 Direction générale de l'aviation civile France GSAC publication	AIRWORTHINESS DIRECTIVE No F-2002-401 R4		Distribution: B	Issue date: June 08, 2005	Page : 1/3
	This Airworthiness Directive is published by the DGAC on behalf of EASA, Airworthiness Authority of the State of Design for the affected product, part or appliance.			<i>Translation of « Consigne de Navigabilité » of same number. In case of difficulty, reference should be made to the French issue.</i>	
	<p align="center">No person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive, unless otherwise agreed with the Authority of the State of Registry.</p>				
	Corresponding foreign Airworthiness Directive(s): Not applicable		Airworthiness Directive(s) replaced: F-2002-401 R3		
Person in charge of airworthiness: AIRBUS SAS		Type(s): A340-500/-600 aircraft			
Type certificate(s) No. EASA.A.015 TCDS No EASA.A.015					
ATA chapter: 72, 31	Subject: Engine - Exposure to icing conditions with engine at idle				

1. **EFFECTIVITY:**

AIRBUS A340 aircraft, models -541 and -642, all serial numbers.

Note 1: The Revision 4 of this Airworthiness Directive (AD) does not require any additional work.

2. **REASONS:**

When operated in prolonged icing conditions at idle in flight, TRENT 500 engines Intermediate Pressure Compressor (IPC) stage 1 blades may be damaged, potentially leading to loss of thrust, or engine shut down.

TRENT 500 engine is cleared for operation in icing conditions, provided the Aircraft Flight Manual engine de-icing procedure is followed, and provided that the engine IPC stage 1 blades are inspected before next flight if the engine operation at idle in severe icing conditions has exceeded 10 minutes without de-icing.


The purpose of this AD at original issue was to mandate the associated Aircraft Flight Manual Temporary Revision, and the inspection of all four engines before next flight in case 10 minutes exceedance of exposure to icing conditions at idle.

The aim of the Revision 1 was to extend the applicability paragraph of this AD to a model A340-541.

Revision 2 was issued to introduce an alternative acceptable means of compliance to the inspections requirements for aircraft fitted with Flight Warning Computer (FWC) standard W3.0 (AIRBUS MOD 50902 in production or AIRBUS Service Bulletin (SB) A340-31-5003 in service) avoiding systematic post flight Aircraft Condition Monitoring System (ACMS) report checking.

The aim of the Revision 3 was:

- to mention A340 AFM general revision availability for aircraft having received AIRBUS MOD 50902.
- to limit inspections consecutives to ACMS report 33 to engines not having received AIRBUS MOD 51800.

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The aim of the Revision 4 is to precise that the inspection required in paragraph 3.4 of this AD (cases of dispatch under Master Minimum Equipment List) is limited to engines not having received AIRBUS MOD 51800 or ROLLS ROYCE VSB RB211-72-E152.

3. **MANDATORY ACTIONS AND COMPLIANCE TIMES:**

The following actions are rendered mandatory from the effective date of this AD at original issue:

3.1. Insert in the Aircraft Flight Manual (FM) the FM Temporary Revision (TR) 4.03.00/25 "Operations in Icing Conditions", approved by DGAC on July 12, 2002, and follow the associated procedure.

Note 2 : for Aircraft having received AIRBUS MOD 50902, A340 AFM TR 4.03.00/25 is cancelled and replaced by A340 AFM general revision approved on April 27, 2004.

Note 3 : for aircraft having received AIRBUS MOD 51800 on their four (4) engines, paragraph 3.2, 3.3 and 3.4 can be disregarded. It is the responsibility of the operator to check if any engine that could be installed on aircraft, questions the compliance of the aircraft with this AD.

3.2. For aircraft not fitted with MOD 50902 or AIRBUS SB A340-31-5003:

3.2.1. After each flight, check if ACMS report 33 "Engine compressor inspection report" has been generated. Accomplishment of AIRBUS SB A340-72-5001 is an acceptable means of compliance with this requirement.

3.2.2. If an "Engine compressor inspection report" has been triggered, then perform a borescope inspection for all engines not having received AIRBUS MOD 51800 or ROLLS ROYCE VSB RB211-72-E152 before next flight following this triggering, in accordance with AIRBUS SB A340-72-5001/ROLLS-ROYCE SB No. RB211-72-E056.

3.3. For aircraft fitted with MOD 50902 or AIRBUS SB A340-31-5003:


3.3.1. In case of ECAM Caution "ENGINE STATOR ICING RISK" triggering, check if ACMS report 33 "Engine compressor inspection report" has been generated. Accomplishment of AIRBUS SB A340-72-5001 is an acceptable means of compliance with this requirement.

3.3.2. If an "Engine compressor inspection report" has been triggered, then perform a borescope inspection for all engines not having received AIRBUS MOD 51800 or ROLLS ROYCE VSB RB211-72-E152 before next flight following this triggering, in accordance with AIRBUS SB A340-72-5001/ROLLS-ROYCE SB No. RB211-72-E056.

3.4. Dispatch cases: Dispatch with Ice Detection System and/or Data Management Unit (DMU) inoperative, is allowed only in accordance with Master Minimum Equipment List (MMEL) TR No. 01-30/01Z and MMEL TR No. 01-31/01Z.

In these cases, the associated operational procedure MMEL No. 02-30/01Z and 02-31/01Z is for the crew to report, in the log book, the time exposure at idle in icing conditions and Wing Anti-Ice (WAI) activation due to the severity of the icing conditions, after each flight.

If the time exposure at idle ($N1 < 45\%$) in icing conditions exceeds 10 minutes, then perform a borescope inspection before next flight following this event for all engines not having received AIRBUS MOD 51800 or ROLLS-ROYCE VSB RB211-72-E152, in accordance with AIRBUS SB A340-72-5001/ROLLS-ROYCE SB No. RB211-72-E056.

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4. REFERENCE PUBLICATIONS:

- AIRBUS Service Bulletin A340-72-5001
- AIRBUS Service Bulletin A340-31-5003
- (Any later approved revision of these SBs is acceptable)
- ROLLS-ROYCE NMSB RB211-72-E056
- ROLLS ROYCE VSB RB211-72-E152
- A340 MMEL TR No. 01-30/01Z and TR No. 01-31/01Z
- A340 MMEL TR No. 02-30/01Z and 02-31/01Z
- A340 FM TR 4.03.00/25.
- A340 AFM general revision approved on April 27, 2004.

5. EFFECTIVE DATES:

Original issue : Upon receipt of telegraphic AD from July 17, 2002
Revision 1 : January 04, 2003
Revision 2 : November 22, 2003
Revision 3 : September 25, 2004
Revision 4 : June 18, 2005.

6. REMARK:

For questions concerning the technical contents of this AD's requirements, contact:

AIRBUS SAS - Office of Airworthiness - EAL - Facsimile : 33 5 61 93 45 80.

7. APPROVAL:

This AD Revision is approved under EASA reference No 2005-4746 dated May 31, 2005.