EASA	AIRWORTHINESS DIRECTIVE
	AD No.: 2010-0004 **Date: 05 January 2010** Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation.

This AD is issued in accordance with EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008, Article 14(4) exemption].

Type Approval Holder's Name :	**Type/Model designation(s) :**
TURBOMECA	ASTAZOU XIV turboshaft engines

TCDS Number:	EASA.E.075
Foreign AD :	Not applicable
Supersedure :	This AD supersedes EASA AD No. 2009-0136 dated 23 June 2009.

ATA 72	**Engine Rotating Assembly – Third Stage Turbine Wheel – Inspection / Removal**
Manufacturer(s):	Turboméca
Applicability:	All ASTAZOU XIV B and XIV H turboshaft engines, if fitted with a third stage turbine wheel that incorporates modification AB 173 or modification AB 208, except those engines that also incorporate Turboméca Service Bulletin (SB) 283 72 0805 or whose third stage turbine wheel has a serial number (S/N) outside the range specified in Table 1. These engines are known to be installed in, but not limited to, EUROCOPTER ALOUETTE III SA 319 B and GAZELLE SA 342 J helicopters.
Reason:	Investigation of an uncommanded in-flight shut down (IFSD) revealed that a third stage turbine wheel rupture was not contained by the turbine casings. The released portion consisted of a turbine blade together with the rim piece immediately below the blade. The rim piece was bounded by two adjacent axial slots and a fatigue crack that had developed between the holes in which the slots terminate. The slots and holes, which are closed by riveted plugs, were introduced by modification AB 173 in order to improve the vibration characteristics of the turbine wheel. Modification AB 208 brings an improvement to modification AB 173 by changing only the riveting detail. SB 283 72 0805 provides instructions for re-boring the holes at overhaul or repair in order to improve their surface condition. A manufacturing process modification has been introduced to improve the surface condition of these holes in third stage turbine wheels. Wheels subject to the improved manufacturing process have S/Ns outside the range specified in Table 1. Although there is only one known event, and although it resulted only in an uncommanded IFSD, with no damage to the aircraft, the possibility exists that additional events may occur, potentially involving damage to the aircraft.

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	To address the unsafe condition, EASA issued AD 2009-0136 mandating inspection of certain third stage turbine wheels and removal of any damaged wheel. The wheels to be inspected were those whose cycles since new (CSN) would exceed 2000 by 01 February 2011. Following additional research by Turboméca on crack initiation and growth, this AD mandates inspections based on new criteria and removal of any damaged wheel.
Effective Date:	19 January 2010
Required Action(s) and Compliance Time(s):	Required as indicated unless accomplished previously: (1) For any given 3rd stage wheel which at the effective date of this AD has accumulated less than 500 cycles since last overhaul or repair, or since new if the engine has never been overhauled or repaired, within an additional 300 cycles do a dye penetrant inspection on the rear face of the 3rd stage turbine wheel as instructed in section 2 of Turboméca MSB 283 72 0804 Version C. Do a second inspection 500 ± 50 cycles after the first one. (2) For any given 3rd stage wheel which at the effective date of this AD has accumulated 500 cycles or more, but less than 700 cycles, since last overhaul or repair, or since new if the engine has never been overhauled or repaired, within an additional 200 cycles do a dye penetrant inspection on the rear face of the 3rd stage turbine wheel as instructed in section 2 of Turboméca MSB 283 72 0804 Version C. (3) For any given 3rd stage wheel which at the effective date of this AD has accumulated 700 cycles or more, but less than 1200 cycles, since last overhaul or repair, or since new if the engine has never been overhauled or repaired, within an additional 150 cycles do a dye penetrant inspection on the rear face of the 3rd stage turbine wheel as instructed in section 2 of Turboméca MSB 283 72 0804 Version C. (4) If any crack indication is found, before further flight, remove the engine from service and send it to a Turboméca qualified repair centre. (5) For any given 3rd stage wheel which at the effective date of this AD has accumulated 1200 cycles or more since last overhaul or repair, or since new if the engine has never been overhauled or repaired, no action is required.
Ref. Publications :	Turboméca Mandatory Service Bulletin 283 72 0804 Version C. The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD. Turboméca ASTAZOU XIV B-F Maintenance Manual 283 00 936; Turboméca ASTAZOU XIV H Maintenance Manual 283 02 933; Turboméca ASTAZOU XIV B-F-H-M Overhaul Manual X 283 72 500 2.
Remarks :	1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD. 2. This AD was posted on 25 November 2009 as PAD 09-133 for consultation until 23 December. No comments were received during the consultation period. 3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA. E-mail ADs@easa.europa.eu. 4. For any question concerning the technical content of the requirements in this AD, please contact: Operator Support ASTAZOU - TURBOMECA 40220 TARNOS – FRANCE Phone: +33 (0)5 59 74 40 00 Fax: +33 (0)5 59 74 45 15 or refer to your

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	nearest TURBOMECA technical representative on http://www.turbomeca-support.com.

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Part Number	Serial Number
0265257000	All Serial Numbers
0265257020	All Serial Numbers
0265257060	All Serial Numbers
0265257050	ADA6021AD ADC7784AD ADH5855AD ADHB992AD ADB1620AD ADC7786AD ADH5856AD ADHB993AD ADB3876AD ADC7787AD ADH5858AD ADHB994AD ADB3883AD ADC7788AD ADH5859AD ADHB995AD ADB3885AD ADC7789AD ADH5860AD ADHB996AD ADB3887AD ADD1788AD ADH5861AD ADHB997AD ADB3888AD ADD1789AD ADH5862AD ADHB998AD ADB4431AD ADD1790AD ADH7893AD ADHB999AD ADB4440AD ADD1791AD ADH7894AD ADHC001AD ADB8688AD ADH4619AD ADH7895AD ADHC002AD ADB8692AD ADH4622AD ADH7896AD ADHC003AD ADB8694AD ADH4623AD ADH7897AD ADHC004AD ADB9855AD ADH4624AD ADH7902AD ADHC005AD ADB9857AD ADH4625AD ADH7903AD ADHC006AD ADB9860AD ADH4626AD ADH7904AD ADHC007AD ADB9861AD ADH4627AD ADH7906AD ADHC008AD ADC0035AD ADH4629AD ADH8560AD ADHC009AD ADC3206AD ADH4630AD ADH8561AD ADHC010AD ADC3210AD ADH4631AD ADH8564AD ADHC011AD ADC5301AD ADH4634AD ADH8565AD ADHC012AD ADC5302AD ADH4652AD ADH8566AD ADHC013AD ADC5308AD ADH4653AD ADHB981AD F200AD ADC5309AD ADH4654AD ADHB982AD F202AD ADC5312AD ADH4655AD ADHB983AD F203AD ADC5314AD ADH4656AD ADHB984AD F204AD ADC5315AD ADH4657AD ADHB985AD F207AD ADC6691AD ADH4661AD ADHB986AD J274AD ADC6695AD ADH4664AD ADHB987AD J276AD ADC6698AD ADH4665AD ADHB988AD J280AD ADC6700AD ADH5846AD ADHB989AD J282AD ADC7782AD ADH5847AD ADHB990AD J288AD ADC7783AD ADH5854AD ADHB991AD

Table 1. Serial Numbers of turbine wheels to which this AD applies

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