Airworthiness Directive

AD No.: 2016-0077

Issued: 19 April 2016

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, 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 Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 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 [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:
FINMECCANICA S.p.A.

Type/Model designation(s):
AB139 and AW139 helicopters

Effective Date:	03 May 2016
TCDS Number(s):	EASA.R.006
Foreign AD:	Not applicable
Supersedure:	None

ATA 32 – Landing Gear – Main Landing Gear Shock Absorber Screws – Replacement

Manufacturer(s):
Finmeccanica S.p.A., Helicopter Division (formerly AgustaWestland S.p.A., Agusta S.p.A.), AgustaWestland Philadelphia Corporation (formerly Agusta Aerospace Corporation)

Applicability:
AB139 and AW139 helicopters, all serial numbers (s/n), if equipped with Kit "Increased Gross Weight 6800 Kg" Part Number (P/N) 4G0000F00111.

Reason:
Recently, it was determined that a manufacturing issue exists with the standard screws (NAS1351-5H12P), installed on the main landing gear (MLG) shock absorber assembly, P/N 1652B0000-01. This issue affects the life limit of the left-hand (LH) and right-hand (RH) MLG assemblies, P/N 3G3210V00137 and P/N 3G3210V00237, respectively. In particular, for the Kit "Increased Gross Weight 6800 kg" (P/N 4G0000F00111), the results of the material analysis show that some MLG shock absorber screws installed in production may have lower fatigue strength than the screws used during the certification fatigue tests . It was possible to identify the affected MLG units by s/n. The fatigue analysis also shows that, for these affected parts, there is a reduction of the 50 000 landings service life limit as currently published in Chapter 4 (airworthiness limitations section) of the applicable Maintenance Manual.

This condition, if not detected and corrected, could lead to failure of the MLG shock absorber and consequent collapse/retraction of the MLG, possibly resulting in damage to the helicopter and injury to occupants.

To address this potential unsafe condition new screws P/N 1652A0001-01, having an improved manufacturing process, have been introduced and Finmeccanica, Helicopter Division (FHD) published Mandatory Bollettino Tecnico (BT) 139-397, providing screw replacement instructions.

For the reason described above, this AD requires the replacement of the screws NAS1351-5H12P with screws having P/N 1652A0001-01 and specifies the conditions for parts installation on a helicopter.

Required Action(s) and Compliance Time(s):
Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, an affected screw is NAS1351-5H12P, installed on affected MLG shock absorber (see Note 2 of this AD) and on affected MLG part (see Note 3 of this AD).

Note 2: For the purpose of this AD, an affected MLG shock absorber has P/N 1652B0000-01.

Note 3: For the purpose of this AD, an affected MLG has a P/N and a s/n listed in Table 1 of this AD.

Table 1 – Affected MLG

FHD MLG P/N	Equivalent Liebherr P/N	s/n
3G3210V00137 (LH)	1650B1000-01	From 00100 to 01003 inclusive
		From 02000 to 02014 inclusive
3G3210V00237 (RH)	1650B2000-01	From 00100 to 01016 inclusive
		From 02000 to 02017 inclusive

(1) Within the compliance times defined in Table 2 of this AD, as applicable, replace each affected screw with a screw P/N 1652A0001-01 and re-identify the P/N of the MLG shock absorber and the s/n of the MLG, as specified in, and in accordance with the instructions of, FHD BT 139-397.

Table 2 – Screws NAS1351-5H12P Replacement

Landings Accumulated by the MLG (see Note 3 of this AD)	**Compliance Time**
Less than 22 000	Within 1 200 flight hours (FH), or before exceeding 23 200 landings (see Note 4 of this AD), whichever occurs first after the effective date of this AD
22 000 or more, but less than 26 800	Within 300 FH, or before exceeding 27 200 landings (see Note 4 of this AD), whichever occurs first after the effective date of this AD
26 800 or more	Within 100 FH after the effective date of this AD

Note 4: The number of landings specified in Table 2 of this AD are those accumulated by the MLG since its first installation on a helicopter.

Note 5: For the LH and RH MLG assembly (P/N as identified in Note 3 of this AD) with screws P/N 1652A0001-01 installed, the limit life of 50 000 landings, currently published in the Airworthiness Limitation Section, remains valid.

Condition for installation of parts on a helicopter

(2) Do not install on any helicopter an affected MLG shock absorber (see Note 2 of this AD), as required by paragraph (2.1) or (2.2) of this AD, as applicable.

(2.1) For a helicopter equipped with an affected MLG shock absorber: After modification of that helicopter as required by paragraph (1) of this AD.

(2.2) For a helicopter not equipped with an affected MLG shock absorber: From the effective date of this AD.

(3) Do not install on any helicopter an affected MLG (see Note 3 of this AD), as required by paragraph (3.1) or (3.2) of this AD, as applicable, unless that MLG is marked with an R after its s/n.

(3.1) For a helicopter equipped with an affected MLG: After modification of that helicopter as required by paragraph (1) of this AD.

(3.2) For a helicopter not equipped with an affected MLG: From the effective date of this AD.

Ref. Publications:

FHD BT 139-397 original issue dated 07 April 2016.

The use of later approved revisions of this document is acceptable for compliance with the requirements of this AD.

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.

2. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.

4. For any question concerning the technical content of the requirements in this AD, please contact: Finmeccanica S.p.A., Helicopter Division. E-mail: CSE.AW139.AW@finmeccanica.com.