procedures chapter.

This may be accomplished by inserting a copy of this AD in the AFM.

3.3 Revise the approved Airplane Flight Manual (AFM) by incorporating the following into the Limitation Section (page 2-06, page 2 of the DGAC AFM). Replace the following paragraph :

- Since the autopilot may mask tactile cues that indicate adverse changes in handling characteristics, use of the autopilot is prohibited when the visual cue specified above exists, or when unusual lateral trim requirements or autopilot trim warnings are encountered while the airplane is in icing conditions.

by :

- Since the autopilot may mask tactile cues that indicate adverse changes in handling characteristics, use of the autopilot is prohibited when the severe icing defined above

exists, or when unusual lateral trim requirements or autopilot trim warnings are encountered while the airplane is in icing conditions.

3.4 Operators documentation must take into account the modification of the Emergency Procedure Section and Limitation Section of the AFM.

3.5 Airbus/A320neo/A320XLR are preparing and will issue shortly AFM Revisions incorporating the above modifications. The further approved revisions are considered an alternative means of compliance to this AD.

**4. COMPLIANCE:**

4.1 Within 3 days after the effective date of this AD, accomplished the requirements of paragraphs 3.1, 3.2 and 3.3 of this AD.

4.2 Within 15 days after the effective date of this AD, accomplished the requirements of paragraph 3.4 of this AD.

**Note:**

Inquiries regarding the technical content of this Airworthiness Directive should be made to DGAC/SFACT/N.AT, tel. : 3314109 48 79, fax : 3314109 4319.

**EFFECTIVE DATE : JANUARY 23.1999**