ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

Dual Cargo Hook Kit

on the

Airbus Helicopters Deutschland GmbH EC135P1, EC135P2, EC135P2+, EC135T1, EC135T2, EC135T2+, EC135P3, EC135T3

STC SR02217SE

R/N _____ S/N _____

FAA Approved: _____ Digitally signed by RÖBERT Y SCHLEIN Date: 2022.04.20 15:24:58 -07'00' For _____

Manager, Northwest Flight Test Section, AIR-715
Federal Aviation Administration
Seattle, WA

Date: 20 Apr 2022

Record of Revisions

Revision	Page(s)	Reason for Revision	FAA Approval
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1.0 General Information

Attach this supplement to the appropriate FAA approved Rotorcraft Flight Manual when an Onboard Systems International Dual Cargo Hook Kit P/N 200-467-00 is installed in accordance with Supplemental Type Certificate (STC) SR02217SE (ref. Section 7.0 for description of the kit) on an Airbus Helicopters Deutschland GmbH EC135P1, EC135T1, EC135P2, EC135T2, EC135P2+, EC135T2+, EC135P3, or EC135T3.

The information contained herein supplements or supersedes the basic Flight Manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this supplement, consult the basic Flight Manual and the applicable Airbus Helicopters' Supplement for Dual External Cargo Hook. The Airbus Helicopters' supplement is required as the Dual Cargo Hook Kit is a replacement for the cargo hooks within the complete type certificated external load system and interfaces with the type certificated fixed provisions including the cargo hook controls installed within the cockpit.

2.0 Limitations

The limitations specified in the basic Flight Manual and the Airbus Helicopters Supplement for Dual External Cargo Hook remain applicable and are complemented by the information contained in this section. The cargo hooks of kit P/N 200-467-00 are direct replacements for the type certificate cargo hooks and have no effect on the limitations of mass and load, center of gravity, altitude, airspeed, etc. contained in the Airbus supplement.

2.1 Type of Operation

The dual cargo hook kit meets the 14 CFR part 27 certification requirements for Human External Cargo (HEC).

NOTICE

The cargo hook equipment certification approval does not constitute operational approval; operational approval for external load operations must be granted by the local Aviation Authority.

HEC operations require the use of a Personnel Carrying Device Systems (PCDS) long line and harness, which must be approved by the local Aviation Authority. For the long line, Onboard Systems part number 490-023-XX “HEC Long Line” provides an acceptable means of approval. For the harness, TSO-C167 provides one such acceptable means of approval.

Carrying of HEC requires that the PCDS be attached to both cargo hooks through Onboard Systems Y-Rope P/N 490-022-00 per the instructions contained herein.

This dual cargo hook kit does not include equipment to allow direct intercommunication among required crewmembers and external occupants. Operating this external load equipment with HEC is not authorized unless equipment to allow direct intercommunication among required crewmembers and external occupants is approved by the local Aviation Authority.

HEC operations require a visual means to monitor the connection of the Y-rope to the cargo hooks. Visual means include but are not limited to an external mirror or a ground observer or external occupant with intercommunication with a crewmember.

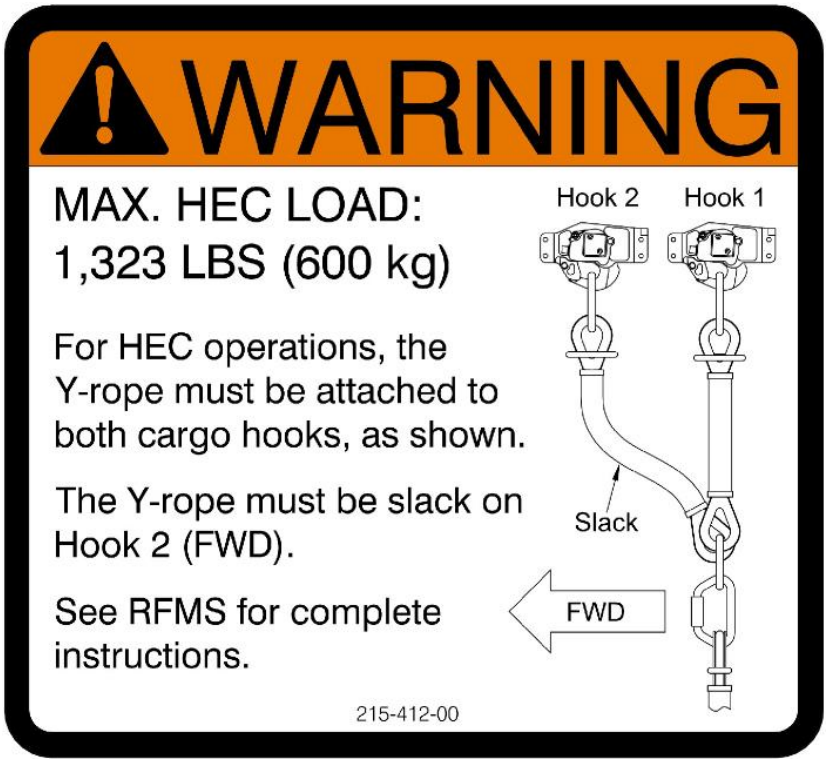
Non-human external cargo (NHEC) may be carried only on the primary cargo hook (Hook 1) using a single long line. For this type of operation, the secondary cargo hook (Hook 2) must be covered.

All lines attached to the dual cargo hooks that extend below the aircraft landing gear, must have a minimum of 25 lbs. of weight attached to the lower end of the line.

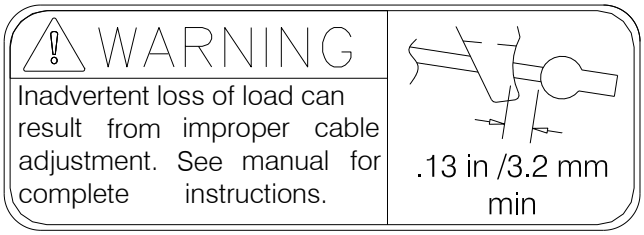
2.2 Placards

The following placards are included with the Dual Cargo Hook Kits. Refer to the Airbus Supplement for Dual External Cargo Hook for additional placards.

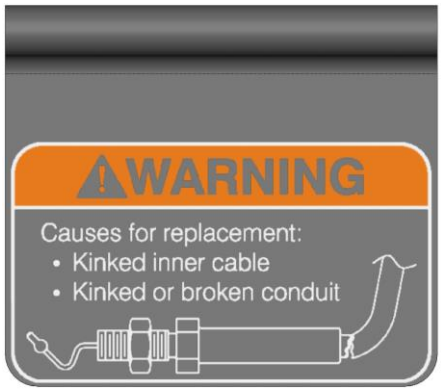
- Located on the side or bottom of the cargo hook beam in view of ground personnel.



- Located on the bottom of each Cargo Hook.



- Located on each manual release cable.



3.0 Emergency Procedures

The emergency procedures in the basic Flight Manual and Airbus Helicopters Supplement for Dual External Cargo Hook remain applicable with the following exception.

- The HOOK UNLD advisory light is not functional with the Onboard Systems Dual Cargo Hook Kit installed. It will not illuminate.

4.0 Normal Procedures

The normal procedures in the basic Flight Manual and Airbus Helicopters Supplement for Dual External Cargo Hook remain applicable with exceptions as noted in this section and are superseded by the following.

NOTICE

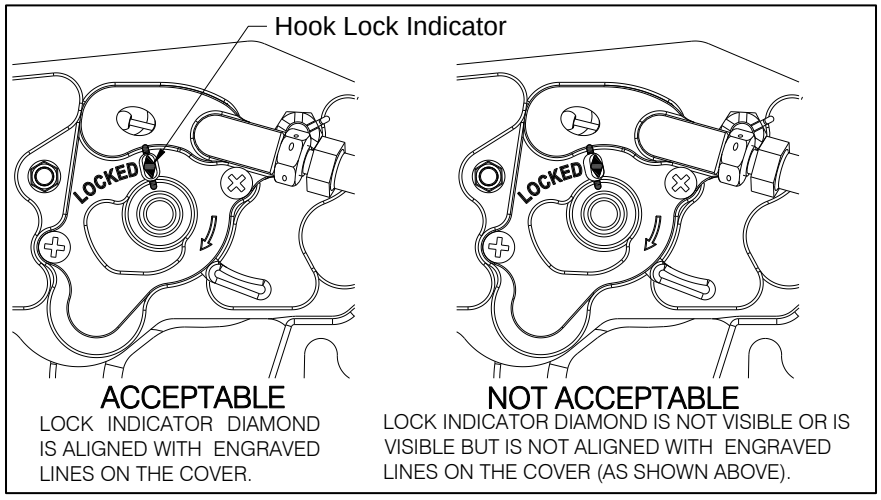
The dual cargo hook kit uses the OEM cargo electrical release switches and manual release levers on the flight controls.

4.1 Pre-flight Check

Prior to a flight involving external load operations perform the following.

1. Visually check all cargo hook fasteners to ensure that they are secure.
2. Visually check the external electrical harnesses and manual release cables and their connections to the cargo hook and aircraft for damage and security.
3. Cycle the electrical release system to ensure proper operation of the Cargo Hooks. Press the Cargo Release switches in the cockpit, the respective Cargo Hook's load beam should fall to the open position with no load on it. Return the cargo hook to the closed and locked position by manually pushing up on the load beam. The load beam should snap shut.
4. Cycle the manual release system to ensure proper operation. Pull the Cargo Release levers on the collective and the cargo hooks should open with no load on them. Return the cargo hooks to the closed and locked position by manually pushing up on the load beam. The load beam should snap shut. Verify that the hook lock indicator on the side of the hook returns to the fully locked position. In the fully locked position the hook lock indicator should align with the lines on the cover (see Figure 4.1.1). The cargo hook may be flown in the open position to facilitate loading by ground crew.

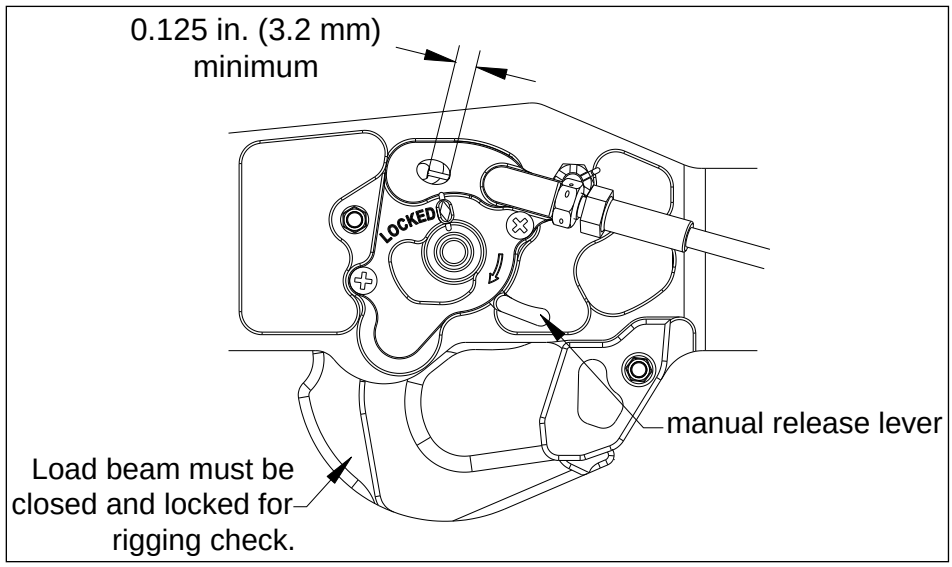
Figure 4.1.1 Hook Lock Indication



5. Check the manual release cable rigging at each cargo hook through the opening in the manual release cover per the following.

   With the cargo hook load beam closed and locked, rotate the manual release lever clockwise to remove the free play (this is readily felt as the lever rotates relatively easily for several degrees before meeting greater resistance). Hold in this position and visually check the gap between the fork fitting and the cable ball end (an inspection mirror will aid in sighting). Verify there is an approximate minimum gap of 1/8” (3.2 mm) as shown.

Figure 4.1.2 Manual Release Cable Rigging Check



4.2 Operation

Cargo hook operation instructions in the Airbus Helicopters Supplement for Dual External Cargo Hook remain applicable with the following exceptions.

- The HOOK UNLD advisory light is not functional with the Dual Cargo Hook Kit installed. It will not illuminate.
- The cargo hooks of the Dual Cargo Hook Kit should open with no load on them, they do NOT require a load of approximately 50 N (5 kg) for overcoming the spring-force and opening as is required for the OEM cargo hook that are replaced.
- The cargo hooks of the Dual Cargo Hook Kit are a keeperless design and do not have a keeper (referred to as a safety-catch in the Airbus Helicopters supplement).

4.3 Attaching an HEC Load

For carrying of HEC, use Onboard Systems Y-rope P/N 490-022-00. The Y-rope has a HOOK 1 leg and a HOOK 2 leg. These legs are different lengths, are labeled HOOK 1 and HOOK 2, and are color coded. The HOOK 1 leg is white and is shorter than the HOOK 2 leg, which is yellow.

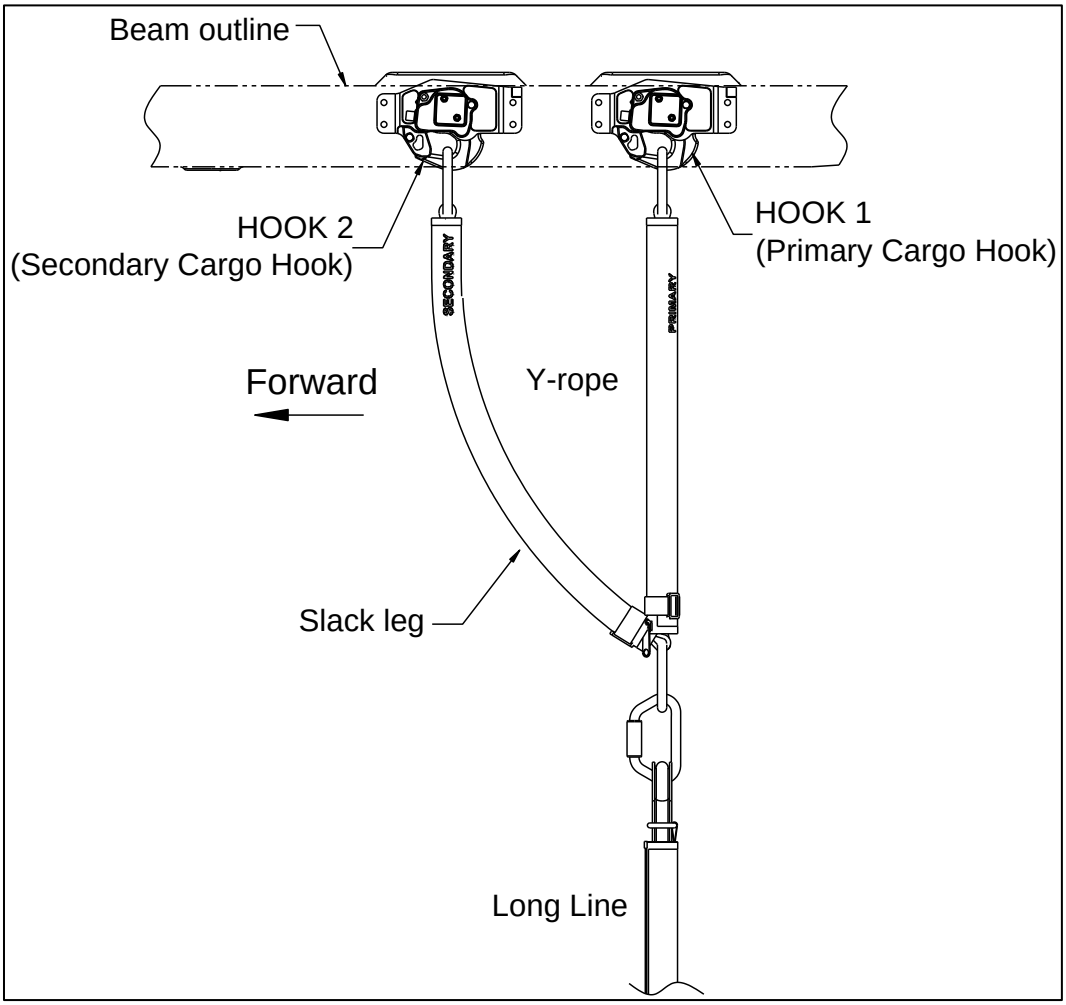
Attach the Y-rope to the cargo hooks as follows.

1. Attach the shorter white leg to HOOK 1 (aft position).
2. Attach the longer yellow leg to HOOK 2 (forward position).

CAUTION

*HOOK 2 (the forward cargo hook) is a backup means of retaining an HEC load, and should never be loaded independently, and should only be used with the **slack leg** of the Y-rope connected to it (reference Figure 4.3.1). The external load limit is 1323 lbs when using HOOK 2.*

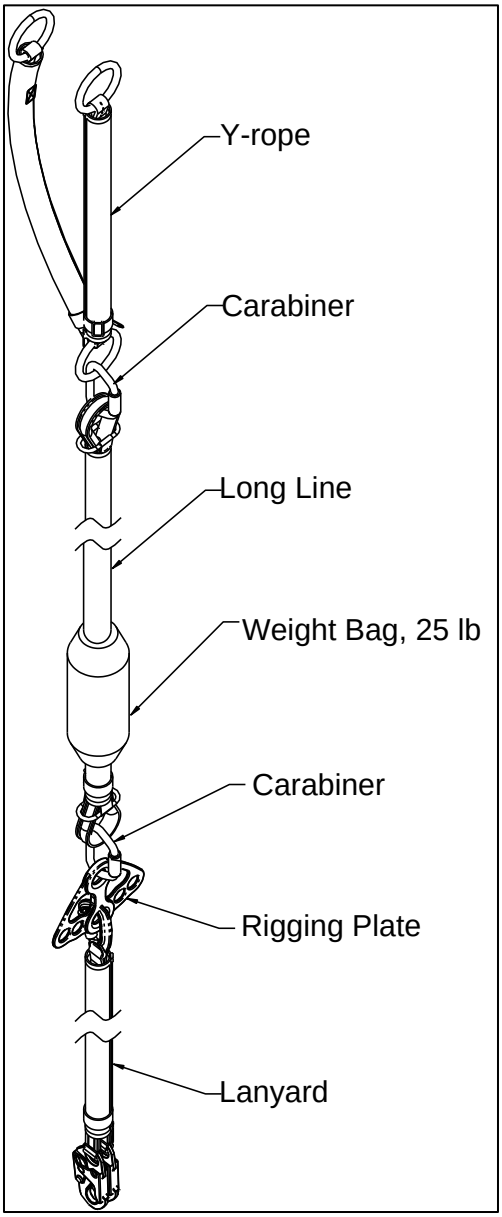
Figure 4.3.1 Attaching an HEC Load



When carrying equipment weighing less than 1323 lbs in support of HEC operations (e.g. - ferrying HEC and then a separate load of equipment back and forth to an electrical tower) the slack leg of the Y-rope may remain attached to the secondary cargo hook (as long as the 1323 lb HEC limit is NOT exceeded).

If Long Line Kit P/N 200-476 series is used, attach the long line to the lower ring of the Y-rope with the carabiner (P/N 530-031-00) and the Rigging Plate (P/N 292-107-00) to the lower end of the long line with the same carabiner. Connect the Lanyard(s) to the Rigging Plate with its integrated carabiner. The Y-rope is required. The components below the Y-rope are optional.

Figure 4.3.2 Long Line Kit Connections



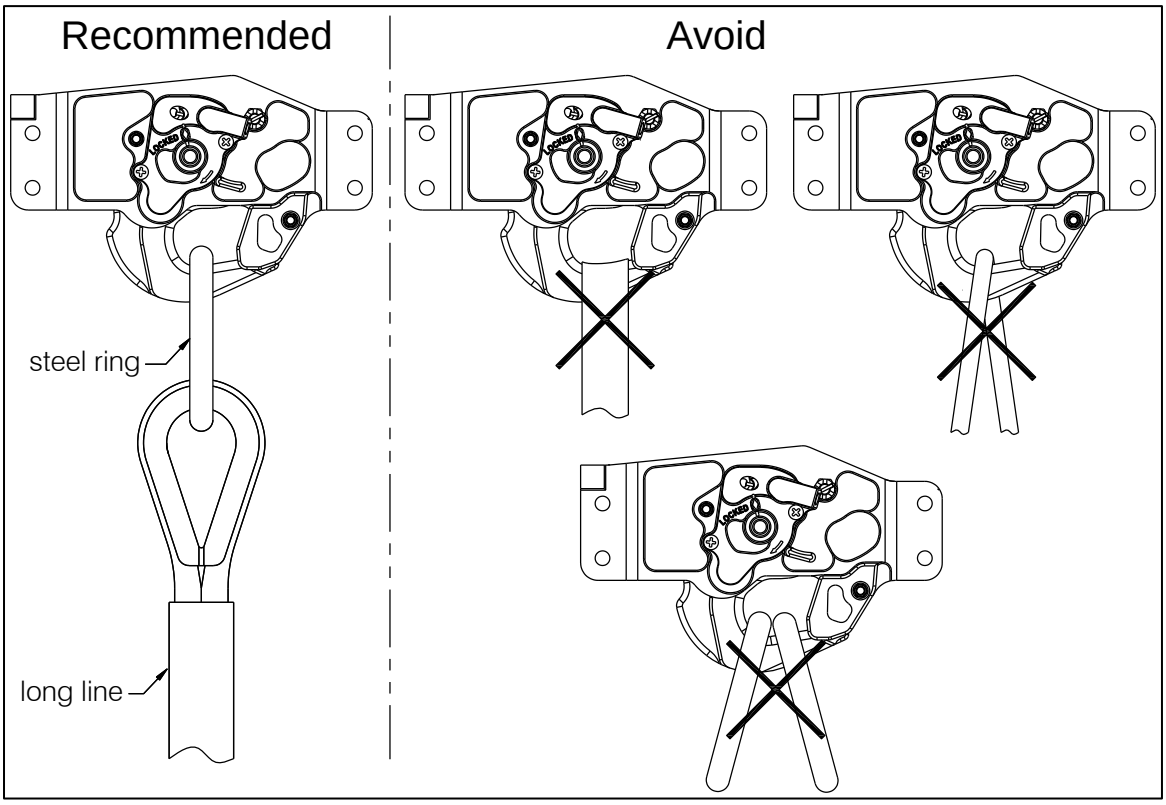
4.4 Attaching an NHEC Load

Exercise care when rigging a load to the Cargo Hook. Attaching the external load using a steel load ring on the Cargo Hook's load beam is the recommended rigging configuration to provide consistent release performance and resistance to fouling. Figure 4.4.1 shows the recommended rigging and rigging to avoid, but is not intended to represent all rigging possibilities. For each rigging configuration used, verify that the rigging will freely slide off the load beam when it is opened.

⚠ WARNING

It is the responsibility of the operator to assure the cargo hook will function properly with the rigging.

Figure 4.4.1 Cargo Hook Rigging - NHEC



4.5 Recording External Cargo Hook Operations

The recording of external cargo hook operations in the Airbus Helicopters Supplement for Dual External Cargo Hook remains applicable to the Airbus Helicopters cargo hook beam.

Cargo Hook P/N 528-049-00 has a life limit that is dependent on the number of external cargo lift cycles and the magnitude of the external cargo loads lifted. This requires that the following information be recorded, the table below represents an example means of tracking.

- The total number of external loads lifted that are 1323 lbs. and over.
- The weight of each external load that weighs 1323 lbs. and over, to be classified per the following payload classes.

Payload Class*	Number of Lifts
600 – 799 kg (1323 – 1761 lb.)	
800 – 1000 kg (1762 – 2205 lb.)	

*Loads of 1323 lbs. or less do not need to be counted.

This cycle counting is applicable to the Cargo Hook in the Hook 1 (aft) position. The Cargo Hook in the Hook 2 (forward) position is not loaded during normal operation and is only for use in HEC operations which are limited to a maximum load of 1323 lbs.

5.0 Performance

The performance data in the basic Flight Manual and Airbus Supplement for Dual External Cargo Hook remain applicable.

6.0 Weight and Balance

The point of application of the external load (i.e. – Hook 1 location) in the longitudinal direction is 4200 mm (165.4 in.) and in the lateral direction is 0. Hook 2 is for backup retention of HEC. Its location is at 3905 mm (153.7 in.).

7.0 System Description

The P/N 200-467-00 Dual Cargo Hook Kit is a replacement dual cargo hook kit for carrying of HEC on EC135 helicopters equipped with a OEM approved double cargo hook beam with any combination of the following cargo hook part numbers: AS21-8-B, AS22-52-21, and/or AS21-17. This dual cargo hook kit replaces the cargo hooks and the external electrical release harnesses and manual release cables that route to the disconnect panel on the belly. The kit does 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 type certificate. Figure 4.5.1 and Figure 4.5.2 provide an overview of the cargo hooks included with the Dual Cargo Hook Kit.

Figure 4.5.1 Overview of Cargo Hook – Electrical Side

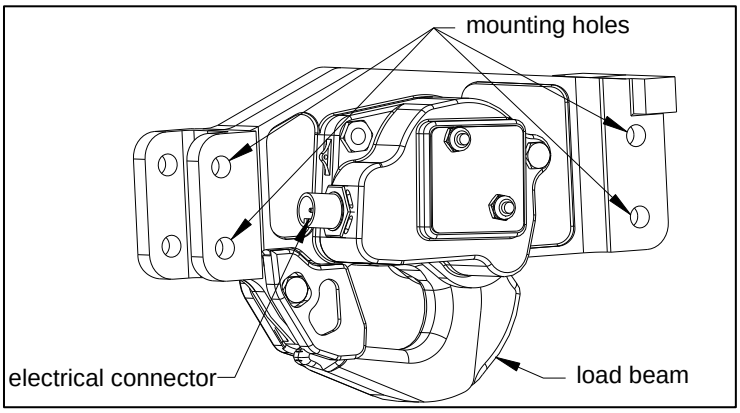
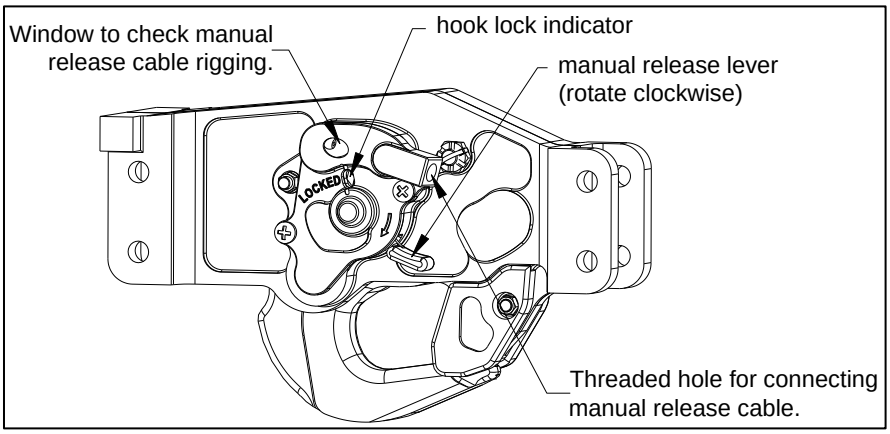


Figure 4.5.2 Overview of Cargo Hook – Mechanical Release Side



To connect to the dual cargo hooks, Y-rope P/N 490-022-00 is required as this provides a controlled interface between the dual cargo hooks. The Y-rope is part of a long line kit (P/N 200-476-XX) approved under STC SR02217SE for carrying of HEC. This approved long line configuration provides the means to connect the HEC harness (not included) to the Y-rope. The harness and alternate configurations of the long line require approval by the local Aviation Authority.

Figure 4.5.3 Long Line Kit Overview