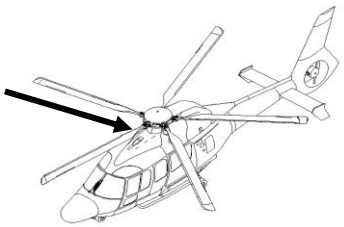
No. EC155-25-154

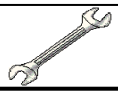
Civil versions: B, B1

SERVICE BULLETIN

PROTECTIVE MEASURE

EQUIPMENT AND FURNISHINGS - Electrical hoist
One time verification for no damage on cable hook side and preventive actions



For the attention of


Revision No.	Date of issue
Revision 0	2021-07-29

Summary:

Customers reported cases of cable diameter restriction, found at the edge of the bottom cup of the hook assembly. The cable diameter restriction was found at about 1 cm from the swaged terminal. This restriction with interactions between the cable and the bottom cup of the hook assembly (back and forth motion) could cause damage during flights.

Pending investigations, Goodrich wrote the Service Bulletin No. 76378-25-13, which has the objectives that follow:
- Do a one time verification for no damage on cable hook side
- Add precision on the procedure to make sure correct hook assembly stowage at the up limit
- Add an additional precision for the periodical check of the cable.

Compliance:

Airbus Helicopters recommends that you comply with this Service Bulletin.

1. PLANNING INFORMATION

1.A. EFFECTIVITY

1.A.1. Helicopters/installed equipment or parts

Helicopters that have an electrical hoist 76378 series, except 76378-200, 76378-300 and 76378-500.

NOTE 1

Refer to the Log Cards (FM) to identify the modification status of the helicopter/equipment.

1.A.2. Non-installed equipment or parts

Electrical hoist 76378 series, except 76378-200, 76378-300 and 76378-500.

NOTE 2

Refer to the Log Cards (FM) to identify the modification status of the helicopter/equipment.

1.B. ASSOCIATED REQUIREMENTS

CAUTION

BEFORE YOU COMPLY WITH THIS SERVICE BULLETIN, MAKE SURE THAT THERE WAS NO ALERT SERVICE BULLETIN RELATED TO THE INSTALLATION OF THE GOODRICH ELECTRICAL HOIST BETWEEN SERVICE BULLETIN APPROVAL AND SERVICE BULLETIN EMBODIMENT DATES.

1.C. REASON

Customers reported cases of cable diameter restriction, found at the edge of the bottom cup of the hook assembly. The cable diameter restriction was found at about 1 cm from the swaged terminal. This restriction with interactions between the cable and the bottom cup of the hook assembly (back and forth motion) could cause damage during flights.

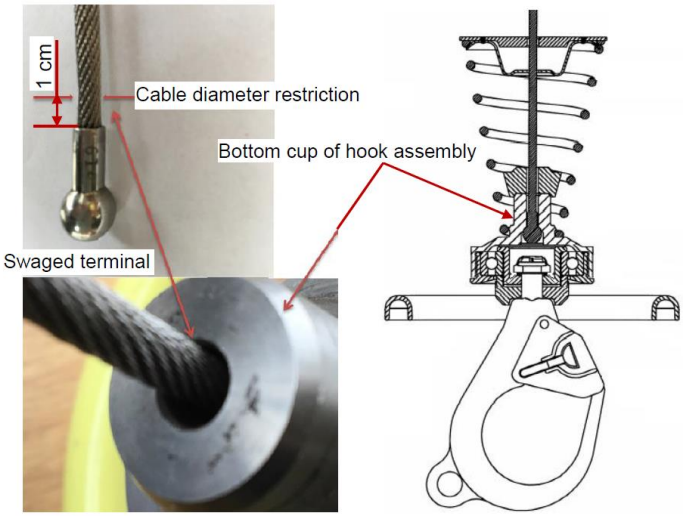


Figure 1: Cable diameter restriction located at edge of bottom cup of the hook assembly

Pending investigations, Goodrich wrote the Service Bulletin No. 76378-25-13, which has the objectives that follow:
- Do a one time verification for no damage on cable hook side
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- Add an additional precision for the periodical check of the cable.

Airbus Helicopters recommends that you comply with this Service Bulletin.

1.D. DESCRIPTION

This Service Bulletin applies the Goodrich Service Bulletin No. 76378-25-13 (Appendix 4.A.).

1.E. COMPLIANCE

1.E.1. Compliance at H/C manufacturer level

Not applicable.

1.E.2. Compliance in service

The operator must do the work on the helicopter.

Helicopters/installed equipment or parts:

Airbus Helicopters recommends that you comply with paragraph 3. of this Service Bulletin before the next hoisting mission.

Non-installed equipment or parts:

Airbus Helicopters recommends that you comply with paragraph 3. of this Service Bulletin when you install the hoist on the helicopter.

1.F. APPROVAL

Approval of modifications:

Not applicable.

Approval of this document:

The technical information contained in this Service Bulletin Revision 0 was approved on July 27, 2021 under the authority of EASA Design Organization Approval No. 21J.700 for civil version helicopters subject to an Airworthiness Certificate.

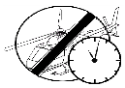
1.G. MANPOWER

Airbus Helicopters recommends that the personnel who will do this Service Bulletin have this qualification:

Qualification: 1 Mechanical Technician.

The man-hours are an estimate given for information only and for a standard helicopter configuration.

Estimated Man-hours: Approximately 1 hour to apply the Goodrich Service Bulletin No. 76378-25-13.



The helicopter downtime is an estimate given for information only and for a standard helicopter configuration.

The estimate of the helicopter downtime is half a day.

1.H. WEIGHT AND BALANCE

Not applicable.

1.I. POWER CONSUMPTION

Not applicable.

1.J. SOFTWARE UPGRADES/UPDATES

Not applicable.

1.K. REFERENCES

These documents are necessary to comply with this Service Bulletin:

Aircraft Maintenance Manual (AMM):

AMM: 24-00-00-911: General Safety Instructions - Electrical Power

Standard Practices Manual (MTC):

MTC: 20-07-02-201: Helicopter parked in a repair shop - Safety instructions
MTC: 20-07-03-406: Instructions applicable when working on an aircraft electrical circuit and power generating systems - Technical instructions
MTC: 20-07-03-408: Appearance checks on an aircraft after inspection or repair - Technical instructions
MTC: 20-08-05-102: Rules in force applicable for repair and maintenance of aircraft - General rules applicable to aircraft

Master Servicing Manual (MSM)

Information Notice (IN):

IN 3643-I-00: Introduction of the digital Service Bulletin reporting service R-TEX

1.L. OTHER AFFECTED PUBLICATIONS

Not applicable.

1.M. PART INTERCHANGEABILITY OR MIXABILITY

The interchangeability and the mixability are not affected.

2. EQUIPMENT OR PARTS INFORMATION

2.A. EQUIPMENT OR PARTS: PRICE - AVAILABILITY - PROCUREMENT

Not applicable.

2.B. LOGISTIC INFORMATION

Not applicable.

2.C. EQUIPMENT OR PARTS REQUIRED PER HELICOPTER/COMPONENT

Not applicable.

2.D. EQUIPMENT OR PARTS TO BE RETURNED

Not applicable.

3. ACCOMPLISHMENT INSTRUCTIONS

3.A. GENERAL

- Comply with the general instructions for electrical power system. Refer to the Work Card 24-00-00-911 (AMM).
- Comply with the technical instructions applicable when working on an aircraft electrical circuit and power generating systems. Refer to the Work Card 20-07-03-406 (MTC).
- Comply with the general rules applicable to the repair and maintenance of aircraft. Refer to the Work Card 20-08-05-102 (MTC).

3.B. WORK STEPS

3.B.1. Preliminary steps

- Park the helicopter in a hangar. Refer to Work Card 20-07-02-201 (MTC).
- Install the appropriate access equipment.
- Remove and/or open all applicable cowlings, panels, doors and other items of equipment to get access to the different work areas.

3.B.2. Procedure

Obey the paragraphs 3.A. and 3.B. of the Goodrich Service Bulletin No. 76378-25-13 (Appendix 4.A.).

3.B.3. Final steps

- Clean and apply the close-up procedure to the work areas and the helicopter. Refer to Work Card 20-07-03-408 (MTC).
- Install or close all cowlings, panels, doors and items of equipment that you removed and/or opened during the preliminary steps. Refer to paragraph 3.B.1. of this Service Bulletin.
- Remove the access equipment.
- Set the helicopter back to flight condition.

3.C. RECORD OF COMPLIANCE

Compliance with this document:

- Record the full compliance with this Service Bulletin, with the revision number, in the helicopter documents.

- Record the full compliance with this Service Bulletin, with the revision number, in the hoist Log Card (FM).

- Record the full compliance with this Service Bulletin (see IN 3643-I-00 for instructions):
  QR-Code or hypertext link

SB EC155 25-154

NOTE

The recording of compliance with Service Bulletins in the R-Tex tool does not replace the recording in the helicopter documents.

3.D. OPERATING AND MAINTENANCE INSTRUCTIONS

While waiting for the update of CMM 25-64-99 by the supplier, also comply with paragraph 3.C. of the Goodrich Service Bulletin during each scheduled cable check. Refer to the MSM.

4. APPENDIX

4.A. Goodrich Service Bulletin No. 76378-25-13

Goodrich Actuation Systems *FA3T1*

DIVISION HOIST AND WINCH, 13, AVENUE DE L'EGUILLETTE - SAINT-OUEN-L'AUMONE -
BOITE POSTALE 7186 - 95056 CERGY PONTOISE CEDEX FRANCE - Desk-customer.Stouen@collins.com

SERVICE BULLETIN

EQUIPEMENT / FURNISHING: One time verification for no damage on cable hook side and preventing actions.

1. Planning information

A. Effectivity

This Service Bulletin applies to the Electric Hoists

- 76375 series, except 76375-200 and 76375-300,
- 76378 series, except 76378-200, 76378-300 and 76378-500.

B. Concurrent requirements

Not applicable

C. Reason

(1) Customers reported cases of cable diameter restriction located at the edge of the bottom cup of the hook assembly on hoist families different from hoists listed in para 1.A of this Service Bulletin but having the same type of hook assembly attachment on the cable.

This Service Bulletin is edited as a preventive action.

The cable diameter restriction was located about 1 cm from the swaged terminal.

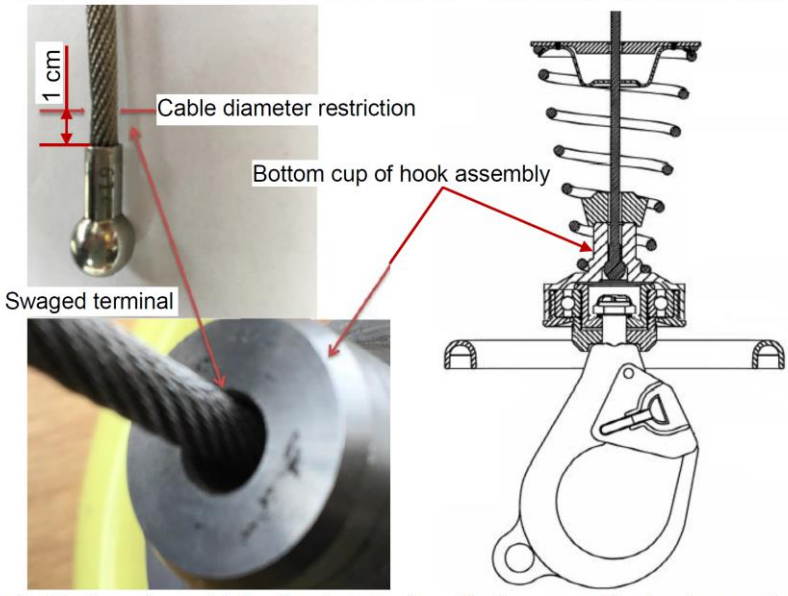


Figure 1: Cable diameter restriction located at edge of bottom cup of the hook assembly.

(2) Improper hook assembly stowage combined with interactions between the cable and the bottom cup of the hook assembly (back and forth motion) could induce such damages during flights.

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SERVICE BULLETIN

D. Description

This Service Bulletin provides instruction for

- One time verification for no damage on cable hook side, near swaged terminal (Paragraph 3.A. of this Service Bulletin).
- Additional precision on the procedure to assure correct Hook assembly stowage at the up limit (Paragraph 3.B. of this Service Bulletin).
- Additional precision for the periodical check of the cable (see paragraph 3.C. of this Service Bulletin).

E. Compliance

It is recommended to comply with the instructions in this Service Bulletin. It is to be applied by the operator.

F. Approval

The technical information contained in this Equipment Manufacturer's Service Bulletin was approved by Airbus Helicopters under the prerogatives of EASA Design Organisation Approval No. 21J.700 only for the Airbus Helicopters helicopter range concerned.

G. Manpower

The time for each additional periodic check is estimated to 1 hour.

H. Weight and balance

Not applicable.

I. Electrical load data

Not applicable.

J. Software accomplishment summary

Not applicable.

K. References

- Component Maintenance Manual (CMM) 25-64-99.

L. Publication affected

- Component Maintenance Manual Intermediate level (CMM) 25-64-99.
- Component Maintenance Manual Depot level (CMM) 25-62-25.
- Component Maintenance Manual Depot level (CMM) 25-69-06.

M. Interchangeability or mixability of parts

(1) Interchangeability
Not applicable

(2) Mixability
Not applicable.

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2. Material information

A. Material – Price and availability

(1) Material to be purchased

None.

(2) Material to be supplied by the operator

None.

B. Industry support information

Not applicable.

C. Material necessary for each equipment

Not applicable.

D. Material necessary for each spare

Not applicable.

E. Re-identified parts

Not applicable.

F. Tooling – price and availability

Not applicable.

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SERVICE BULLETIN

3. Accomplishment instructions

A. One time verification for no damage on cable hook side as cable diameter restriction near swaged terminal

(1) Apply power to the hoist system and unwind 2 to 3 meters (6.5 to 10 ft) of cable.

(2) Turn off power to the hoist system.

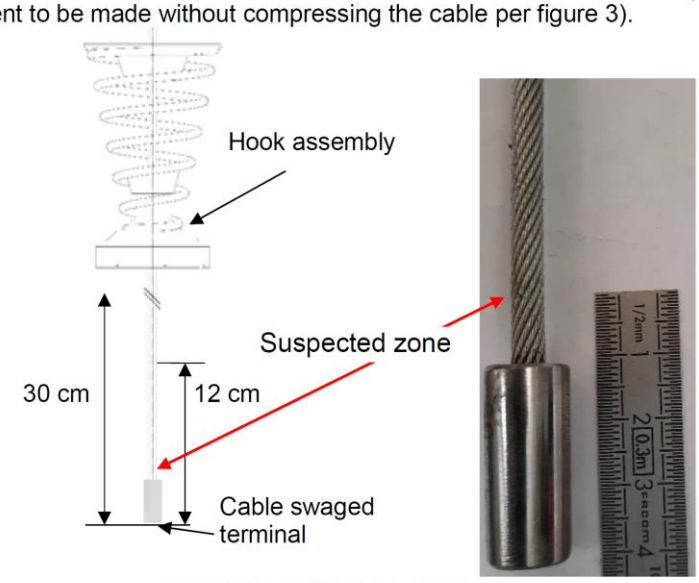
(3) Remove the bottom part of the hook assembly in accordance with para 7.A.(1) of chapter REPAIR of CMM.

(4) Disengage and lift up the upper part of the hook assembly on about 30 cm in order to observe properly the cable near swaged terminal (see figure 2).

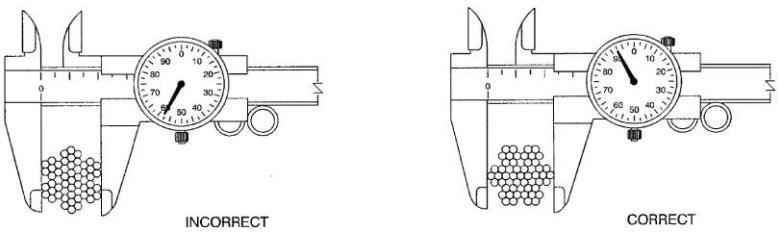
(5) Clean and wash the cable near swaged terminal as required.

(6) Verify the cable condition on at least 12 cm length from the cable swaged terminal (see figure 2)

Check for cable damages as written in para 4.D.(2) and 4.D.(3) of chapter CHECK of the CMM. Verify especially if there is a cable diameter restriction at about 1 cm from the cable swaged terminal - cable minimum diameter must be ≥ 4.50 mm (0.181 in) (measurement to be made without compressing the cable per figure 3).



Part of the cable to be checked
Figure 2



Correct measurement of cable diameter
Figure 3

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SERVICE BULLETIN

(7) If the cable checked in para 3.A.(6) is compliant:

(a) Reassemble bottom part of hook assembly on the upper part per para 7.A.(5) of chapter Repair of CMM.

(b) Bring back hook assembly to the stowage position, referring to para 3.B of this Service Bulletin.

(c) Fill down the Log Cards of hoist and cable, by indicating the Serial number of the Electronic Control Box 61148-016 and compliance with this Service Bulletin 76378-25-13.

(8) If the cable checked in para 3.A.(6) is not compliant,

(a) Reassemble bottom part of hook assembly on the upper part per para 7.A.(5) of chapter Repair of CMM.

(b) Check if there is correct Hook assembly stowage at the up limit in accordance with para 3.B. of this Service Bulletin.

(c) If check in para 3.A.(8)(b) is correct,

1 Replace the cable. The hoist can be kept in operation.

2 On the removed cable, measure cable diameter at 2 cm from cable swaged terminal.

3 Send to Goodrich Actuation Systems, Hoist & Winch at desk-customer@collins.com

- Both results of cable diameter checking at about 1 cm and 2 cm from the cable swaged terminal, with photos;
- And results of hook assembly stowage checking per para 3.A.(8)(b) with photo.

Goodrich Hoist & Winch will indicate if additional tests are required, and if necessity of sending cable, or cable and hoist for investigation.

(d) If check in para 3.A.(8)(b) is not correct,

1 The hoist cannot be kept in operation until Goodrich Hoist & Winch answer after receipt of information provided by the customer in paragraph 3.A.(8)(d)3.

2 On the cable removed, measure cable diameter at 2 cm from cable swaged terminal.

3 Send to Goodrich Actuation Systems Hoist & Winch, at desk-customer@collins.com,

- Both results of cable diameter checking at about 1 cm and 2 cm from the cable swaged terminal, with photos;
- And results of hook assembly stowage checking per para 3.A.(8)(b) with photo.

Goodrich Hoist & Winch will indicate if additional tests are required, and if necessity of sending cable, or cable and hoist for investigation.

Back to paragraph 3.B.2.

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SERVICE BULLETIN

B. Additional precision on the procedure to assure correct Hook assembly stowage at the up limit, to be added to paragraph 5.C.(2)(f) of chapter Description of the CMM 25-64-99

CAUTION: IT IS NOT ALLOWED AT ANY TIME TO HANG A FAST SLIDING ROPE ON THE HOOK ASSEMBLY FOR RAPPELLING METHODS.

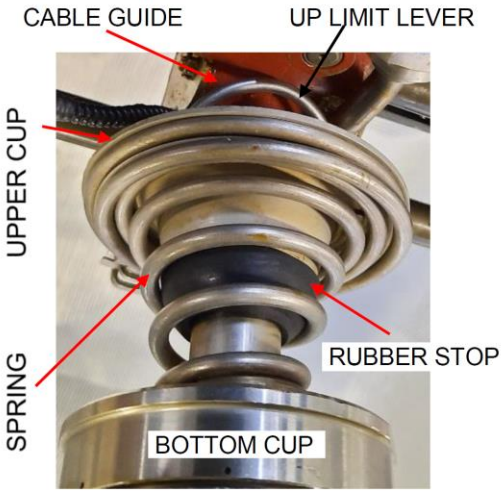
CAUTION: WHEN THE HOISTING MISSION IS FINISHED, HOOK ASSEMBLY MUST BE PLACED, WITHOUT LOAD HANGED ON HOOK, AT THE UP-LIMIT STOWAGE POSITION. IF THIS INSTRUCTION IS NOT RESPECTED, THIS WOULD INDUCE PREMATURE CABLE DAMAGES DURING FLIGHTS.

When hook assembly reaches up limit position and before switching off hoist mission selector, operator must perform the hook stowage using the following procedure:

After a first cable reeling-in stop (when upper cup of the hook assembly activates the up limit lever) continue to activate control pendant fully in the up direction. After two seconds (2 s) the cable reeling-in starts again at very low speed. Reel in command at maximum order on the control pendant shall be maintained until cable reeling in completely stops.

This procedure allows proper stowage position of the hook assembly which prevents swinging during flights.

Make sure hook assembly is steadily pressed onto the cable-guide as shown on figure 4.



CAUTION: NO LOAD MUST BE HANGED ON HOOK DURING HOOK STOWING OR WHEN HOOK IS ALREADY IN STOWAGE POSITION.

The hook assembly is properly at the stowage position when:

- Proper compression of the spring;
- Bottom cup, rubber and upper cup are steadily pressed together on cable-guide.

Figure 4: Proper stowage of hook assembly at the Up Limit stop

C. Additional precision to be added to the periodical check of the cable in paragraph 4.D.(3) of chapter Check of CMM 25-64-99

While checking the 30 mm near the cable crimped end, check for no cable diameter restriction, especially at about 1 cm from the cable swaged terminal - cable minimum diameter must be ≥ 4.50 mm (0.181 in) (measurement to be made without compressing the cable per figure 3 of this Service Bulletin).

Back to paragraph 3.B.2.
Back to paragraph 3.D.

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4. Appendix

A. Family tree chart of modification relationships