

## Airworthiness Directive

**AD No.:** 2015-0226R4

**Issued:** 11 June 2019

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 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 (EU) 2018/1139, Article 71 exemption].

<b>Design (Change) Approval Holder's Name:</b>	<b>Helicopter Type/Model designation(s):</b>
LEONARDO S.p.A.	AW109SP, AB/AW 139 and AB412
BELL HELICOPTER TEXTRON, Inc.	212, 214 and 412, and STC SH3189SO
BELL HELICOPTER TEXTRON CANADA Ltd	429 and 430
AIRBUS HELICOPTERS	AS 365 N3, AS 332 L2 and EC225 LP
AIRBUS HELICOPTERS DEUTSCHLAND GmbH	MBB-BK 117 C-2, EC135 and EC635
MD HELICOPTERS, Inc.	MD900
SIKORSKY AIRCRAFT CORPORATION	S-61, S-76 and S-92A

**Effective Date:** Revision 4: 11 June 2019  
 Revision 3: 01 June 2016  
 Revision 2: 15 March 2016  
 Original issue and Revision 1: 21 November 2015

**TCDS Number(s):** EASA.IM.R.001, EASA.R.002, EASA.R.005, EASA.R.006, EASA.R.009, EASA.R.105, EASA.IM.R.113, EASA.R.510 and EASA.IM.R.506; USA 1H15, H19NM, H4SW and H6SW; Canada H-88; and Italy A 157.

**Foreign AD:** This AD is related to FAA [AD 2013-06-51](#) dated 28 June 2013.

**Revision:** This AD revises EASA AD 2015-0226R3 dated 01 June 2016. The original issue of this AD superseded EASA AD 2015-0160 dated 04 August 2015.

### ATA 25 – Equipment / Furnishings – Hoist – Test / Replacement

#### Manufacturer(s):

Leonardo S.p.A Helicopter Division, formerly Finmeccanica S.p.A. Helicopter Division, AgustaWestland S.p.A.; Agusta S.p.A.; Costruzioni Aeronautiche Giovanni Agusta, 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; Airbus Helicopters Inc.,



formerly American Eurocopter LLC; MD Helicopters, Inc. (MDHI), formerly McDonnell Douglas Helicopter Systems; and 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: Leonardo 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; AH AS 365 N3, AS 332 L2 and EC225 LP helicopters, all s/n; AHD MBB-BK117 C-2, EC135 and EC635 (all Models) helicopters, all s/n; MDHI MD900 helicopters, all s/n; and Sikorsky S-61 (all Models), S-76A, S-76B, S-76C and S-92A helicopters, all s/n.

### Reason:

During a maintenance check flight with an MBB-BK117 C-2 helicopter, a dummy load of 552 lb (250 kg) 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 a series of ADs (2013-0065-E, 2013-0077-E, 2013-0275, 2014-0201, 2014-0254, 2015-0069 and 2015-0160, each new AD superseding the previous one) to require identification of the installed hoist and, for affected hoist installations, a repetitive load check/test of the slip value of the overload clutch. Operational and environmental limitations as well as a periodic replacement of the overload clutch have also been incorporated.

After EASA AD 2015-0160 was published, 18 hoists were confirmed to be below limit with 22 more under investigation and it was determined that some versions of the existing overload clutch had not been approved at aircraft level. A new overload clutch P/N was developed with improved process control to mitigate some of the factors resulting in the degraded clutch performance observed. This new overload clutch is undergoing further testing to quantify performance improvement.

Consequently, EASA issued AD 2015-0226, later revised, partially retaining the requirements of EASA AD 2015-0160, which was superseded, reducing the maximum allowable load on the hoist, introducing a new limitation to the applicable Rotorcraft Flight Manual (RFM) or RFM Supplement (RFMS) and requiring replacement of the existing overload clutch P/N(s) with new overload clutch P/N(s).

This AD was later revised to allow more time to install unmodified hoists, to include reference to the BHTC ASB, and to refer to updated service information including reference to Goodrich ASB 4301-10-18 Revision 5.



Since EASA AD 2015-0226R3 was issued, Leonardo was granted with a Major Change Approval applicable to AW139 and AB139 helicopters for a longer overhaul interval for the hoists equipped with the new overload clutch P/N.

For the reason described above, this AD is revised to update the hoist replacement time with the new approved data applicable to AW139 and AB139 helicopters.

This AD is still considered an interim action and further AD action may follow.

**Required Action(s) and Compliance Time(s):**

Required as indicated, unless accomplished previously:

- (1) Within 10 hoist operating cycles or 13 hoist lifts (as applicable, see Note 1 of this AD) after 21 November 2015 [the effective date of the original issue of this AD], determine the P/N of the hoist installed on the helicopter and, if a Goodrich hoist is installed with a P/N listed in Table 1 of this AD, accomplish a records check to determine whether, during any previous hoist load check/test, a cable was load-tested (average of 5 pulls) at 1 500 lb [680 kg] or more. If any cable is identified to have exceeded this limit during three or more hoist load checks/tests, before next hoist operation, replace the affected cable with a serviceable cable. If any cable is identified to have exceeded this limit during two hoist load checks/tests, before the next hoist load check/test, replace the affected cable with a serviceable cable. For replacement of a cable, see figure 1 (flowchart) of this AD.

Table 1 – Affected Goodrich Hoists P/N

(all suffixes, unless specified)					
42315	44301-10-2	44301-10-6	44301-10-9	44311	44315
42325	44301-10-4	44301-10-7	44301-10-10	44312	44316
44301-10-1	44301-10-5	44301-10-8	44301-10-11	44314	44318

Note 1: 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).



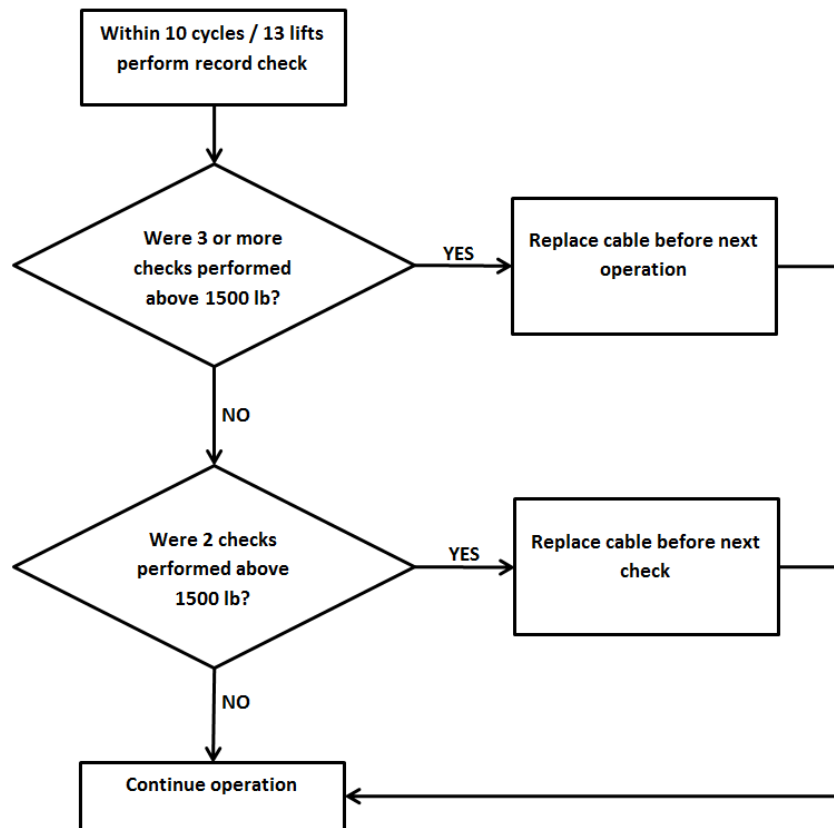


Figure 1

- (2) Within 30 days after 21 November 2015 [the effective date of the original issue of this AD], accomplish an initial hoist load check/test in accordance with approved instructions from the helicopter design approval holder, or from the hoist installation design change approval holder (STC holder), as applicable to installation and helicopter type/model.
- (3) Within the time interval, or hoist operating cycles/hoist lifts specified in the approved instructions from the applicable design (change) approval holder, whichever occurs first after the initial load check as required by paragraph (2) 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 (see Note 1 of this AD) in accordance with the instructions for on-going testing.
- (4) If, during any hoist load check/test as required by paragraph (2) or (3) of this AD, as applicable, 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, and having a serial number (s/n) with a “4” as the first digit (see Note 2 of this AD), and with an overload clutch assembly which has accumulated less than 24 months, or 1 200 hoist cycles/1 600 hoist lifts, since new or since last overhaul.
For AW139 and AB139 helicopters only: A hoist having a P/N as listed in Table 1 of this AD, and having a s/n with a “4” as the first digit (see Note 2 of this AD), and with an overload clutch assembly which has accumulated less than 36 months, or 2 600 hoist lifts, since new or since last overhaul. The time interval may be extended by up to 4 months, but not beyond 40 months total interval. No tolerance may be applied to the hoist lift limit.

Note 2: Hoists that are equipped with a new overload clutch assembly P/N are (re)identified with a “4” as first digit of the s/n, e.g. 00304 becomes 40304. This modification can be done on existing hoists during overhaul.

- (5) If a hoist test as required by paragraph (2) or (3) of this AD cannot be accomplished for lack of approved instructions from the applicable design (change) approval holder, before next hoist operation, remove or deactivate the hoist.
- (6) If the hoist is equipped with an old overload clutch assembly P/N (see Note 2 of this AD), before exceeding 1 200 hoist operating cycles / 1 600 hoist lifts accumulated since 04 December 2013 [the effective date of EASA AD 2013-0275], or within the compliance time (as applicable) specified in Table 3 of this AD, whichever occurs first, modify the helicopter by replacing the affected clutch assembly with a new overload clutch assembly P/N in accordance with approved instructions from the applicable design (change) approval holder, or remove or deactivate the hoist.

Table 3 – Hoist Modification

Affected Hoists	Compliance Time
With an overload clutch assembly manufactured new, or last overhauled, before or on 04 December 2014	Within 36 months after 04 December 2013 [the effective date of EASA AD 2013-0275]
With an overload clutch assembly manufactured new, or last overhauled, after 04 December 2014	Before exceeding 24 months since the overload clutch assembly was new, or since it was last overhauled, as applicable

- (7) Within the initial compliance time and, thereafter, at intervals not to exceed the values as defined in Table 4 of this AD, as applicable, replace the hoist with a serviceable hoist as defined in Table 2 of this AD, noting the installation requirements of paragraph (8) of this AD.



Table 4 – Hoist Replacement

Affected Helicopters	Initial Compliance Time (whichever occurs first after modification of a helicopter as required by paragraph (6) of this AD)	Interval (whichever occurs first after the last replacement)
All	24 months, or 1 200 hoist operating cycles, or 1 600 hoist lifts, or at the next scheduled hoist overhaul	24 months, or 1 200 hoist operating cycles, or 1 600 hoist lifts
AW139 and AB139 only	36 months, or 2 600 hoist lifts, or at the next scheduled hoist overhaul	36 months, or 2 600 hoist lifts
	The time (initial or interval) accumulated by the hoist since new or since last replacement may be extended by up to 4 months, but not beyond 40 months total. No tolerance may be applied to the hoist lift limit.	

As an alternative to any replacement as required by this paragraph, it is acceptable to remove or deactivate the hoist, pending installation of a replacement hoist, noting the installation requirements of paragraph (8) of this AD.

- (8) From 21 November 2016 [12 months after the effective date of the original issue of this AD], it is allowed to install on any helicopter an affected Goodrich hoist, having a P/N as listed in Table 1 of this AD, provided it is a serviceable hoist as defined in Table 2 of this AD. Following installation, prior to hoisting operation, the hoist must pass a test as specified in paragraph (2) of this AD and, thereafter, the repetitive actions required by this AD must be accomplished.

Note 3: For the purpose of this AD, reinstallation on a helicopter of a hoist that was temporarily removed from that same helicopter is not considered as “installation.”

- (9) Within 30 days after 21 November 2015 [the effective date of the original issue of this AD], amend the applicable RFM(S) by including the hoist operation limitations as specified in Placards 1 and 2, or 1 and 3, of this AD, as applicable, inform all flight crew members and hoist operators and, thereafter, operate the helicopter accordingly.

Installation of these placards, in full view of the pilot(s) and/or hoist operator, as applicable, is acceptable to comply with the requirement of paragraph (9) of this AD. Alternatively, insertion of revised pages that contain this same information, if included in approved instructions from the applicable design (change) approval holder, into the applicable RFM(S) is acceptable to comply with the requirement of paragraph (9) of this AD.

#### Placard 1 – Operational Limitations

**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

**Caution:** overload clutch is unlikely to function in case of overload



## Placard 2 – For 600-lb [272 kg] rated hoists

**OAT above 0°C** : Maximum hoist load 550 lb [249 kg]  
**OAT at or below 0°C** : Maximum hoist load 500 lb [227 kg]

## Placard 3 – For 500-lb [227 kg] rated hoists

**OAT above -20°C** : Maximum hoist load 450 lb [204 kg]  
**OAT at or below -20°C** : Maximum hoist load 400 lb [181 kg]

- (10) Within 30 days after 21 November 2015 [the effective date of the original issue of this AD], amend the applicable RFM(S) by including the instructions into the Limitations Section as specified in Table 5 of this AD, inform all flight crew members and hoist operators and, thereafter, operate the helicopter accordingly.

Table 5 – Hoist Limitation

A maximum of two persons at a time (with equipment) can be hoisted, except when it can be explicitly determined that hoisting more persons (with equipment) does not exceed the maximum hoist load, e.g. when small persons or children are being hoisted.

Inserting a copy of this AD into the applicable RFM(S), or revising the applicable RFM(S) with pages from the applicable design (change) approval holder that contain this same information, is an acceptable method to comply with the RFM(S) amendment requirement.

- (11) From 21 November 2015 [the effective date of the original issue 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, remove or deactivate the hoist or, before next hoist operation, replace the hoist with a serviceable hoist, noting the installation requirements of paragraph (8) of this AD.
- (12) From 21 November 2015 [the effective date of the original issue of this AD], it is acceptable to install a replacement cable on a hoist / helicopter, provided that, prior to installation, it is determined that the cable was not previously load-tested at 1 500 lb [680 kg] or more.

**Ref. Publications:**

Airbus Helicopters Deutschland:

ASB MBB-BK117 C-2-85A-038, Revision 5 dated 18 November 2015, or Revision 6 dated 17 March 2016.

ASB MBB-BK117 C-2-85A-045, original issue, dated 18 November 2015.

ASB EC135-85A-058, Revision 6, dated 19 November 2015, or Revision 7 dated 17 March 2016, or Revision 8, dated 17 May 2016.

ASB EC135-85A-064, original issue, dated 19 November 2015.

Airbus Helicopters:

ASB AS365-25.01.25 Revision 6 dated 19 November 2015, or Revision 7 dated 17 March 2016.

ASB AS365-25.01.65 original issue dated 19 November 2015, or Revision 1 dated 24 May 2016.



ASB AS332-25.02.70 Revision 6 dated 19 November 2015, or Revision 7 dated 17 March 2016.  
 ASB AS332-25.03.19 original issue dated 19 November 2015, or Revision 1 dated 24 May 2016.  
 ASB EC225-25A133 Revision 6 dated 19 November 2015, or Revision 7 dated 17 March 2016.  
 ASB EC225-25A187 original issue dated 19 November 2015, or Revision 1 dated 24 May 2016.

Leonardo, Helicopter Division:

BT 139-443 dated 19 November 2015, or Revision A dated 21 April 2016.

BT 109SP-100 dated 19 September 2015, or Revision A dated 21 April 2016.

Bell Helicopter Textron Canada Ltd: ASB 429-14-15 Revision B dated 10 March 2016 (see Note 4 of this AD).

Bell Helicopter Textron, Inc.: None.

MD Helicopters, Inc.: None.

Sikorsky Aircraft Corporation: None.

Note 4: Where the BHTC [ASB 429-14-15 Revision B](#) refers to the ‘most current version’ of Goodrich ASB 4301-10-18, only the use of Revision 5 dated 23 February 2016 is acceptable to comply with this AD. Future revisions will need to be accepted by EASA.

#### 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 Programming and Continued Airworthiness Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#).
5. For any question concerning the technical content of the requirements in this AD, please contact one of the following, as applicable to helicopter (TC holder) or hoist installation approval (STC holder):

Leonardo S.p.A. Helicopter Division, Customer Support & Services Product Support Engineering DPT, via Giovanni Agusta 520, 21017 Cascina Costa di Samarate (VA) – Italy  
 E-mail: [PSE\\_AW189.MBX.AW@leonardocompany.com](mailto:PSE_AW189.MBX.AW@leonardocompany.com).

Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, Texas 76101, United States of America (USA), Telephone +1 817-280-3391, Fax +1 817-280-6466.





Bell Helicopter Textron Canada Ltd, 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>.

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Web portal: <https://keycopter.airbushelicopters.com> > Technical Request Management  
E-mail: [customersupport.helicopters@airbus.com](mailto:customersupport.helicopters@airbus.com).

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,  
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