

EASA	NOTIFICATION OF A PROPOSAL TO ISSUE AN AIRWORTHINESS DIRECTIVE
	PAD No.: 14-116 Date: 16 July 2014 Note: This Proposed Airworthiness Directive (PAD) 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.
In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below. All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation closing date indicated.	
Design Approval Holder's Name: AGUSTAWESTLAND S.p.A. BELL HELICOPTER TEXTRON, Inc. BELL HELICOPTER TEXTRON CANADA Ltd. AIRBUS HELICOPTERS AIRBUS HELICOPTERS DEUTSCHLAND GmbH MD HELICOPTERS, Inc. SIKORSKY AIRCRAFT CORPORATION	Helicopter Type/Model designations: AW109SP, AB/AW139 and AB412 212, 214 and 412 429 and 430 AS 365 N3, AS 332 and EC 225 MBB-BK 117 C-2, EC 135 and EC 635 MD900 S-61, S-76 and S-92
TCDS Numbers:	EASA.IM.R.001, EASA.R.002, EASA.R.005, EASA.R.006, EASA.R.009, EASA.R.010, EASA.R.105 and EASA.IM.R.506; USA 1H15, H1NE, H19NM, H4SW and H6SW; Canada H-88; and Italy SO/A 157.
Foreign AD:	This AD is related to FAA AD 2013-06-51 , dated 25 March 2013.
Revision:	This AD supersedes AD 2013-0275R1 dated 27 November 2013.
ATA 25	Equipment / Furnishing – Hoist – Test / Replacement
Manufacturer(s):	AgustaWestland S.p.A., Bell Helicopter Textron Inc. (BHTI, formerly Bell Helicopters, Inc), Bell Helicopter Textron Canada Ltd (BHTC), Airbus Helicopters (AH, formerly Eurocopter, Eurocopter France, Aerospatiale), Airbus Helicopters Deutschland GmbH (AHD, formerly Eurocopter Deutschland GmbH), American Eurocopter (AEC), MD Helicopters, Inc. (MDHI), McDonnell Douglas Helicopter Systems (MDHS), Sikorsky Aircraft Corporation.
Applicability:	This AD applies to the following helicopters, when equipped with a Goodrich hoist having a Part Number (P/N) as listed in Table 1 of this AD: AgustaWestland AW109SP, AB139, AW139 and AB412 (all Models) helicopters, all serial numbers (s/n); BHTI 212, 214 and 412 helicopters, all Models, all s/n; BHTC 429 and 430 helicopters, all s/n; AS 365 N3, AS 332 L2 and EC225 LP helicopters, all s/n; AHD MBB-BK117 C-2, EC135 and EC 635 (all Models) helicopters, all s/n; MDHI MD900 helicopters, all s/n; and Sikorsky S-61 and S-76 (all Models) and S-92A helicopters, all s/n.

Reason:	During a maintenance check flight with a MBB-BK 117 C-2 helicopter, a dummy load of 552 lbs (250kg) was picked up in order to conduct a “maximum load cycle” on the rescue hoist. The cable reeled-out without further command of the operator, causing the test dummy load to impact the ground. The results of further examinations on the subject hoist determined that the overload clutch had failed. The overload clutch design is common to all Goodrich externally mounted rescue hoists listed in Table 1 of this AD. This condition, if not detected and corrected, could lead to further cases of in-flight loss of the hoist load, possibly resulting in injury to persons on the ground or in a hoisting accident. To address this unsafe condition, EASA issued Emergency AD 2013-0065-E to require identification of the installed hoist and, for affected hoist installations, a one-time load check test of the externally mounted hoist. The original AD was superseded by AD 2013-0077-E and then revised to 2013-0077R1 to adjust applicability and compliance time. Since EASA AD 2013-0077R1 was issued, the investigation identified that another uncommanded cable reel-out with loss of load had occurred in 2007. An additional hoist also failed the overload test required by EASA AD 2013-0077. The cause for this failure has not yet been determined. Prompted by these findings, EASA issued AD 2013-0275 (later revised), retaining the requirements of EASA AD 2013-0077R1, which was superseded, requiring implementation of operating restrictions, repetitive tests and introducing a reduced time between overhauls for the affected hoists. Since EASA AD 2013-0275R1 was issued, other hoists have failed the required load check. The investigation also determined that a stack-up of production tolerances, in combination with operational factors, could result in degraded performance of the clutch. For the reasons described above, this AD retains the requirements of EASA AD 2013-0275R1, which is superseded, but requires closer monitoring of the clutch through enhanced load checks and, in case of a partial peel out, removal of the hoist. This AD is still considered an interim action and further AD action may follow.																					
Effective Date:	[TBD: 14 days after final AD issue date]																					
Required Action(s) and Compliance Time(s):	Required as indicated, unless accomplished previously: (1) Within 30 days, or 50 hoist operating cycles / 65 hoist lifts, whichever occurs first after the effective date of this AD, determine the P/N of the hoist installed on the helicopter. If a Goodrich hoist is installed with a P/N listed in Table 1 of this AD, accomplish an initial hoist load check/test in accordance with approved instructions from the helicopter manufacturer (type certificate holder), or from the hoist installation design approval holder (supplemental type certificate holder), as applicable to installation and helicopter type/model (see Appendix 1 of this AD). Table 1 – Affected Goodrich Hoists P/N <table><tr><th colspan="3">(all suffixes, unless specified)</th></tr><tr><td>42315</td><td>42325</td><td>44301-10-1</td></tr><tr><td>44301-10-2</td><td>44301-10-4</td><td>44301-10-5</td></tr><tr><td>44301-10-6</td><td>44301-10-7</td><td>44301-10-8</td></tr><tr><td>44301-10-9</td><td>44301-10-10</td><td>44301-10-11</td></tr><tr><td>44311</td><td>44312</td><td>44314</td></tr><tr><td>44315</td><td>44316</td><td>44318</td></tr></table>	(all suffixes, unless specified)			42315	42325	44301-10-1	44301-10-2	44301-10-4	44301-10-5	44301-10-6	44301-10-7	44301-10-8	44301-10-9	44301-10-10	44301-10-11	44311	44312	44314	44315	44316	44318
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Note 1: Goodrich Alert Service Bulletin (ASB) No. 44301-10-15 Revision No. 4 contains information pertaining to the subject addressed by this AD.

Note 2: Hoist operating cycles or hoist lifts are defined in the aircraft maintenance instructions. Whether hoist operating cycles or hoist lifts are being tracked as part of the aircraft maintenance instructions determines the applicable limits in this AD (cycles or lifts respectively).

- (2) Within the time interval, or hoist operating cycles / hoist lifts specified in the approved instructions from the type certificate holder, or from the supplemental type certificate holder, as applicable, whichever occurs first after the initial load check as required by paragraph (1) of this AD, and, thereafter, at intervals not to exceed the values (calendar time, or hoist operating cycles / hoist lifts, whichever occurs first) as specified in those same instructions, as applicable, accomplish a hoist load check/test in accordance with the instructions for on-going testing.
- (3) If, during any hoist load check/test as required by paragraph (1) or (2) of this AD, the hoist fails the test, deactivate the hoist and before next hoist operation, replace the hoist with a serviceable hoist, as defined in Table 2 of this AD.

Table 2 – Serviceable Goodrich Hoists

A hoist having a P/N not listed in Table 1 of this AD
A hoist having a P/N as listed in Table 1 of this AD, which has accumulated less than 24 months, or 1 200 hoist cycles / 1 600 hoist lifts since new, or since last overhaul
A hoist having a P/N as listed in Table 1 of this AD, which has accumulated less than 24 months, or 1 200 hoist cycles / 1 600 hoist lifts since 04 December 2013 [the effective date of EASA AD 2013-0275]

- (4) If a hoist test as required by paragraph (1) or (2) of this AD cannot be accomplished for lack of approved instructions from the helicopter manufacturer (type certificate holder), or from the hoist installation design approval holder (supplemental type certificate holder), as applicable, before next hoist operation, remove or deactivate the hoist, or replace the hoist with a serviceable hoist, as defined in Table 2 of this AD.
- (5) Within 24 months, or 1 200 hoist operating cycles / 1 600 hoist lifts accumulated after 04 December 2013 [the effective date of EASA AD 2013-0275], or at the next scheduled hoist overhaul, whichever occurs first, and, thereafter, at intervals not to exceed 24 months, or 1 200 hoist operating cycles / 1 600 hoist lifts, whichever occurs first, replace the hoist with a serviceable hoist, as defined in Table 2 of this AD.
- (6) From 04 December 2013 [the effective date of EASA AD 2013-0275], it is allowed to install an affected Goodrich hoist, having a P/N as listed in Table 1 of this AD, on any helicopter, provided that it is a serviceable hoist, as defined in Table 2 of this AD and, prior to hoisting operation, the hoist has passed a test as required by paragraph (1) of this AD. Following installation, the repetitive actions required by this AD must be accomplished.
- (7) From 04 December 2013 [the effective date of EASA AD 2013-0275], apply the following hoist operation limitations and inform all flight crew members and hoist operators accordingly:

Operation with extended cable and load on the hook:

- Maximum permissible bank angle in turn is 20°
- Warning: exceeding 15° of lateral pendulum angle / helicopter vertical axis can lead to clutch slippage

	Installation of a placard with these limitations, in full view of the pilot(s) and hoist operator, is acceptable to comply with the requirement of paragraph (7) of this AD. (8) From the effective date of this AD, if a partial peel out occurs, as described in the approved instructions from the type certificate holder, or from the supplemental type certificate holder, as applicable, before next flight, deactivate the hoist and, before next hoist operation, replace the hoist with a serviceable hoist, as defined in Table 2 of this AD.
Ref. Publications:	AHD ASB No. MBB-BK117 C-2-85A-038, Revision 2 [to be published]. AHD ASB No. EC135-85A-058, Revision 2 [to be published]. AH ASB No. AS365-25.01.25, Revision 3 [to be published]. AH ASB No. AS332-25.02.70, Revision 3 [to be published]. AH ASB No. EC225-25A133, Revision 3 [to be published]. AgustaWestland BT 139-390 [to be published]. AgustaWestland BT 109SP-077 [to be published]. The use of later approved revisions of these documents is acceptable for compliance with the requirements of this AD. Goodrich ASB No. 44301-10-15, Revision No. 4 [to be published].
Remarks:	1. This Proposed AD will be closed for consultation on 16 August 2014. 2. Enquiries regarding this PAD should be referred to the Safety Information Section, Executive Directorate, EASA. E-mail: ADs@easa.europa.eu. 3. For any question concerning the technical content of the requirements in this PAD, please contact one of the following, as applicable to helicopter (TC holder) or hoist installation approval (STC holder): Goodrich Corporation, Sensors & Integrated Systems (SIS-CA) Brea, California 92821, United States of America (USA) Telephone: +1 714-984-1461. AgustaWestland S.p.A. Customer Support, Via del Gregge, 100 - 21015 Lonate Pozzolo (VA) – Italy Telephone + 39 0331 664600 ; Fax: + 39 0331 664684 E-mail: custserv@agustawestland.com. Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, Texas 76101, USA. Telephone +1 817-280-3391, Fax +1 817-280-6466. Bell Helicopter Textron Canada, Engineering Department, 12800 rue de l'Avenir, Mirabel, Québec J7J 1R4, Canada, Telephone +1 450-971-6500, Fax +1 450-437-6382. Publications for both BHTI and BHTC types are available at http://www.bellcustomer.com/bulletins.cfm, Airbus Helicopters (STDI) - Aéroport de Marseille Provence 13725, Marignane Cedex, France. Telephone +33 (0) 4 42 85 97 97, Fax +33 (0) 4 42 85 99 66, E-mail: Directive.technical-support@airbus.com. Airbus Helicopters Deutschland GmbH, Industriestrasse 4, 86607 Donauwörth, Germany. Telephone: + 49 (0)151-1422 8976. MD Helicopters Inc., Attn: Customer Support Division, 4555 East McDowell Road, Mail Stop M615, Mesa, Arizona 85215-9734, USA. Telephone +1-800-388-3378, Fax +1-480-346-6813, or on the Web at http://www.mdhelicopters.com. Sikorsky Aircraft Corporation, Commercial Product Support, 6900 Main Street, P.O. Box 9729, Stratford, Connecticut 06497-9129, USA, Telephone: +1 203-416-4299, E-mail: sikorskywcs@sikorsky.com.

Appendix 1 – Design (change) Approval Holder instructions

As the accomplishment instructions and intervals associated with this PAD are complex, they will be detailed in the approved instructions (Service Bulletins) from the type certificate holder, or from the supplemental type certificate holder, as applicable.

The content of these Service Bulletins is expected to include:

- An initial test: After having conditioned the hoist cable, a dedicated tool will be required to be placed against the guide plate of the hoist to measure the actual slip point of the overload clutch without loading the boom or the airframe. Upper and lower serviceable limits are defined for each hoist P/N and integrate compensation for test temperature.
- A repetitive/on-going test: Using the same tool the clutch slip point will be verified at intervals of 6 months, or 300 hoists operating cycles / 400 hoists lifts, whichever occurs first. Depending on the drop in clutch holding capability compared to the initial test, this interval could be shortened or the hoist declared unserviceable:

Test Result	Decrease from Initial Test Result	Corrective Action	Next Test
Below lower limit	Not applicable (N/A)	Remove the hoist from service and contact the (S)TC holder	N/A
Within limits	Less than 100 lbs	None	Maintain initial interval
	Between 100 and 200 lbs (inclusive)	None	Reduce inspection interval by half
	More than 200 lbs	Remove the hoist from service and contact the (S)TC holder	N/A
Above upper limit	N/A	Remove the hoist from service and contact the (S)TC holder	N/A

As the type/brand of oil used has been found to introduce variability in the performance of the clutch, the current type/brand present in the hoist gearbox will be maintained until the next overhaul.

A partial peel out, defined by an event when the cable is partially pulled out of the hoist under load for more than two feet (60 cm) without being commanded by the operator, requires the hoist to be returned.