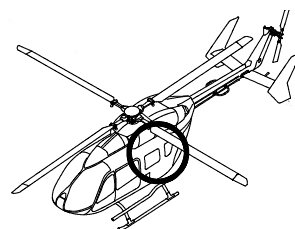
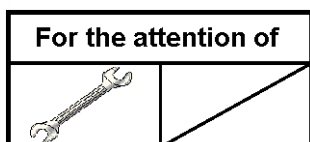




Valid for Version(s): C-2.

ALERT SERVICE BULLETIN

SUBJECT: OPTIONAL EQUIPMENT - Outboard Load System - Introduction of life limit, a first time and repetitive inspection and replacement of quick release pin bolts



Revision No.	Date of issue
Revision 0	2017-07-24
Revision 1	2017-12-19

Summary:

This Alert Service Bulletin (ASB) introduces a life limit, a first time and repetitive inspection and replacement of quick release pin bolts.

Reason for last Revision:

Please replace Revision 0 of this ASB with Revision 1.

With Revision 1:

The compliance for the first time inspection was updated in Section 1.E.2 and the inspection of the fitting FWD and AFT including the bolts has been described more precisely in Section 3.B.3 and 3.B.8.

The removal of the quick release pin bolts from the Goodrich support assembly is described in Section 3.D.

If Revision 0 has been accomplished, and the quick release pin bolts from the Goodrich support assembly are not removed, the quick release pin bolts must be removed in accordance with Section 3.D before the next flight with the Goodrich support assembly.

Compliance:

Compliance with this ASB is mandatory.

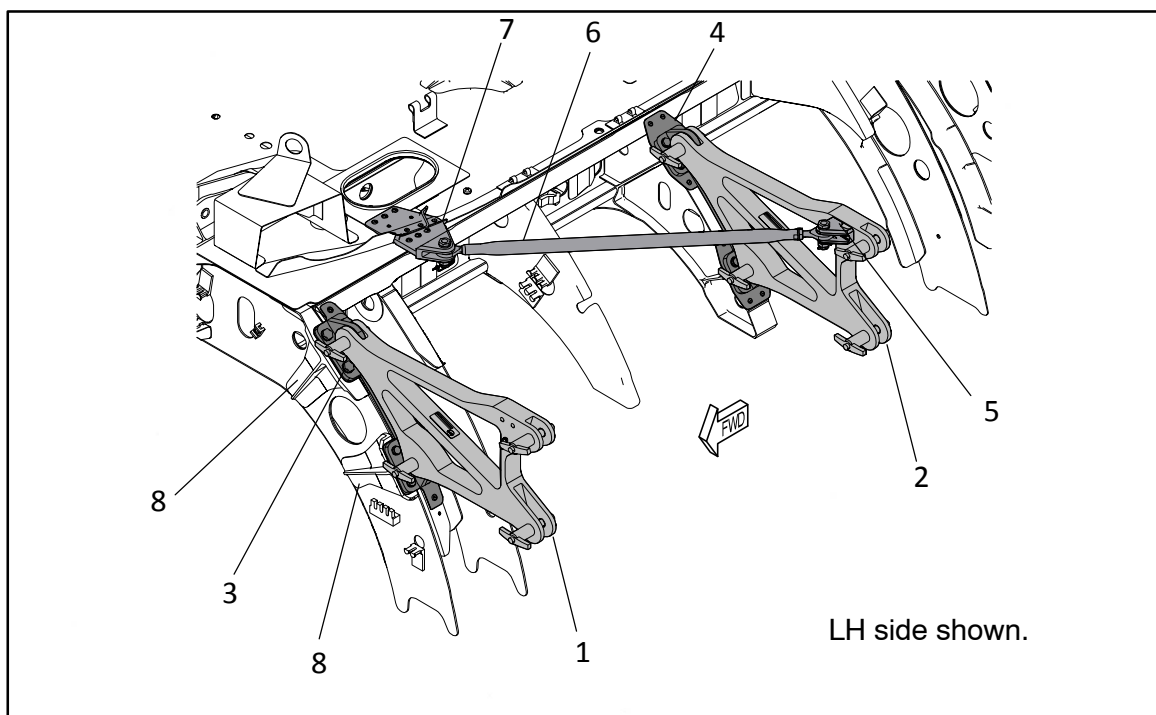
1 PLANNING INFORMATION

1.A EFFECTIVITY

1.A.1 Helicopters/installed equipment and parts

a) MBB-BK117 C-2, all S/N.

b) (1) Adapter (installed FWD)	P/N	B851M0010101
(quick release pin bolts)	P/N	(51399C10T30MS) or
Adapter FWD	P/N	D851M2044101
(2) Adapter (installed AFT LH)	P/N	B851M0010101
(quick release pin bolts)	P/N	(51399C10T30MS) or
Adapter AFT LH	P/N	D851M2042101
Adapter (installed AFT RH)	P/N	B851M0010101
(quick release pin bolts)	P/N	(51399C10T30MS) or
Adapter AFT RH	P/N	D851M2043101
(3) Fitting FWD (with bolts)	P/N	B851M0002101
(4) Fitting AFT (with bolts)	P/N	B851M0003101
(5) Fitting assy LH	P/N	B851M0011101
Fitting assy RH	P/N	B851M0020101
(6) X-Load Strut	P/N	B851M00X1001
(7) X-Load Fitting LH	P/N	B851M0006101
X-Load Fitting RH	P/N	B851M0021101
(8) Backup Fitting and airframe	P/N	B533K3002



1.A.2 Non-installed equipment and parts

See Section 1.A.1 part b).

1.B ASSOCIATED REQUIREMENTS

None.

1.C REASON

In consideration of the Human External Cargo (HEC) requirements, a dedicated life limit of the adapter FWD (with quick release pin bolts) of the outboard load system has to be introduced. Additionally the quick release pin bolts of the adapter FWD must be replaced and the quick release pin bolts must be connected with wire ropes to the adapter FWD and adapter AFT.

1.D DESCRIPTION

Perform a first time inspection. Connect the quick release pin bolts to the adapter. Reidentify the adapter. Create a log card. Introduce the life limit of the adapter FWD (with quick release pin bolts) in the list of life-limited parts. Perform a repetitive inspection.

1.E COMPLIANCE**1.E.1 Compliance at H/C manufacturer level**Helicopters/installed equipment and parts:

1. Introduce the life limit of the adapter FWD (with quick release pin bolts) in the list of life-limited parts before delivery of the helicopter. For details refer to Section 3.B.7.
2. Create a log card for the adapter FWD and enter the S/N of the adapter FWD before delivery of the helicopter.

Non-installed equipment and parts:

Create a log card for the adapter FWD and enter the S/N of the adapter FWD before delivery of the adapter FWD.

1.E.2 Compliance in service

Helicopters/installed equipment and parts:

EFFECTIVITY: All Parts, refer to Section 1.A.1

1. Latest **Two months** after receipt of **Revision 0** of this ASB:
 - a. Check the performed hoist cycles. For details refer to Section 3.B.1.
 - b. If the performed hoist cycles are unknown, the new basic can be determined i.a.w. Section 3.B.2.

EFFECTIVITY: Adapter FWD with 12000 hoist cycles and up

2. Latest **Two months** after receipt of **Revision 0** of this ASB:
 - a. Perform a first time inspection. For details refer to Section 3.B.3.
 - b. Connect **new** quick release pin bolts to the adapter FWD. Connect the quick release pin bolts which were already installed on the adapter AFT to the adapter AFT. For details refer to Section 3.B.4.
 - c. Reidentify the adapter FWD and adapter AFT i.a.w. Section 3.B.5.
 - d. Create a log card for the adapter FWD. For details refer to Section 3.B.6.
 - e. Include the life limit of the adapter FWD in the list of life-limited parts. For details refer to Section 3.B.7.
 - f. Perform a repetitive inspection of the adapter FWD and the quick release pin bolts every 50 hoist cycles. For details refer to Section 3.B.3.
 - g. Replace the adapter FWD together with the quick release pin bolts by **January 31, 2018** at the latest by a **new** adapter FWD (P/N D851M2044101).

EFFECTIVITY: Adapter FWD with less than 12000 hoist cycles

EFFECTIVITY More than 1800 hoist cycles since first installation on a helicopter.

1. Latest **Six months** after receipt of **Revision 0** of this ASB, perform a first time inspection. For details refer to Section 3.B.3.

EFFECTIVITY Less than 1800 hoist cycles since first installation on a helicopter.

1. Perform a first time inspection when 1800 hoist cycles are reached. For details refer to Section 3.B.3.

EFFECTIVITY All.

2. Latest **Six months** after receipt of **Revision 0** of this ASB:
 - a. Connect **new** quick release pin bolts to the adapter FWD. Connect the quick release pin bolts which were already installed on the adapter AFT to the adapter AFT. For details refer to Section 3.B.4.

- b. Reidentify the adapter FWD and adapter AFT i.a.w. Section 3.B.5.
- c. Create a log card for the adapter FWD. For details refer to Section 3.B.6.
- d. Include the life limit of the adapter FWD in the list of life-limited parts. For details refer to Section 3.B.7.
- e. Perform a repetitive inspection every 1800 hoist cycles i.a.w. Section 3.B.8.

Non-installed equipment and parts:

Refer to helicopters/installed equipment and parts.

1.F APPROVAL

Approval of this document:

The technical content of this document is approved under the authority of
DOA No. EASA.21J.700.

1.G MANPOWER

Qualification	Mechanic	Electrician	Pilot	Others
Estimated Man-hours (First time inspection)	approx. 2 h	-	-	-

1.H WEIGHT AND BALANCE

No effect on weight and balance.

1.I POWER CONSUMPTION

Not affected.

1.J SOFTWARE UPGRADES/UPDATES

Not changed.

1.K REFERENCES

AMM MBB-BK117 C-2, MSM MBB-BK117 C-2

1.L OTHER AFFECTED PUBLICATIONS

Publications to be updated:

The changes to AMM MBB-BK117 C-2, MSM MBB-BK117 C-2 and IPC MBB-BK117 C-2 which are required as a result of this ASB will be incorporated with one of the next revisions.

1.M INTERCHANGEABILITY OR MIXABILITY OF PARTSInterchangeability:

Not affected.

Mixability:

Not affected.

2 MATERIAL INFORMATION

2.A MATERIAL: PRICE - AVAILABILITY - PROCUREMENT

Information on price and availability of required material kit SB-117C2-85A-042-2C1 and SB-117C2-85A-042-2C2 will be provided by AHD, Dept. Spares Order Administration on request.

All material kits required will be provided free of cost by AHD only within the time limits that apply for the compliance (Section 1.E). Material that is ordered outside the time limits given in the ASB will be charged according to the ruling prices.

2.B LOGISTIC INFORMATION

None.

2.C MATERIAL REQUIRED PER HELICOPTER/COMPONENT

Material kits to be ordered for one adapter:

EFFECTIVITY Adapter FWD.

Material kit SB-117C2-85A-042-2C1 similar to design document D851M2044101.

No.	Keyword	Qty	New P/N	Old P/N	Rem.
1	Quick release pin bolt	4	51399C10T30MS	-	-
			-	51399C10T30MS	A
2	Wire rope	1	ISO2020B16Y (120 cm)	-	-
3	Clamp	12	TALURITKLEMME2 ALU	-	-
4	Ring	4	40012N	-	-
5	Sheath Heat-shrinkable sleeve	1	VG95343T05D002A (100 cm)	-	-
6	Serialization Sheet	1	S/N Adapter FWD (with quick release pin bolts)	-	B

Remark:

A = AHD does not take back quick release pin bolts. Quick release pin bolts must be discarded.

B = S/N used for the identification of the adapter FWD (with quick release pin bolts), refer to Section 3.C.

EFFECTIVITY Adapter AFT.

NOTE The quick release pin bolts of the adapter AFT will be reused.

Material kit SB-117C2-85A-042-2C2 similar to design document D851M2042101 / D851M2043101.

No.	Keyword	Qty	New P/N	Old P/N	Rem.
1	Wire rope	1	ISO2020B16Y (120 cm)	-	-
2	Clamp	12	TALURITKLEMMME2 ALU	-	-
3	Ring	4	40012N	-	-
4	Sheath Heat-shrinkable sleeve	1	VG95343T05D002A (100 cm)	-	-

Consumables to be ordered separately:

Products can be ordered from the KLX Aerospace Solutions. The given CM numbers are i.a.w. the Standard Practice Manual (MTC) list of consumable materials.

Website: <https://www.klxaerospace.com>

email: mailto:integration@klx.com

NOTE Respect the safety data sheet of the manufacturer.

No.	Keyword	Qty. (approx.)	Specification **	CM	Rem.
1	Cleaning solvent	a.n.*	-	218	-
2	Lacquer, single-layer	a.n.*	-	421	-
*a.n. = as needed					
** Specification i.a.w. AMM, 01-00-00, 2-1.					

Special tools:

Keyword	Qty.	Specification	Rem.
Pressing tool	1	Talurit pressing tool	A

Remark:

A = Specified pressing tool for talurit clamps.

2.D **MATERIAL TO BE RETURNED**

None.

3 ACCOMPLISHMENT INSTRUCTIONS

3.A GENERAL

Not applicable.

3.B WORK STEPS

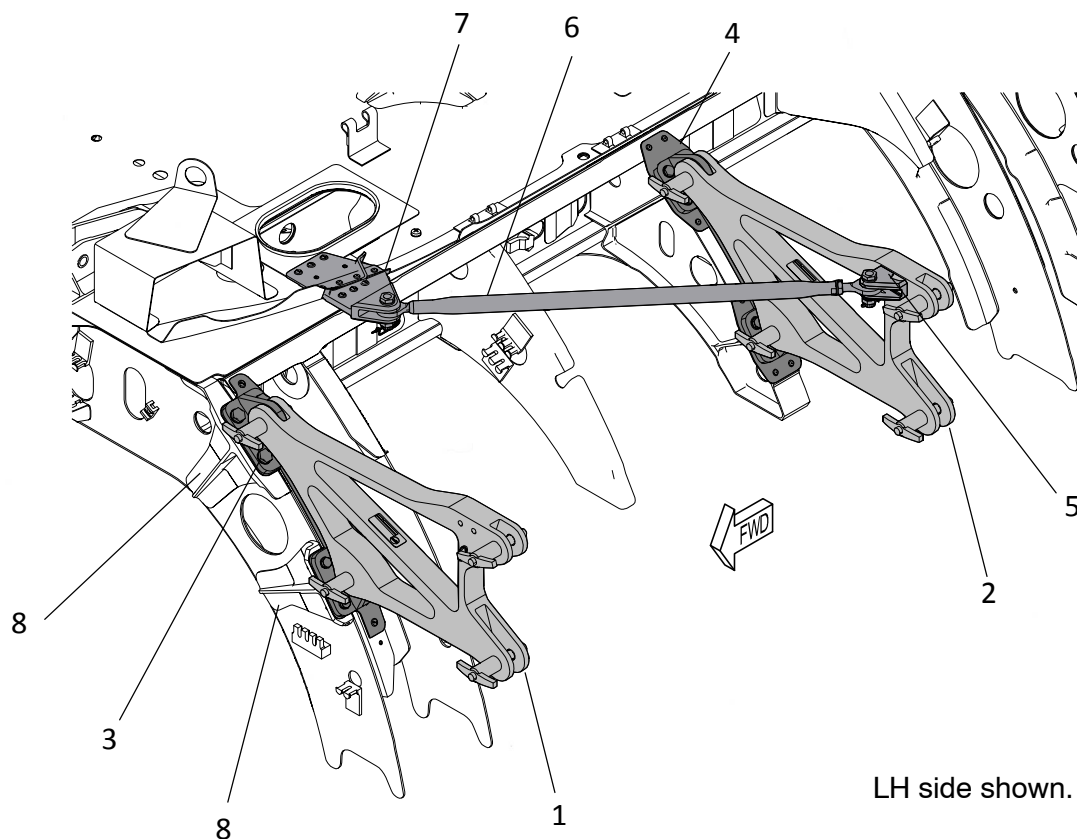
3.B.1 Check of performed hoist cycles

NOTE If the hoist cycles are not documented, the new basic can be determined i.a.w. Section 3.B.2.

- Record the performed hoist cycles or new basic hoist cycles in the maintenance schedule. The record of the hoist cycles must be continued.
For the affected parts / components refer to Table 1 and Figure 1.

Disposition	Part number	Rem.
Adapter installed FWD (quick release pin bolts)	B851M0010101 (51399C10T30MS)	(1)(2)(3)
Adapter installed AFT LH (quick release pin bolts)	B851M0010101 (51399C10T30MS)	(1)(2)(3)
Adapter installed AFT RH (quick release pin bolts)	B851M0010101 (51399C10T30MS)	(1)(2)(3)
Fitting FWD (with bolts)	B851M0002101	(1)(2)
Fitting AFT (with bolts)	B851M0003101	(1)(2)
Fitting assy LH	B851M0011101	(1)(2)
Fitting assy RH	B851M0020101	(1)(2)
X-Load Strut	B851M00X1001	(1)(2)
X-Load Fitting LH	B851M0006101	(1)(2)
X-Load Fitting RH	B851M0021101	(1)(2)
Backup Fitting and airframe	B533K3002	(1)(2)
(1) One hoist cycle is defined as an extension and subsequent retraction of the hoist cable during flight or on the ground with a length of more than 5 m (16 ft), independent of the load. (2) If you are operating other equipment than the rescue hoist system, mounted to the fittings / adapters, make sure to record the number of cycles as well. For a definition of a cycle and recalculation to hoist cycles, contact the manufacturer that is applicable for the dedicated equipment. (3) Valid for adapter after reidentification as well.		

Table 1



LH side shown.

- | | |
|--------------------------------------------------------------|---------------------------------|
| 1 Adapter installed FWD
(with quick release pin bolts) | B851M0010101
(51399C10T30MS) |
| 2 Adapter installed AFT LH
(with quick release pin bolts) | B851M0010101
(51399C10T30MS) |
| Adapter installed AFT RH
(with quick release pin bolts) | B851M0010101
(51399C10T30MS) |
| 3 Fitting FWD (with bolts) | B851M0002101 |
| 4 Fitting AFT (with bolts) | B851M0003101 |
| 5 Fitting assy LH | B851M0011101 |
| Fitting assy RH | B851M0020101 |
| 6 X-Load Strut | B851M00X1001 |
| 7 X-Load Fitting LH | B851M0006101 |
| X-Load Fitting RH | B851M0021101 |
| 8 Backup Fitting and airframe | B533K3002 |

Check of performed hoist cycles
 Figure 1

3.B.2 Determination of the hoist cycles

OPERATION WITH A WEIGHT	FACTOR (HOIST CYCLES/FH)
ABOVE 150 KG	1.8
BELOW 150 KG	0.6

NOTE In case of unknown operating weight, factor 1.8 must be used.

Calculating example for operating weight above 150 kg or unknown operating weight:

Flight hours of the **helicopter** before accomplishment of this ASB = 3525 Fh

Factor = 1.8

3525 Fh x 1.8 hoist cycles/Fh = **6345 hoist cycles**

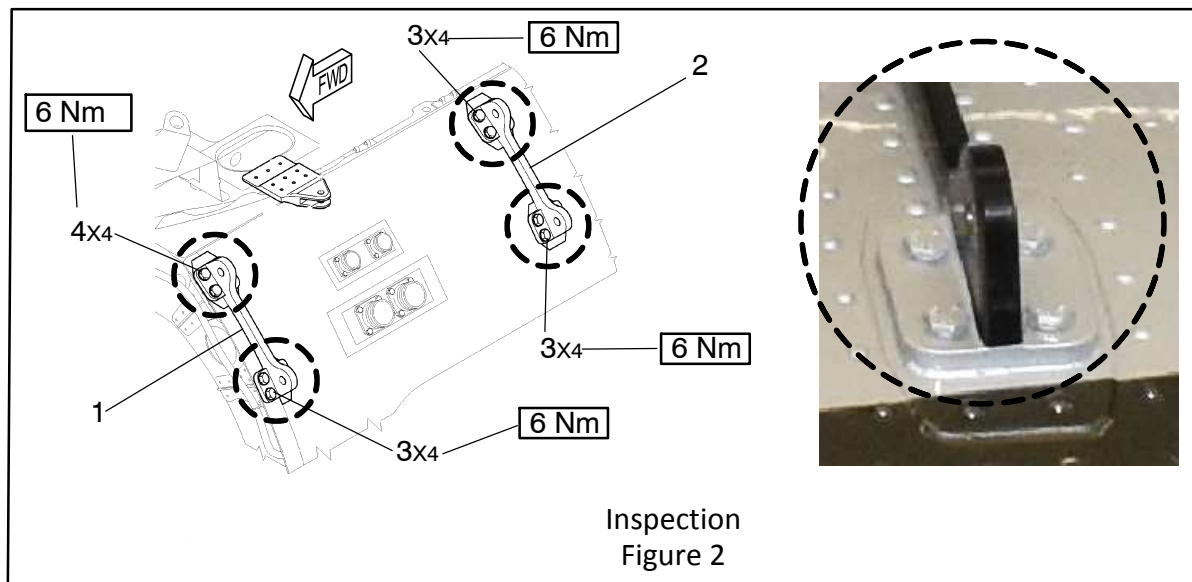
3.B.3 First time Inspection

For the affected parts refer to Table 2, Figure 1 and Figure 2.

Accomplish an inspection, refer to AMM, 85-12-00, 6-1.

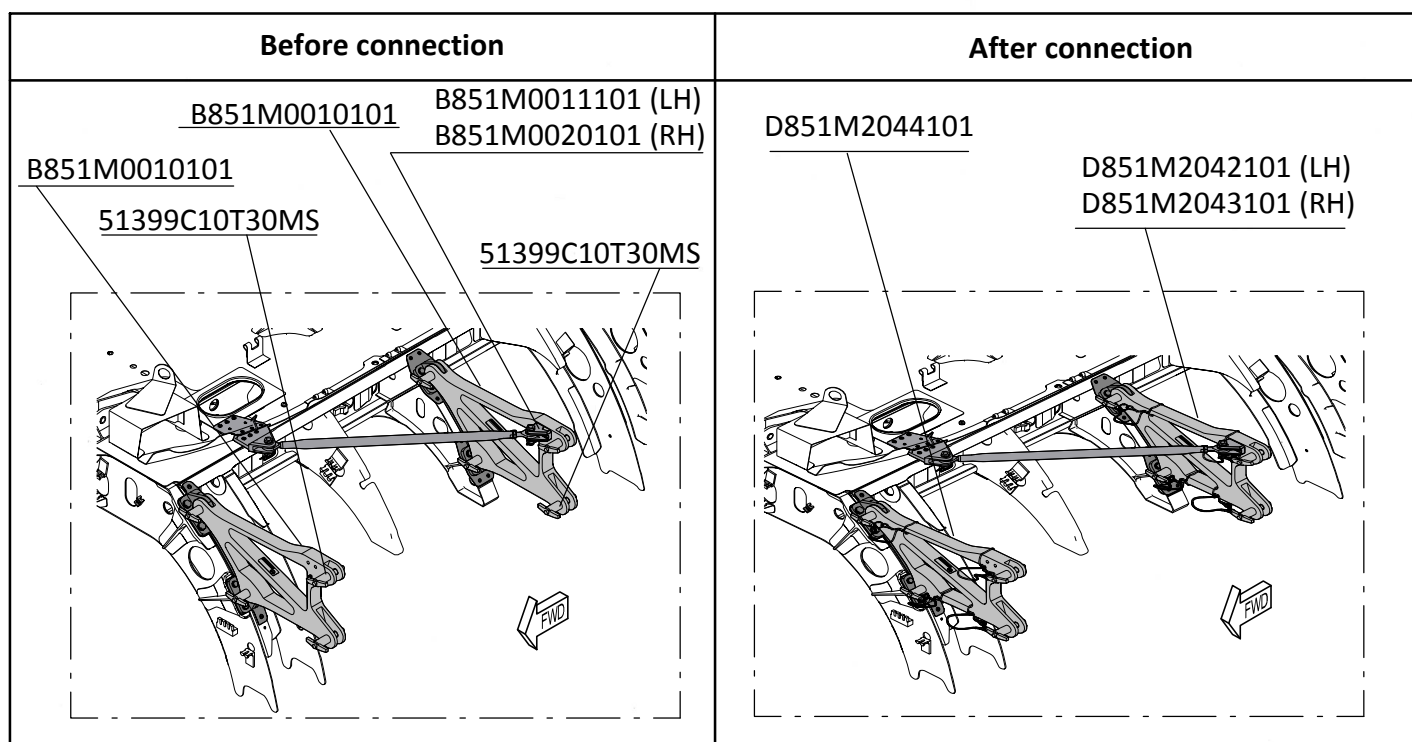
NOTE For the inspection, it is not required to remove the fittings and the bolts from the helicopter. The paint does not need to be removed from the fittings and the bolts. If a crack or damage is suspected, the paint must be removed.

1. Check of the fitting FWD (1, Fig. 2) and fitting AFT (2):
 - a. Clean the fitting FWD (1) and fitting AFT (2).
 - b. Check the fitting FWD (1) and fitting AFT (2) for cracks and damage using a flashlight and a magnifying glass. If cracks or damage is detected contact AHD customer support before the next flight with an outboard load system.
2. Tightening check of the bolts (3, 4):
 - a. Clean the heads of the bolts (3, 4).
 - b. Apply a tightening torque of **6 Nm** to the bolts (3, 4) to check tight fit. Refer to Figure 2.
 - c. If the bolts are turning, tighten the bolted connections (bolt / nut) with a tightening torque i.a.w. Section 3.B.8 step 2.b.



Disposition	Part number	Rem.
Adapter installed FWD (quick release pin bolts)	B851M0010101 (51399C10T30MS)	-
Adapter installed AFT LH (quick release pin bolts)	B851M0010101 (51399C10T30MS)	-
Adapter installed AFT RH (quick release pin bolts)	B851M0010101 (51399C10T30MS)	-
Fitting FWD (with bolts)	B851M0002101	-
Fitting AFT (with bolts)	B851M0003101	-
Fitting assy LH	B851M0011101	-
Fitting assy RH	B851M0020101	-
X-Load Strut	B851M00X1001	-
X-Load Fitting LH	B851M0006101	-
X-Load Fitting RH	B851M0021101	-
Backup Fitting and airframe	B533K3002	-

Table 2

3.B.4 Connection of the quick release pin bolts to the adapter FWD and adapter AFT

NOTE

If quick release pin bolts are attached to the Goodrich support assembly refer to Section 3.D.

NOTE

In the following the procedure for one quick release pin bolt is described. The procedure for all quick release pin bolts are identical.





NOTE

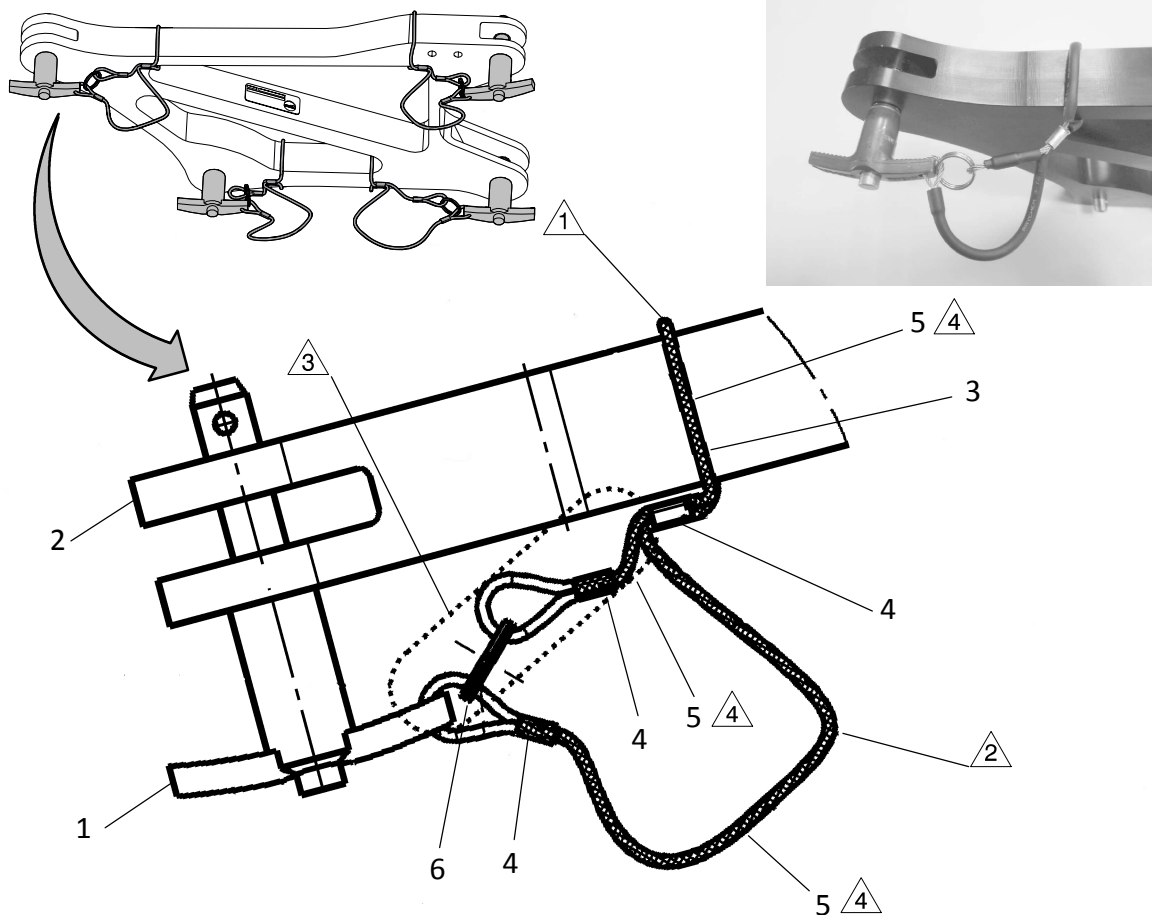
For the adapter FWD use the new quick release pin bolts from the material kit. For the adapter AFT reuse the quick release pin bolts which were already installed on the adapter AFT.


WARNING

THE INSTALLATION OF THE RING TOGETHER WITH THE WIRE ROPES MUST ASSURE THAT THE QUICK RELEASE PIN BOLT CAN NO LONGER BE REMOVED.

1. Cut the wire rope from the material kit in four equal parts.
2. Thread the wire rope (3, Fig. 3) into the quick release pin bolt (1) and press the clamp (4).
3. Slide the heat shrinkable sleeve (5, Fig. 3) onto the wire rope (3).

4. Thread the wire rope (3, Fig. 3) through the adapter (2), press the clamps (4) and install the ring (6). For details refer to , , .
5. Shrink the heat shrinkable sleeve (5, Fig. 3). For details refer to .



1	Quick release pin bolt	51399C10T30MS
2	Adapter	
3	Wire rope	ISO2020B16Y
4	Clamp	TALURITKLEMME2 ALU
5	Heat shrinkable sleeve	VG95343T05D002A
6	Ring	40012N

- △1 Install clew as near and tight as possible to quick release pin bolt.
- △2 Adjust clew length so that the quick release pin bolt is easy to remove.
- △3 In marked area install cable as short as possible. Maximum way for quick release pin bolt 14 mm.
- △4 Install and shrink heat shrinkable sleeve (3 parts) in the shaded area.

Connection of quick release pin bolts
 Figure 3

3.B.5 Reidentification of the adapter FWD and adapter AFT

Reidentify the adapter FWD (with quick release pin bolts) and adapter AFT (with quick release pin bolts) with the new P/N:

1. Using cleaning solvent (CM 218), clean grease and dirt from the surface which is to be marked.
2. Using a water resistant pen, mark the adapter FWD (with quick release pin bolts) and adapter AFT (with quick release pin bolts) with the new P/N next to the existing P/N. For details refer to Section 3.C.
3. Using a water resistant pen, cross out the existing P/N but in such way that it is still legible.

EFFECTIVITY Adapter FWD.

4. Serial the adapter FWD with the S/N which is provided together with the material kit (Serialization Sheet):
 - a. Using cleaning solvent (CM 218), clean grease and dirt from the surface which is to be marked.
 - b. Using a water resistant pen and mark the adapter FWD assy with the S/N, close to the P/N. For details refer to Section 3.C.
 - c. Protect the marking with lacquer single-layer (CM 421).

3.B.6 Creation of a log card for the adapter FWD

Create a log card for the adapter FWD. For creation of a log card refer to MSM, 05-00-00, 6-1, Section G.6.b.3.

3.B.7 Introduction of a Life Limit

NOTE If the hoist cycles are not documented, the new basic can be determined i.a.w. Section 3.B.2.
 If the hoist cycles are not traceable, the adapter FWD must be replaced by P/N D851M2044101.

NOTE Prior to the distribution of the revised MSM MBB-BK117 C-2 / AMM MBB-BK117 C-2 apply the life limit according Table 3.

Confirm the new introduced life limits by an entry in the list of life limited-parts and in the corresponding log cards of the components /parts.

600 lbs Rescue Hoist for HEC (85-12)

Disposition	Part number	Life limit entry	
		old	new
Adapter FWD (with quick release pin bolts)	D851M2044101 (1)(4)	-	12000 hoist cycles (2)(3)
(1) The quick release pin bolts must be replaced together with the adapter FWD assy. (2) One hoist cycle is defined as an extension and subsequent retraction of the hoist cable during flight or on the ground with a length of more than 5 m (16 ft), independent of the load. (3) If you are operating other equipment than the rescue hoist system, mounted to the fittings / adapters, make sure to record the number of cycles as well. For a definition of a cycle and recalculation to hoist cycles, contact the manufacturer that is applicable for the dedicated equipment. (4) If a quick release pin bolt cannot explicitly be correlated to the adapter FWD, a new quick release pin bolt must be attached to the adapter FWD. The life limit of the adapter FWD (with quick release pin bolts) remains unchanged, though.			

Table 3

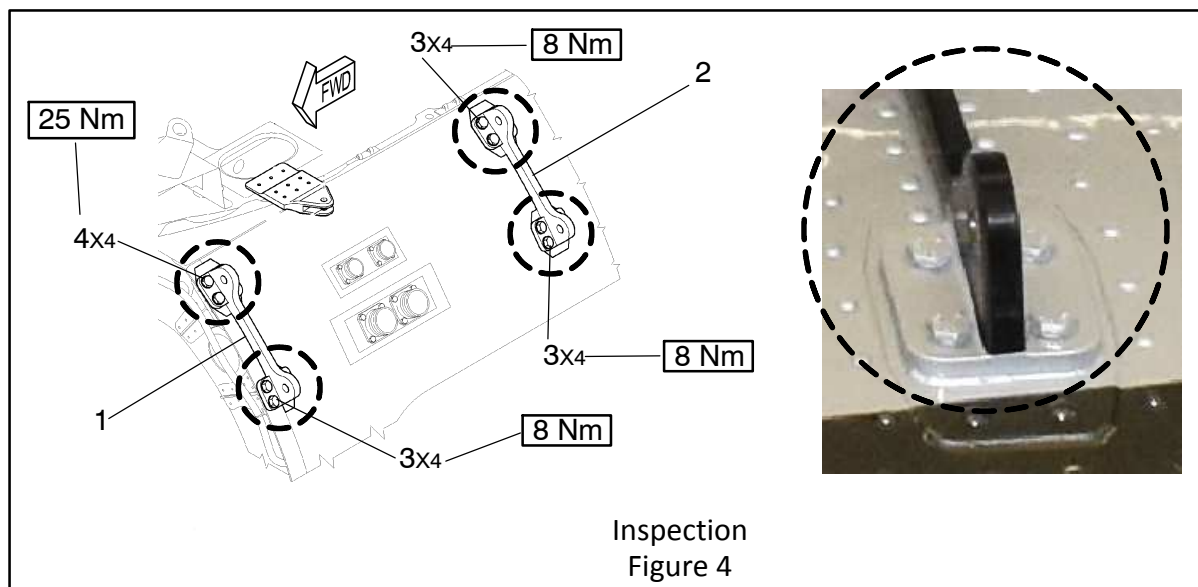
3.B.8 Repetitive Inspection

NOTE Prior to the distribution of the revised MSM MBB-BK117 C-2 apply the inspection interval according Table 4 and Figure 4.

Accomplish an inspection, refer to AMM, 85-12-00, 6-1. For the affected parts refer to Table 4.

NOTE For the inspection, it is not required to remove the fittings and the bolts from the helicopter. The paint does not need to be removed from the fittings and the bolts. If a crack or damage is suspected, the paint must be removed.

1. Check of the fitting FWD (1, Fig. 4) and fitting AFT (2):
 - a. Clean the fitting FWD (1) and fitting AFT (2).
 - b. Check the fitting FWD (1) and fitting AFT (2) for cracks and damage using a flashlight and a magnifying glass. If cracks or damage is detected contact AHD customer support before the next flight with an outboard load system.
2. Tightening check of the bolts (3, 4, Figure 4):
 - a. Clean the heads of the bolts (3, 4).
 - b. Apply a tightening torque of the bolts (3, 4) to check tight fit. Refer to Figure 4.



600 lbs Rescue Hoist for HEC (85-12)

Disposition	Part number	Inspections		Rem.
		old	new	
Adapter FWD (with quick release pin bolts)	D851M2044101	-	1800 hoist cycles	(1)(2)
Adapter AFT (with quick release pin bolts and X-Load Fitting)	D851M2042101 D851M2043101	-	1800 hoist cycles	(1)(2)
Fitting FWD (with bolts)	B851M0002101	-	1800 hoist cycles	(1)(2)
Fitting AFT (with bolts)	B851M0003101	-	1800 hoist cycles	(1)(2)
X-Load Strut	B851M00X1001	-	1800 hoist cycles	(1)(2)
X-Load Fitting	B851M0006101 B851M0021101	-	1800 hoist cycles	(1)(2)
Backup Fitting and airframe	B533K3002	-	1800 hoist cycles	(1)(2)
<p>(1) One hoist cycle is defined as an extension and subsequent retraction of the hoist cable during flight or on the ground with a length of more than 5 m (16 ft), independent of the load.</p> <p>(2) If you are operating other equipment than the external mounted hoist, mounted to the fittings / adapters, make sure to record the number of cycles as well.</p> <p>For a definition of a cycle and recalculation to hoist cycles, contact the manufacturer that is applicable for the dedicated equipment.</p>				

Table 4

3.C COMPLIANCE CONFIRMATION
Tracking of modifications in the documentation:

1. Enter the P/N D851M2044101, the S/N and the hoist cycles determined according Section 3.B.1 into the log card.
2. Enter the P/N and the S/N of the adapter FWD (with quick release pin bolts) with their life limit (see Table 3) into the List of Parts to be Recorded.

Compliance with this document:

Confirm accomplishment of this ASB by an entry in the historical record of the helicopter and in the log card of the adapter FWD.

Identification of modifications of adapter FWD and adapter AFT:

Keyword	Old P/N	New P/N	S/N	Marking Type
Adapter FWD (with quick release pin bolts)	B851M0010101	D851M2044101	ASBXXX (A)	Water-resistant Pen
Adapter AFT LH (with quick release pin bolts and X-load fitting)	B851M0010101	D851M2042101	-	Water-resistant Pen
Adapter AFT RH (with quick release pin bolts and X-load fitting)	B851M0010101	D851M2043101	-	Water-resistant Pen

Remark:

A = According the S/N which is provided together with the material kit (Serialization Sheet).

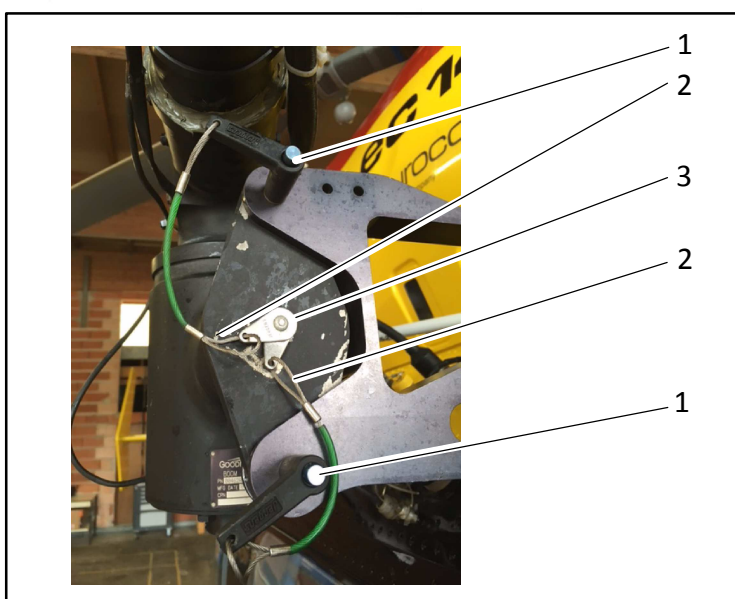
3.D OPERATING AND MAINTENANCE INSTRUCTIONSOperating instructions:

None.

Maintenance instructions:

NOTE The lashes (3) on the mounting brackets of the Goodrich support assembly must not be removed.

If quick release pin bolts (1) are attached to the mounting bracket of the Goodrich support assembly, cut the wire ropes (2) and remove them together with the quick release pin bolts (1) and discard them.

**4 APPENDIX**

None.