Owner's Manual
Cargo Hook Kits

on the

Airbus Helicopters Deutschland GmbH
EC135 Series

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Applicable Equipment Part Numbers

200-375-01
200-467-00
200-476-XX

Please check our web site www.onboardsystems.com for the latest revision of this manual.

Record of Revisions

Revision	Date	Page(s)	Reason for Revision
0	02/28/2022	All	Initial Release
1	03/30/2022	All	Added washer P/N 510-239-00 to kits, added orientation note to Figure 4.5, optimized installation order.
2	02/21/25	5 23	Removed reference to TC in section 3.0. Added instructions to Section 5.1 for attaching a load when the aircraft is not on the ground.

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Table of Contents

1.0 Introduction

1.1 Scope

This manual contains instructions for installation of a Single Cargo Hook Kit (P/N 200-375-01) and Dual Cargo Hook Kit (P/N 200-467-00) on the Airbus Helicopters EC135 series helicopters. It also includes instructions for the Long Line Kit P/N 200-476-XX.

1.2 Safety labels

The following definitions apply to safety labels used in this manual.

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Draws the reader's attention to important or unusual information not directly related to safety.

Used to address practices not related to personal injury.

2.0 Referenced Documents

121-072-00	RFM Supplement
122-025-00	Component Maintenance Manual
123-053-00	ICA Manual

3.0 System Overview

The P/N 200-375-01 Single Cargo Hook Kit and P/N 200-467-00 Dual Cargo Hook Kit are replacement cargo hook kits for EC135 series helicopters.

The Single Cargo Hook Kit is approved for carrying of NHEC on EC135 helicopters equipped with an approved single cargo hook beam with any of the following cargo hook part numbers: AS21-8-B, AS22-52-21, and/or AS21-17. The cargo hook kit replaces the cargo hooks and the external electrical release harness and manual release cable that route to the disconnect panel on the belly.

The Dual Cargo Hook Kit is approved for carrying HEC on EC135 helicopters equipped with an approved double cargo hook beam with any combination of the same cargo hook part numbers as listed above. The dual cargo hook kit replaces both cargo hooks and the external electrical release harnesses and manual release cables that route to the disconnect panel on the belly.

These kits do not include any components internal to the helicopter as the kit components are designed to interface with the existing fixed (internal) provisions as provided under the Airbus TC.

3.1 Cargo Hook Overview

The Cargo Hook (see Figure 3.1 and Figure 3.2) is the device that provides the direct means of attaching the load to the helicopter, load retention during flight, and release of load when commanded by controls in the cockpit.`

Each Cargo Hook can be released individually by the pilot with a primary quick release sub-system (PQRS) and a backup quick release sub-system (BQRS). A lever on the side of the cargo hook provides a means for ground crew to open the cargo hook to detach a load.

The PQRSs are electrical release systems. The electrical release system actuates a rotary solenoid in the Cargo Hook that rotates an internal mechanism to release the load. The systems are actuated by the existing push button switches in the cockpit. The push button switches and internal wire harnesses are part of the type certificate approved dual cargo hook system. The external electrical harnesses provided connect each cargo hook's electrical connector (ref. Figure 3.1) to these provisions

The BQRSs are manual release cable systems. Each cargo hooks' manual release system is actuated by a release lever on the collective. The release lever pulls a cable which is connected to the cargo hook through internal and external manual release cables which are connected at a panel on the belly. The cable rotates the internal mechanism to release the load. The release levers and the internal section of the manual release cable are part of the type certificate approved dual cargo hook system. The external manual release cables (which replace the TC external release cables) connect each cargo hook (ref. Figure 3.2 for connection point) to the internal manual release cables.

Figure 3.1 Overview of Cargo Hook – Electrical Side

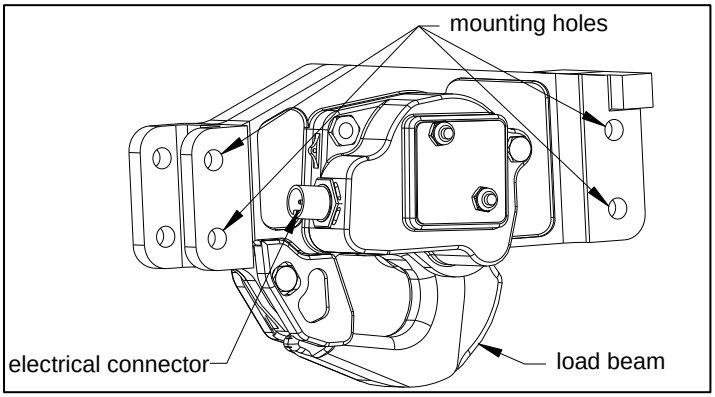
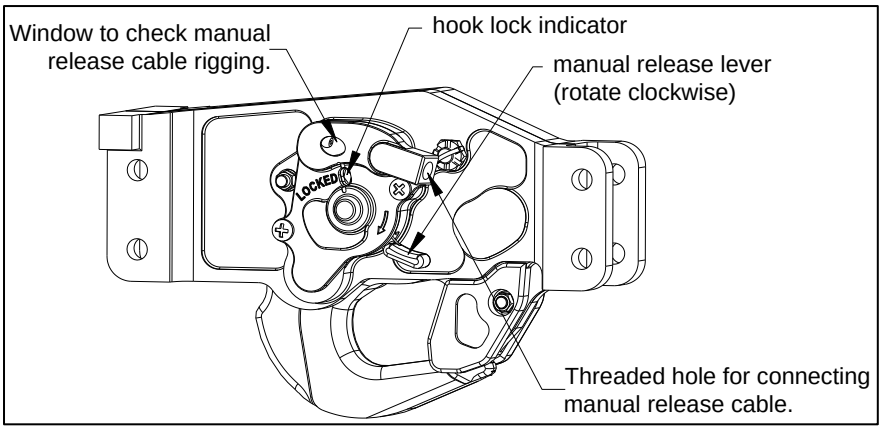


Figure 3.2 Overview of Cargo Hook – Mechanical Release Side



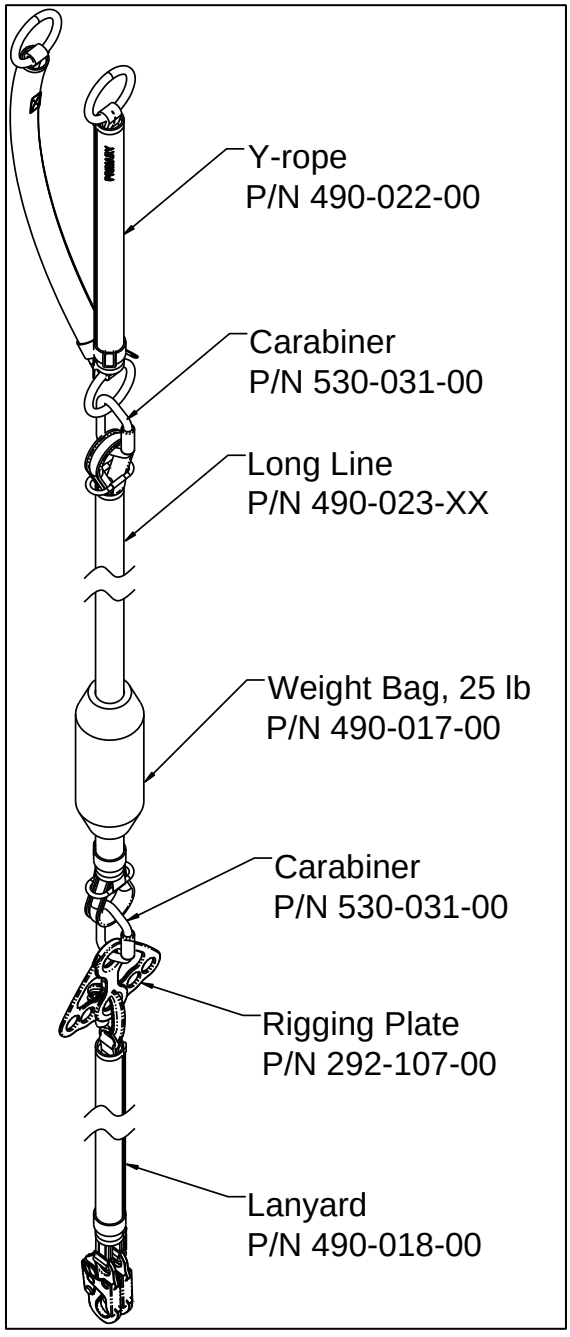
An external load is attached to the Cargo Hook by sliding a load ring, for example, over the open load beam and pushing it up to close and latch it. The mechanical hook lock indicator provides a visual verification that the Cargo Hook is closed and latched. A "window" provides a convenient means to verify that the manual release cable is adjusted properly.

The Cargo Hook does not include a "load on hook" switch (which the TC cargo hook does) so the "HOOK UNLD" advisory light in the cockpit is not functional with it.

3.2 Long Line Kit Overview

The Long Line Kit (P/N 200-476-XX) is approved for carrying of HEC. It includes all components to connect a personnel harness worn by the HEC to the dual cargo hooks, these components are shown in the figure below. The Y-rope (P/N 490-022-00) is the only component of the Long Line Kit that is required to be used with the dual cargo hook kit as it is designed to provide a controlled interface with the two cargo hooks. For the components below the Y-rope (carabiner to lanyard), an alternative configuration or other components approved by the local Aviation Authority may be used. See Section 4.4 for additional details of the Long Line Kit.

Figure 3.3 Long Line Kit Parts



3.3 Bill of Materials

The following items are included with the Single Cargo Hook Kit P/N 200-375-01.

Table 3.3.1 Single Cargo Hook Kit Bill of Materials

Part No.	Description	Qty
528-049-01	Cargo Hook	1
270-298-00	Electrical Release Harness (Hook 1)	1
268-059-00	Manual Release Cable (Hook 1)	1
510-239-00	Washer	4
120-158-00	Owner's Manual	*
121-072-00	RFMS	*
123-053-00	ICA	*
122-036-00	CMM, Cargo Hook	*

*Documentation must be downloaded from www.onboardsystems.com

The following items are included with the Dual Cargo Hook Kit P/N 200-467-00.

Table 3.3.2 Dual Cargo Hook Kit Bill of Materials

Part No.	Description	Qty
528-049-00	Cargo Hook	2
270-298-00	Electrical Release Harness (Hook 1)	1
270-299-00	Electrical Release Harness (Hook 2)	1
268-059-00	Manual Release Cable (Hook 1)	1
268-060-00	Manual Release Cable (Hook 2)	1
215-412-00	External Load Limit Decal	1
510-095-00	Washer	2
510-239-00	Washer	8
511-149-00	Nut	2
511-241-00	Stud, Adhesive Bonded	2
512-037-00	Cushioned Loop Clamp	2
120-158-00	Owner's Manual	*
121-072-00	RFMS	*
123-053-00	ICA	*
122-036-00	CMM, Cargo Hook	*

*Documentation must be downloaded from www.onboardsystems.com

Table 3.3.3 lists the items included with the Long Line Kit P/N 200-476-XX. This kit provides the required Y-rope and all components, including a lanyard, to connect to a human harness.

NOTICE

The Y-rope is the only mandatory P/N of the Long Line Kit as it interfaces with the cargo hooks. Locally approved alternate long lines to connect to the Y-rope may be used.

The kit P/N is completed by replacing the XX by a two-digit number which is multiplied by 10 to define the length of the included long line, for example – kit P/N 200-476-10 includes a 100-foot long line (P/N 490-023-10), Kit P/N 200-476-15 includes a 150-foot long line (P/N 490-023-15), etc.

Table 3.3.3 Bill of Materials – Long Line Kit (P/N 200-476-10 listed)

Part No.	Description	Qty
292-107-00	Rigging Plate	1
490-022-00	Y-Rope	1
490-023-10	Long Line, 100 ft	1
490-017-00	25 LB Long Line Weight Bag	1
490-018-00	Lanyard	1
530-031-00	Carabiner	2

3.4 Specifications

Table 3.4.1 Cargo Hook Specifications

Rated load (P/N 528-049-00)	2,205 lbs. (1,000 kg.) ***
Rated load (P/N 528-049-01)	3000 lbs. (1360 kg)
Design ultimate strength	11,250 lbs. (5,103 kg.)
Electrical release capacity	7,500 lbs. (3,402 kg.)
Mechanical release capacity	7,500 lbs. (3,402 kg.)
Force required for mechanical release at 3,000 lb.	8 lb. max. (.600" travel)
Electrical requirements	22-32 VDC 6.9 – 10 amps
Minimum release load	0 pounds
Unit weight	3.7 lbs (1.68 kg.)
Mating electrical connector	PC06A8-2S SR

*** Cargo Hook P/N 528-049-00 is approved for installation in the double cargo hook beam which is limited to 2,205 lbs (1000 kg) NHEC and 1323 lbs. (600 kg) HEC. Otherwise, this cargo hook P/N is identical to P/N 528-049-01 of the single cargo hook installation.

**Load ratings given are specific to the equipment described only. Loading limits for the helicopter still apply. Consult the flight manual issued by the TC holder and the flight manual supplement provided with the cargo hook kit for limits.*

4.0 Installation

These procedures are provided for the benefit of experienced aircraft maintenance facilities capable of carrying out the procedures. They must not be attempted by those lacking the necessary expertise.

4.1 Cargo Hook Kit Installation

The installation instructions are applicable to the dual cargo hook kit. For the single cargo hook kit, the installation is the same except the forward (Hook 2) cargo hook and its manual release cable and electrical harness and associated support hardware are not installed.

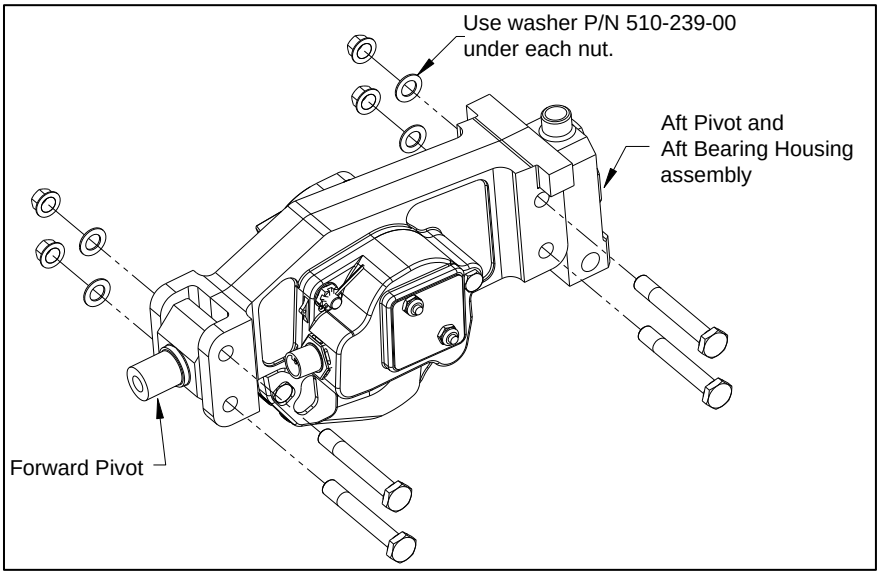
1. Disconnect the existing installed external electrical harnesses and external manual release cables at the connector panel on the aircraft belly and separate them from their attachment points on the beam. These will be replaced by the provided electrical harnesses and release cables that are compatible with the Onboard Systems cargo hooks.

2. Remove the existing cargo hooks (along with the attached harnesses and release cables) from the beam by removing the bolts that secure the Forward Bearing Housing and Aft Bearing Housing (Airbus P/Ns AS22-38-20-02 and AS22-38-20-03) to the beam brackets. These bolts are shown in Figure 4.6.

3. Separate each cargo hook from the Forward Pivot (Airbus P/N AS22-38-20-04) and the assembly of the Aft Pivot (P/N AS22-38-20-05) and Aft Bearing Housing by removing the two bolts and associated washers and nuts at each end. Ref. Figure 4.1 for identification of these parts. The washers under the nuts are not re-used.

4. Re-assemble the Forward Pivots and Aft Pivot/Aft Bearing Housing assemblies onto the Onboard Systems cargo hooks (P/N 528-049-00) re-using the bolts and nuts that were used with the TC cargo hook and adding supplied washers (P/N 510-239-00) under the nuts (ref. Figure 4.1). Tighten to 2 daN-m (170 - 177 in-lbs).

Figure 4.1 Assembly onto Cargo Hook P/N 528-049-00



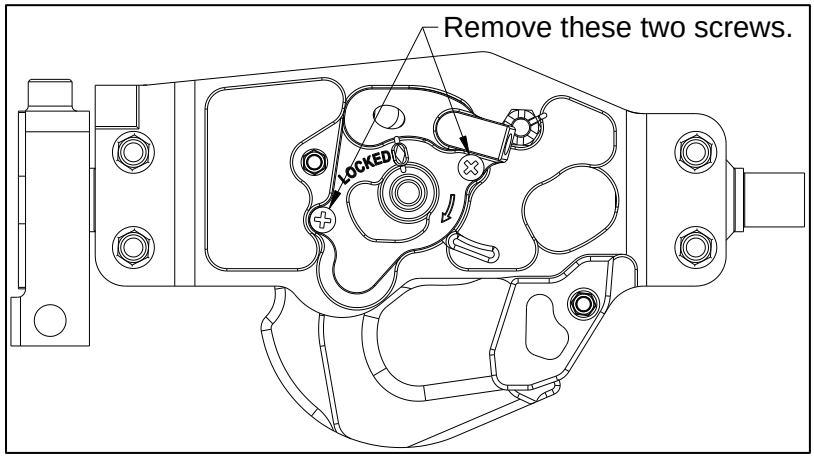
Step 5 is applicable only to the Dual Cargo Hook Kit.

5. Attach two adhesive bonded studs (P/N 511-241-00) on the inside of each side wall of the forward cargo hook (Hook 2) bay. These are for securing the manual release cable and electrical harness clear of Hook 2 as they pass through to the aft cargo hook (Hook 1). Attach at approximately the mid-point of the bay (in the fore-aft direction) and center the stud 1.75/2.00" up from the inside of the lower flange of the beam. Follow the manufacturer's instructions for installing the studs.

Before assembling the Cargo Hooks into the beam, connect the supplied manual release cables to the cargo hooks per the following. The longer manual release cable (P/N 268-059-00) is attached to the aft cargo hook (Hook 1) and the shorter manual release cable (P/N 268-060-00) is connected to the forward cargo hook (Hook 2).

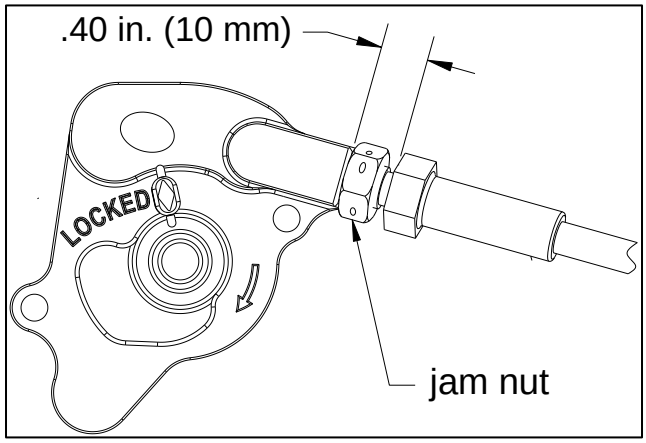
6. Remove the manual release cover from the cargo hook by removing the two cover screws (see below).

Figure 4.2 Manual Release Cover Removal



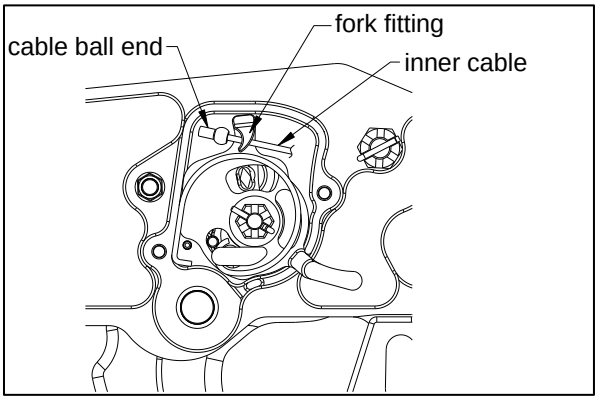
7. Thread the manual release cover onto the end fitting of the manual release cable until it is about .40 inches (10 mm) from the inside of the hex feature on the fitting (as shown below). Lightly tighten the jam nut at this point, the release cable may need to be adjusted later.

Figure 4.3 Release Cable Setting



8. Hold the manual release cover near the cargo hook, position the inner cable of the manual release cable within the fork fitting as shown below.

Figure 4.4 Inner Cable Positioning



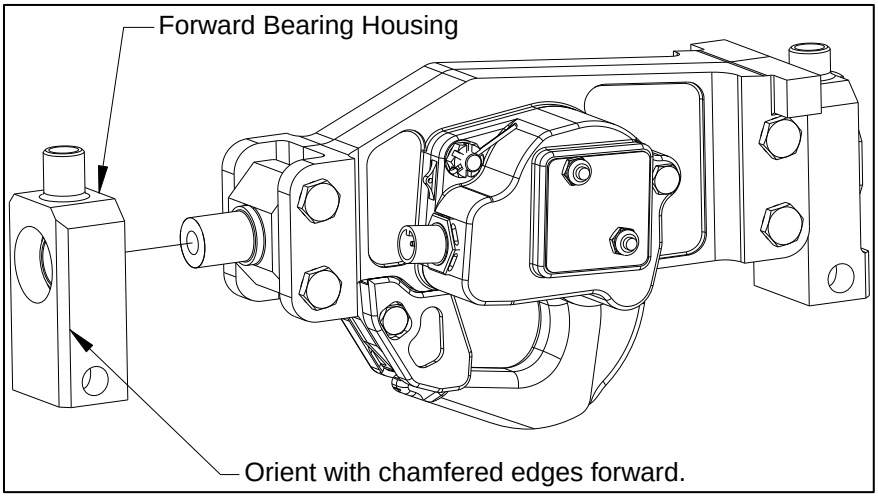
9. Secure the manual release cover to the cargo hook with the two screws.

10. Connect the longer electrical release harness (P/N 270-298-00) to the aft cargo hook (Hook 1) and the shorter electrical release harness (P/N 270-299-00) to the forward cargo hook (Hook 2).

11. Feed the manual release cables and electrical release harnesses forward through the holes in the beam bulkheads and out the hole in the bottom of the beam located forward of the Hook 2 bay.

12. Before positioning the cargo hooks up within the bays, slide the Forward Bearing Housings over the forward Pivots.

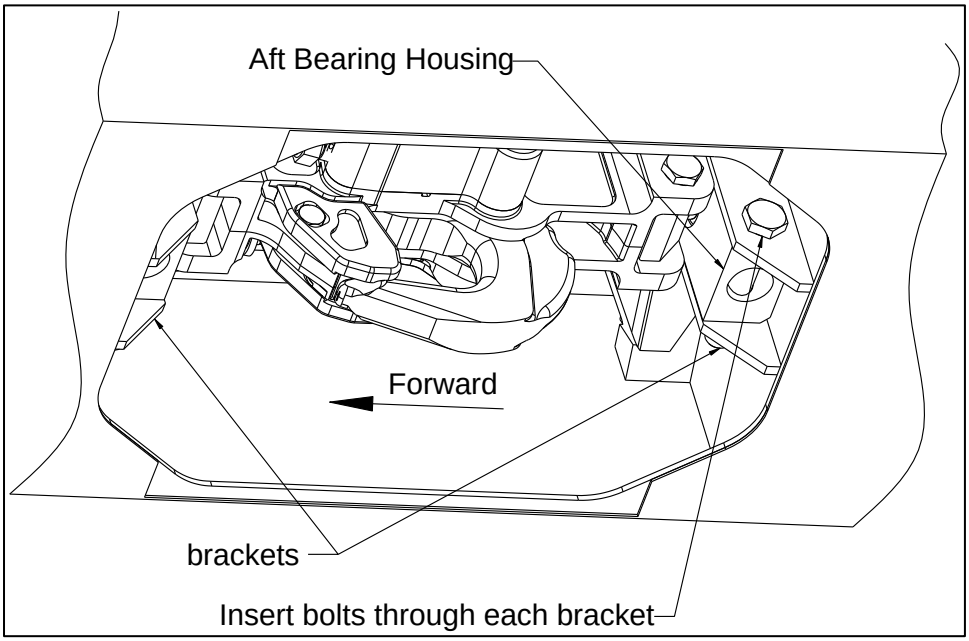
Figure 4.5 Forward Bearing Housing



13. Insert this assembly up into the respective brackets on the beam (ref. Figure 4.6). Insert the previously removed Airbus bolts through to hold the cargo hook in place for

routing of the manual release cables, don't secure the bolts with nuts until manual release cable installation is complete.

Figure 4.6 Cargo Hook Installation within Beam



14. Connect the electrical harnesses to the respective cargo hook connectors on the connector panel on the belly of the helicopter.

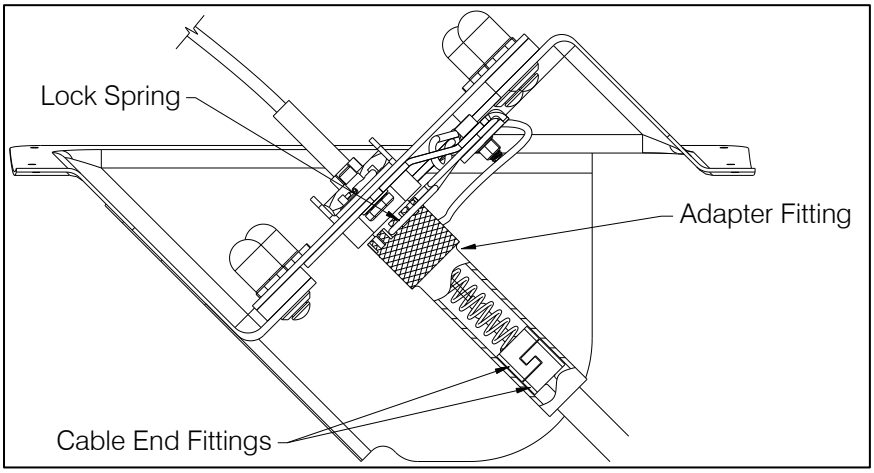
Connect the manual release cable from each cargo hook to the respective fixed manual release cables on the connector panel (reference Figure 4.7) per the following.

15. Retract the Adapter Fitting of the manual release cable and connect the Cable End Fittings.

16. Slide the Adapter Fitting up to and thread it over the existing fitting on the connector panel.

17. Secure the Adapter Fitting with the existing lock spring.

Figure 4.7 Manual Release Cable Connection at Panel



Steps 18 and 19 are applicable only to the Dual Cargo Hook Kit.

18. Loosely* attach the Hook 1 manual release cable to the adjacent adhesive bonded stud (installed per step 5) using the supplied nut (P/N 511-149-00), washer (P/N 510-095-00), and cushioned loop clamp (P/N 512-037-00).

19. Loosely* attach the Hook 1 electrical harness to the adjacent adhesive bonded stud using the supplied nut (P/N 511-149-00), washer (P/N 510-095-00), and cushioned loop clamp (P/N 512-037-00).

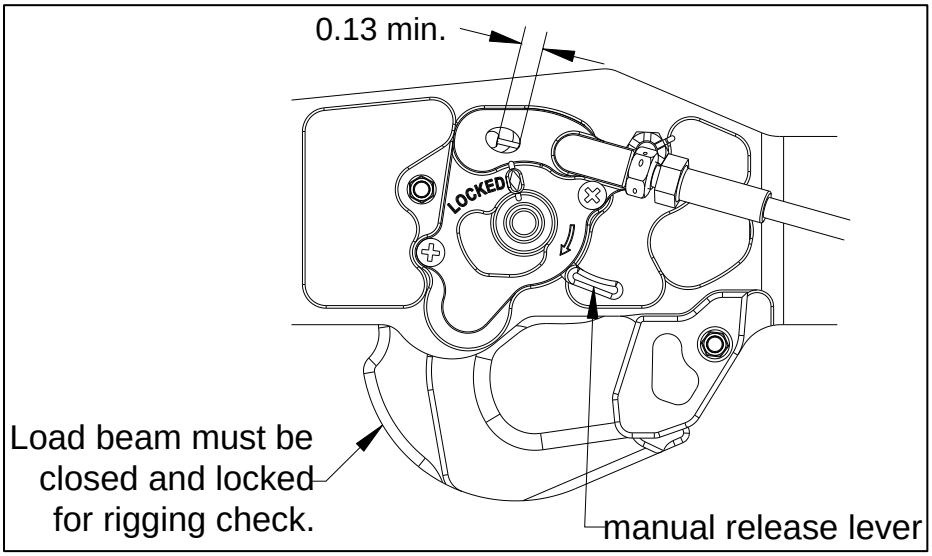
    *The nuts are to be tightened after the release cable installation is complete.

Check the cable ball end free play at each cargo hook per the following.

20. With the cargo hook closed and locked, rotate the release lever in the clockwise direction to remove free play and hold (the free play is taken up when the hook lock indicator begins to move, this is also felt as the lever rotates relatively easily for several degrees as the free play is taken up).

21. Check the gap between the cable ball end and the fork fitting (ref. Figure 4.4 also) with the manual release lever in the cockpit in the non-release position. This gap must be a minimum of .13 inches (3.2 mm) as shown in Figure 4.8. If needed, remove the bolt holding the Aft Bearing Housing Assembly in position and pivot the cargo hook downward for a better sight of the gap.

Figure 4.8 Manual Release Cable Rigging Check



If necessary, adjust the manual release cable system to obtain the minimum gap of .13 inches (3.2 mm) at the release lever fork fitting (the maximum gap is limited by the manual release cover). The system can be adjusted at the manual release lever on the collective or adjustment can be made at the cargo hook per the following.

22. Remove the bolt through the aft bearing housing assembly to pivot the cargo hook downward enough to access the manual release cover screws.

23. Remove the two screws that secure the manual release cover to the cargo hook and remove the cover.

24. Loosen the jam nut and rotate the manual release cover clockwise to increase the gap. If necessary to fit within the manual release cover, rotate the manual release cover CCW to back it out. Referring to Figure 4.3, do not exceed a dimension of .56 inches (14 mm).

25. Replace the manual release cover and verify the minimum gap of .125 inches.

26. When satisfactory gaps are present at both cargo hooks, securely tighten the manual release cover screws and the jam nuts. Re-insert the bolts through the housing assemblies (if removed).

27. Secure the bolts attaching the Forward and Aft Bearing Housing Assemblies to the beam structure with the washers and nuts removed previously.

28. Tighten the two nuts securing the two loop clamps to the studs in the forward bay (applicable to Dual Cargo Hook Kit).

29. At the point where the release cables and electrical harnesses exit the bottom of the beam, secure within the existing clamp that was used to secure the Airbus cables and harnesses. Re-use the Airbus hardware.

WARNING

Un-commanded cargo hook release will happen if the manual release cable is improperly restrained. The release cable must not be the stop that prevents the Cargo Hook from pivoting freely. If the Cargo Hook rotation strains the manual release cable, the swaged end of the cable may separate allowing the inner cable to activate the cargo hook manual release mechanism. The result is an un-commanded release. Ensure that no cargo hook position is restrained by the manual release cable.

4.2 Placards

For the Dual Cargo Hook Kit, install the Limitations Placard P/N 215-412-00 on the outside of the cargo hook beam, adjacent to the primary cargo hook (Hook 1).

4.3 Installation Check-out

After installation of the cargo hook kit, perform the following functional checks (as applicable to the single or dual cargo hook kit).

NOTICE

The "HOOK UNLD" advisory light in the cockpit is not functional as the cargo hook does not include a "load on hook" switch (which the TC cargo hook does).

1. Rotate the cargo hooks side to side within the beam and verify that the manual release cables and electrical release harnesses have enough slack (i.e. – are not pulled tight in any position).

2. Provide power to the electrical release system.

   - Press and release the Cargo Release switches on the cyclic, the cargo hooks' load beams should immediately fall to the open position.

   - Push up on the load beams to return them to the closed position and verify that they latch, and the hook lock indicator is aligned with the engraved line on the manual release cover.

3. With no load on the cargo hooks, pull the release levers on the collective to operate the cargo hook manual release systems, the cargo hook should release. Reset the load beams to the closed and latched positions.

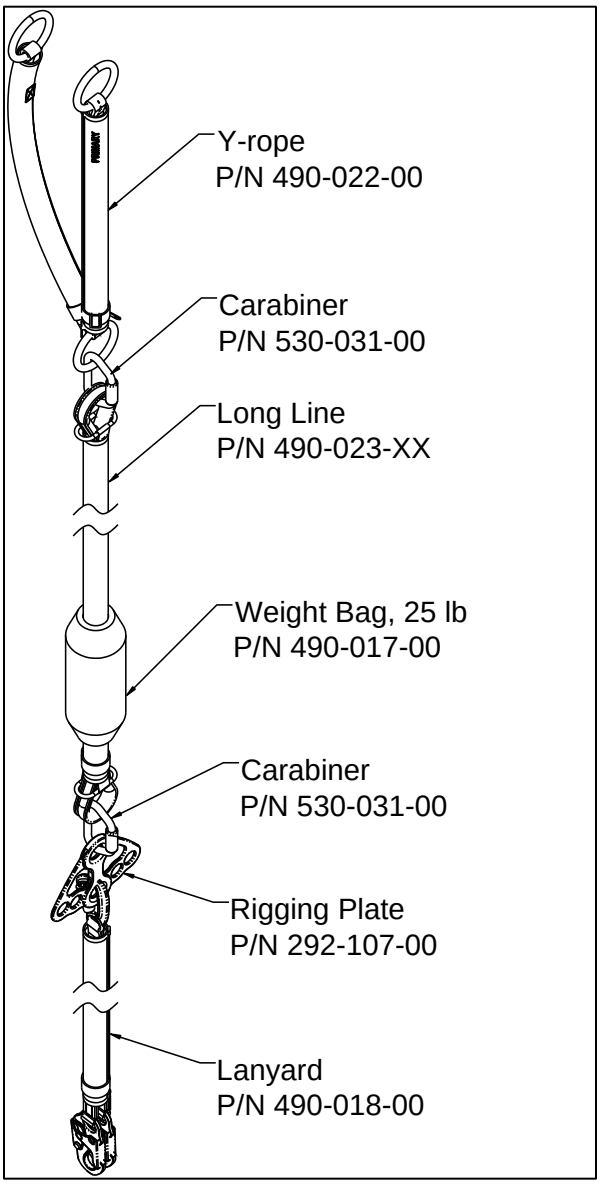
4. Verify operation of each cargo hook's ground crew release lever. The levers should rotate smoothly, and the cargo hook load beams should fall open.

5. Perform an EMI ground test per AC 43.13-1b section 11-107. For equipment that can only be checked in flight an EMI flight test may be required.

4.4 Long Line Kit

The Long Line Kit (P/N 200-476-xx) includes the components shown in the figure below. The Y-rope is the only component of the long line kit that is required to be used with the dual cargo hook system as it is designed to provide a controlled interface with the cargo hooks. For the components below the Y-rope (carabiner to lanyard), an alternative configuration or components approved by the local Aviation Authority may be used (except as noted in this section), e.g. - the Rigging Plate is not required.

Figure 4.9 Long Line Kit



Connect one end of the long line to the load ring that joins the two legs of the Y-rope with carabiner P/N 530-031-00 (shown in Figure 4.9).

WARNING

With this configuration use only the supplied carabiners, P/N 530-031-00. Do not substitute.

Connect the single lug end of the Rigging Plate (P/N 292-107-00) to the long line through the other carabiner P/N 530-031-00 provided with the kit.

The lanyard provides a single carabiner at one end to connect to one of the lower Rigging Plate holes and two snap hooks at the other end to connect to a human harness. The lanyard is rated for 310 lbs. Multiple lanyards may be connected to the Rigging Plate (see section 4.4.1 below for Rigging Plate loading limitations).

Attach the 25 lb weight bag to the lower end of the long line, this specific weight bag is optional with the 200-476-XX kit configuration, but a minimum of 25 lbs. is required at the lower end of the long line to minimize risk of an unloaded long line trailing into the tail rotor (refer to RFMS for limitation and operational procedures).

NOTICE

Refer to the Long Line User's Manual provided for additional information regarding the ropes and instructions for use.

4.4.1 Rigging Plate

The Rigging Plate (P/N 292-107-00) provides an upper 1.25 inch (31.8 mm) diameter hole to connect to the long line through the carabiner, a lower 1.25 inch hole with a working load limit (WLL) of 1323 lbs and four lower 1.00 inch (25.4 mm) diameter holes each rated for a WLL of 310 lbs (1323 lbs remains the overall limit) for connecting a lanyard or multiple lanyards for carrying more than one person. Figure 4.10 provides some examples of Rigging Plate loading.

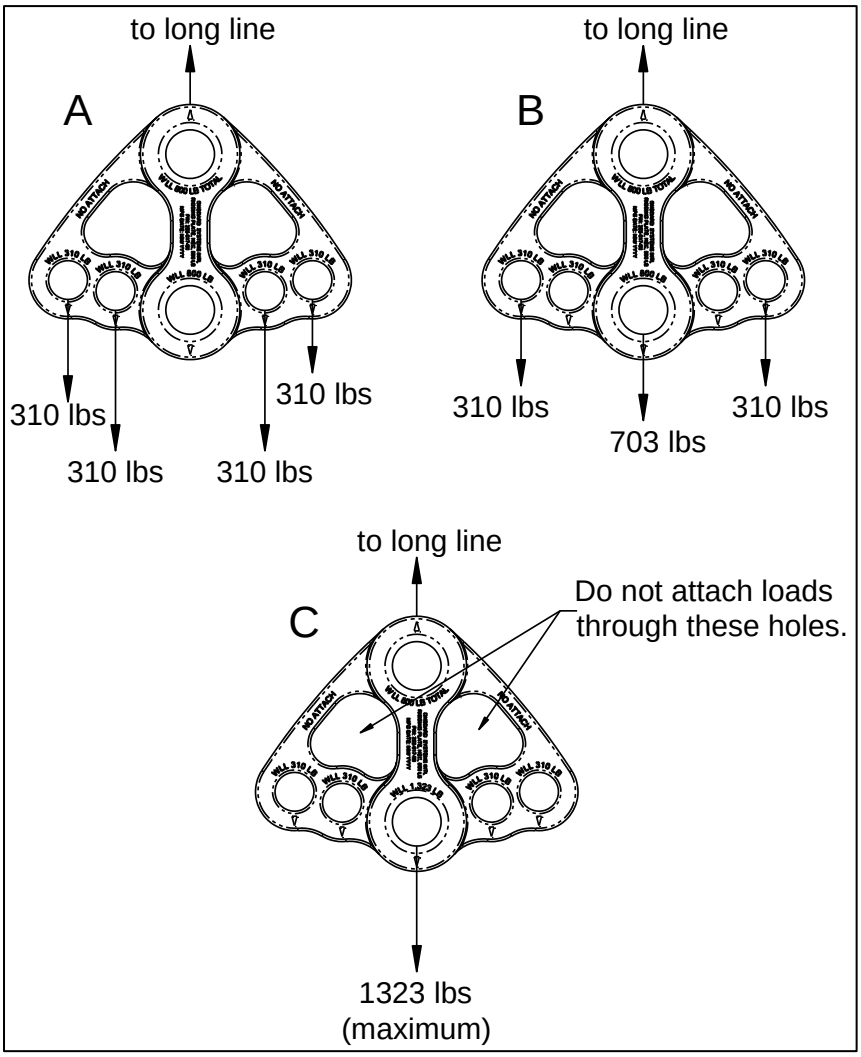
- Example "A" shows the maximum load at each of the 1.00-inch holes.
- Example "B" shows a combination of the maximum load at each of the two outer 1.00 inch holes and the remainder at the center lug to reach 1323 lb. maximum.
- Example "C" shows a single load of 1323 lbs. maximum.

In all cases distribute the loads about the center of the Rigging Plate as much as possible. If a single load is attached to the Rigging Plate use the center lug (as shown).

NOTICE

Any combination of loads may be applied through the lower five holes as long as the 310 lb load is not exceeded at the 1.00 inch holes and the 1323 lb overall limit is not exceeded.

Figure 4.10 Rigging Plate Loading Examples (1323 lb maximum shown)



4.5 Component Weights

The weights and CGs of the major kit parts are listed in Table 4.5.1. When performing weight and balance calculations remember to deduct the weight of parts removed.

Table 4.5.1 Component Weights & CGs

Component	Weight lbs (kgs)	Longitudinal CG (STA)
Cargo Hook (Hook 1)	3.7 lbs (1.68 kg)*	165.4 in. (4200 mm)
Cargo Hook (Hook 2)	3.7 lbs (1.68 kg)*	153.7 in. (3905 mm)
Manual Release Cables (2)	1.0 lbs. (0.45 kg)	**
Electrical Harnesses (2)	0.5 lbs. (0.23 kg)	**
Total	8.9 lbs. (4.0 kg)	-

**Cargo Hooks replace the type certificate installed cargo hooks which weigh 5.8 lbs. (2.63 kg) each, i.e. - total weight decrease of 4.2 lbs. (1.9 kg).*

***The remainder of the kit components including the external electrical harnesses and manual release cables weigh less than 2 lbs. with weight distributed from the Cargo Hooks to the connector panel.*

The weights of the long line kit components are included in the table below with a 100 ft (30.5 meters) long line represented.

Table 4.5.2 Long Line Kit P/N 200-476-10 Weights

Item	Weight Lbs. (kg)
Y-rope (P/N 490-022-00)	3.7 (1.68)
Carabiner (P/N 530-031-00) Qty 2	0.7 (0.32)
Rigging Plate (P/N 292-107-00)	1.75 (0.79)
Long Line, 100 ft (30.5m) (P/N 490-015-10)	16.1 (7.28)
Weight Bag (P/N 490-017-00)	27.1 (12.30)
Lanyard (P/N 490-018-00)	3.25 (1.47)
Total Kit Weight	**52.6 (23.9)**

4.6 Paper Work

In the US, fill in FAA form 337 for the initial installation and submit to the FAA. Keep a copy for aircraft records. This procedure may vary in different countries. Make the appropriate aircraft log book entry. Insert the Rotorcraft Flight Manual Supplement 121-072-00 into the Rotorcraft Flight Manual.

5.0 Operation Instructions

Refer to the RFMS 121-072-00 for pre-flight operational checks and guidance on attaching a load to the cargo hook.

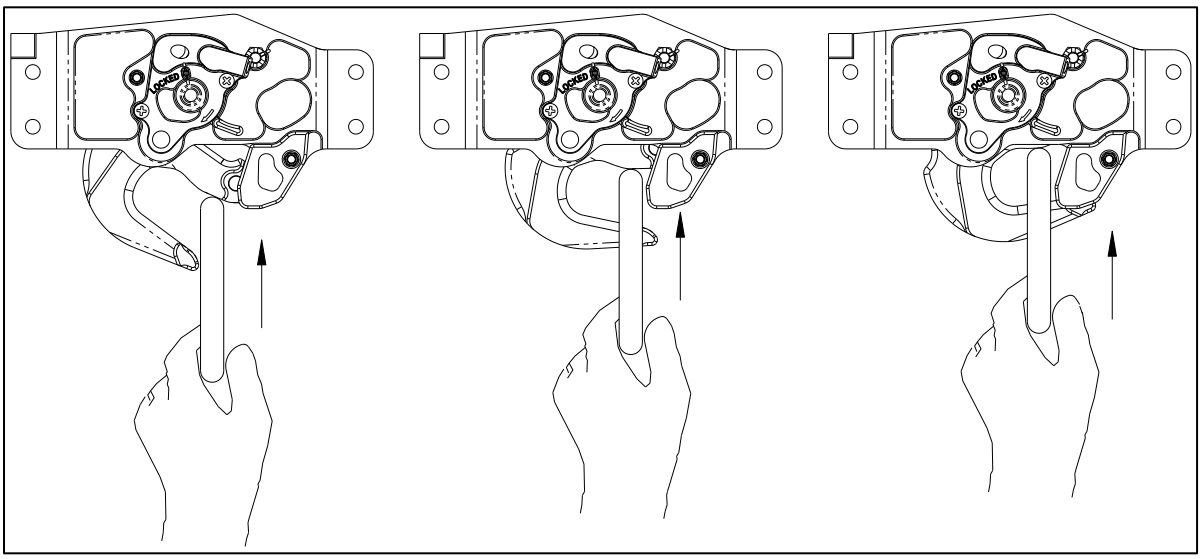
5.1 Cargo Hook Loading

The cargo hook can easily be loaded with one hand. A load is attached to the cargo hook by pushing a ring upward against the upper portion of the load beam throat, as illustrated in Figure 5.1, until an internal latch engages the load beam and latches it in the closed position.

If attaching a load to the cargo hook while the aircraft is in flight and the hook lock indicator is not visible perform the following.

1. Push up on the load beam with the ring until it stops (as shown in Figure 5.1).
2. Apply a sharp tug downward on the rigging several times to ensure the cargo hook is locked.

Figure 5.1 Cargo Hook Loading



6.0 Maintenance

Refer to the Instructions for Continued Airworthiness (ICA) manual 123-053-00 for maintenance of the cargo hook kits. For repair and overhaul of the cargo hook refer to Component Maintenance Manual 122-036-00.

6.1 Instructions for Returning Equipment to the Factory

If an Onboard Systems product must be returned to the factory for any reason (including returns, service, repairs, overhaul, etc.) obtain a Return Merchandise Authorization (RMA) number before shipping your return.

NOTICE

An RMA number is required for all equipment returns.

To obtain an RMA, please use one of the listed methods.

- Contact Technical Support by phone or e-mail: (Techhelp@OnboardSystems.com).
- Generate an RMA number at our website: http://www.onboardsystems.com/rma.php

After you have obtained the RMA number, please be sure to:

1. Package the component carefully to ensure safe transit.
2. Write the RMA number on the outside of the box or on the mailing label.
3. Include the RMA number and reason for the return on your purchase or work order.
4. Include your name, address, phone and fax number and e-mail (as applicable).
5. Return the components freight, cartage, insurance and customs prepaid to:

   Onboard Systems International, LLC
   13915 NW 3rd Court
   Vancouver, Washington 98685
   USA
   Phone: 360-546-3072

7.0 Certification

7.1 FAA STC

United States of America
Department of Transportation
Federal Aviation Administration

Supplemental Type Certificate

Number: **SR02217SE**

This certificate issued to: Onboard Systems International, LLC
13915 NW 3rd Court
Vancouver, WA 98685

Certifies that the change in the type design for the following product with the limitations and conditions therefore as specified hereon meets the airworthiness requirements of Part 27 *of* the Federal Aviation Regulations.

Original Product Type Certificate Number: H88EU

Make: Airbus Helicopters Deutschland GmbH

Model: EC135P1, EC135T1, EC135P2, EC135T2, EC135P2+, EC135T2+, EC135P3, EC135T3

Description of Type Design Change:

Fabrication of Onboard Systems Single-Hook and Double-Hook Cargo Hook Kit in accordance with Onboard Systems Master Drawing List No. 155-170-00, Revision 8, dated April 1, 2022, or later Federal Aviation Administration (FAA) approved revision. Installation in accordance with Onboard Systems Owner's Manual No. 120-143-00, Revision 1, dated December 16, 2011, or 120-158-00, Revision 1, dated March 30, 2022, or later FAA-approved revisions to these documents.

Limitations and Conditions:

Approval of this change in type design applies only to those Airbus Helicopters model rotorcraft listed above which are equipped with cargo hook P/Ns AS21-8-B, AS22-52-21, or AS21-17.

(See Continuation Sheet Page 3 of 3 Pages)

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of Application: August 31, 2010 *Date Reissued:* October 7, 2021; May 31, 2022

Date of Issuance: March 14, 2012 *Date Amended:* May 16, 2022

By Direction of the Administrator

Signature: SANDRA M BOWN
Digitally signed by SANDRA M BOWN
Date: 2022.05.31 12:59:56 -07'00'

Title: For Acting Manager, Seattle ACO Branch

FAA STC continued

United States of America
Department of Transportation
Federal Aviation Administration

Supplemental Type Certificate

(Continuation Sheet)
Number: **SR02217SE**

Date Issued: March 14, 2012
Date Reissued: October 7, 2021
Date Amended: May 16, 2022

Description of Type Design Change (continued):

This modification must be inspected and maintained in accordance with Instructions for Continued Airworthiness No. 123-037-00, Revision 0, dated August 22, 2011, or 123-053-00, Revision 1, dated April 15, 2022, or later FAA-accepted revisions to these documents.

Limitations and Conditions (continued):

Rotorcraft modified in accordance with this STC must be operated in accordance with Onboard Systems Rotorcraft Flight Manual Supplement (RFMS) 121-057-00, Revision 1, dated April 20, 2022, or 121-072-00, Revision 0, dated April 20, 2022, or later FAA-approved revision.

A copy of this certificate, FAA-approved RFMS, Owner's Manual, and maintenance manuals must be maintained as part of the permanent records of the modified rotorcraft.

The installer must determine whether this design change is compatible with previously approved modifications.

If the holder agrees to permit another person to use this certificate to alter a product, the holder must give the other person written evidence of that permission.

End

7.2 EASA STC

EASA
European Union Aviation Safety Agency

SUPPLEMENTAL TYPE CERTIFICATE

10040250 REV. 1

This Certificate/Approval 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 and in accordance with Commission Regulation (EU) No. 748/2012 to

ONBOARD SYSTEMS INTERNATIONAL

13915 NW 3RD COURT
VANCOUVER WA 98685
UNITED STATES OF AMERICA

and certifies that the change in the type design for the product listed below with the limitations and conditions specified meets the applicable Type Certification Basis and, if applicable, environmental protection requirements when operated within the conditions and limitations specified below:

Type Certificate Number: EASA.R.009
Type Certificate Holder: AIRBUS HELICOPTERS DEUTSCHLAND
Type: EC135
Model: EC135 P1, EC135 P2, EC135 P2+
EC135 P3, EC135 T1, EC135 T2
EC135 T2+, EC135 T3
Original STC Number: FAA SR02217SE

Description of Design Change:
Cargo Hook Kit

Initial Issue
Installation of a Single Cargo Hook kit for non-human external cargo (NHEC) in accordance with Master Drawing List 155-170-00 and FAA STC SR02217SE

Revision 1
Introduction of Dual Cargo Hook kit with PCDS components for carrying of human external cargo (HEC) in accordance with Master Drawing List 155-170-00 and FAA STC SR02217SE

See Continuation Sheet(s)

For the European Union Aviation Safety Agency

Cologne, Germany, 20 December 2022

Digitally signed by Fabrice Legay
Adobe Acrobat version: 2022.003.20282

Fabrice LEGAY
Section Manager
Medium & Light Rotorcraft

EASA STC continued

EASA European Union Aviation Safety Agency

SUPPLEMENTAL TYPE CERTIFICATE - 10040250 REV. 1

EASA Certification Basis:
The Type and OSD Certification Bases (CB) for the original product remains applicable to this certificate/ approval.
The requirements for environmental protection and the associated certified noise and/ or emissions levels of the product are unchanged and remain applicable to this certificate/approval without any impact on the noise database.

Associated Technical Documentation:
-For initial STC:
- Master Drawing List 155-170-00 Revision 1
- Rotorcraft Flight Manual Supplement 121-057-00 Revision 0
- Owner's Manual 120-143-00 Revision 1
- Instructions for Continued Airworthiness (ICA) 123-037-00 Revision 0
- Component Maintenance Manual 122-025-00 Revision 0

For Revision 1:
- Master Drawing List 155-170-00 Revision 8
- Rotorcraft Flight Manual Supplement 121-072-00 Revision 0
- Owner's Manual 120-158-00 Revision 1
- Instructions for Continued Airworthiness (ICA) 123-053-00 Revision 1
- Component Maintenance Manual (CMM) 122-036-00 Revision 0
- Project Specific Certification Plan (PSCP) 144-063-00 Revision 2
- Coordination Memo 140-044-00 Revision 1

or later revisions of the above listed document(s) approved/accepted on behalf of EASA in accordance with the Technical Implementation Procedures of EU/ USA Bilateral Agreement.

Limitations/Conditions:
For initial STC:
Limited to helicopters with CDS/CPDS cockpit variants.
Limited to helicopters equipped with cargo hook assembly P/N AS22-44.

For Revision 1:
Limited to helicopters with CDS/CPDS cockpit variants.
Limited to helicopters equipped with Siren cargo hook P/Ns AS21-8-B, AS22-52-21, or AS21-17.

Prior to installation of this change/repair it must be determined that the interrelationship between this change/repair and any other previously installed change and/ or repair will introduce no adverse effect upon the airworthiness of the product.