13915 NW 3rd Ct, Vancouver, WA 98685

Supplement No. 121-070-00

STC No.: SR02724LA

FAA APPROVED ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

Dual Cargo Hook System

on the

Bell 206L, 206L-1, 206L-3, 206L-4, and 407

STC SR02724LA

For rotorcraft approved to operate in accordance with the provisions of this rotorcraft flight manual supplement, the information contained herein supplements the information of the basic flight manual. For limitations, procedures, and performance data not contained in this supplement, consult the basic flight manual.

Reg. No _____ S/N _____

MICHAEL ALLEN MAGERS Digitally signed by MICHAEL ALLEN MAGERS Date: 2026.10.21 10:01:10 -07'00' Flight Test Engineer, AIR-713, *for*

Manager, Flight Test & Human Factors Branch, AIR-710
Federal Aviation Administration

21 October 2026
Approved Date

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

Record of Revisions

Revision	Pages	Reason for Revision	FAA Approval
IR	All	Initial Release Dual Cargo Hook System	Nevada Jo Ryan Digitally signed by Nevada Jo Ryan Date: 2020.02.14 09:47:53 -08'00' Manager, West Flight Test, AIR-716 Federal Aviation Administration Los Angeles, CA Date: February 14, 2020
1	1, 3, 20	Added reference to BHT-407-FM-3 in Section 4.5. Added statement to title page. Added Table of Contents with FAA Approved and Not FAA Approved pages.	Michael Magers Flight Test Engineer, AIR-713 21 October 2026

Register Your Products for Automatic Notifications

Onboard Systems offers a free notification service via fax or email for product alerts and documentation updates. By registering your Onboard Systems products at our website, we will be able to contact you if a service bulletin is issued, or if the documentation is updated.

You can choose to receive notices on an immediate, weekly, or monthly schedule via fax, email or both methods. There is no charge for this service. Please visit our website at www.onboardsystems.com/notify.php to get started.

Please check our website at www.onboardsystems.com for the latest revision of this manual.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

Table of Contents

General Information **4**

Part I, FAA Approved Pages

1.0 Limitations **5**
2.0 Normal Procedures **8**
3.0 Emergency Procedures **20**
4.0 Performance **20**

Part II, Manufacturer's Data

5.0 Equipment Description **21**

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

General Information

This Rotorcraft Flight Manual Supplement MUST be used in conjunction with the basic Rotorcraft Flight Manual.

The Dual Cargo Hook System for the Bell 206L series and 407 model helicopters provides a means to transport human external cargo (HEC). Refer to Section 5.0 for a description of the Dual Cargo Hook System.

When the Dual Cargo Hook System is installed, an owner or operator holding a valid Rotorcraft External Load Operator Certificate may utilize the helicopter for transportation of external cargo when operated by a qualified pilot. OPERATIONS WITH CARGO ATTACHED TO THE DUAL CARGO HOOK SYSTEM SHALL BE CONDUCTED IN ACCORDANCE WITH APPLICABLE OPERATING RULES FOR EXTERNAL LOADS.

Information provided in these operating instructions is presented with the intent of furnishing important data that can be used in the Rotorcraft Load Combination Flight Manual. The Combination Flight Manual, which is required by 14 CFR Part 133, will be prepared by the applicant to obtain the Rotorcraft External Load Operator Certificate.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

1.0 Limitations

1.3 Types of Operation

With a load attached to the dual cargo hook system, operation shall be conducted in accordance with the respective national operational requirements.

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

NOTICE

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

The cargo hook system meets the certification requirements for lifting jettisonable external loads free of land or water.

HEC operations require the use of a Personnel Carrying Device Systems (PCDS) harness, which must be approved by the local Aviation Authority. TSO-C167 provides one such acceptable means of approval.

HEC operations require the use of a PCDS Long Line, which must be approved by the local Aviation Authority. Using Onboard Systems Part Number 490-015-XX “HEC Long Line” 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 490-019-00 per the instructions contained herein.

This cargo hook system 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.

Operation of the dual cargo hook system requires a visual means of monitoring the connection of the Y-rope to the cargo hooks. Acceptable visual means include, but are not limited to, an external mirror, a ground observer with intercommunication with a crewmember, or an external occupant with intercommunication with a crewmember.

This document is proprietary to Onboard Systems Int’l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int’l., all rights reserved

All lines attached to the dual cargo hook system that extend below the aircraft landing gear must have at least 10 lbs of weight attached to the lower end.

1.6 Weight and Center of Gravity Limitations

Maximum takeoff and landing gross weight is published in the Rotorcraft Flight Manual. Weight in excess of the published allowable must be external and jettisonable.

Maximum Rotorcraft - Load Combinations operating gross weight is published in the Rotorcraft Flight Manual (FAR 133).

Refer to the Rotorcraft Flight Manual for Gross Weight Center of Gravity Limits for external load operations.

The dual cargo hook system load limit is 800 lbs. (363 kg) with the Y-rope attached to both cargo hooks. See loading instructions in section 2.

The maximum NHEC load (with a load attached ONLY to the primary cargo hook) is the lesser of that specified by the Bell Rotorcraft Flight Manual or as follows:

- 2650 lbs (1202 kg) for the 407 model.
- 2000 lbs. (907 kg) for the 206L series models.

1.7 Airspeed

Bell 206L Series: Vne with external cargo load is 87 KIAS

Bell 407: Vne with external cargo load is 100 KIAS

⚠ CAUTION

Airspeed with external cargo is limited by controllability. Caution should be exercised when carrying external loads. Handling characteristics may be affected by shape, size and weight of external cargo.

1.20 Placards

Make placards stating approved load class(es) and occupancy limitations. Display placards in a conspicuous location in cockpit.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

Placard P/N 215-390-00 must be installed on the belly adjacent to the primary or secondary cargo hook. See Figure 1.1 below.

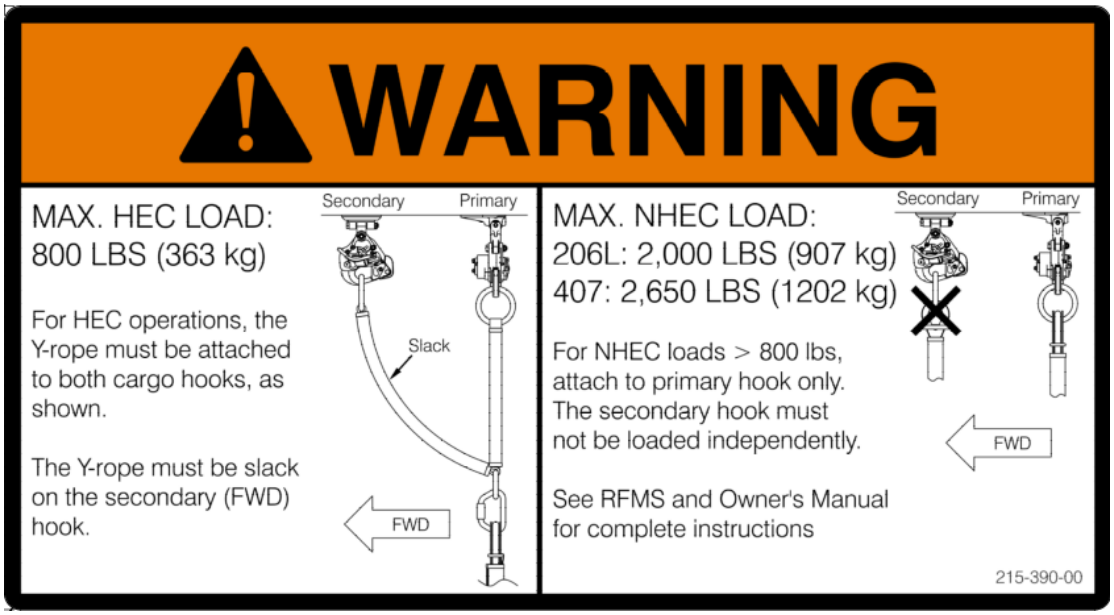


Figure 1.1 External Load Limit Placard

Installed on the release lever for the primary cargo hook: 
Installed on the release lever for the secondary cargo hook: 
Installed on the release lever for the secondary cargo hook, adjacent to the pushbutton switch that is integrated into the lever: 

Figure 1.2 Cargo Hook Controls Placards

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

2.0 Normal Procedures

2.3 Pre-flight Check

Before a flight involving external load operations, perform the following procedures. If the procedures are not successful, do not use the equipment until the problem has been corrected.

1. Check all cargo hook and cargo hook control mounting fasteners to ensure they are secure.
2. Check the cargo hook electrical and hydraulic connections at the cargo hook and at the connector bracket on the belly for damage and security.
3. Check the slave cylinders on the cargo hooks for signs of hydraulic fluid leakage.
4. Swing the cargo hooks to their full travel extremes to verify that they do not reach the range of motion limits of the electrical harnesses and hydraulic hoses.
5. Check the operation of the cargo hooks' primary quick release sub-systems (PQRS) to ensure proper operation.

   Press the primary cargo hook's electrical switch mounted in the cyclic grip; with no load on it the cargo hook load beam should fall to the open position.

   Push up on the load beam and verify that it latches and the hook lock indicator is aligned with the engraved line on the manual release cover (see Figure 2.1).

   Repeat for the secondary cargo hook (if HEC operations are being performed).

⚠ CAUTION

In the closed position the hook lock indicator must align with the lines on the cover (see Figure below).

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

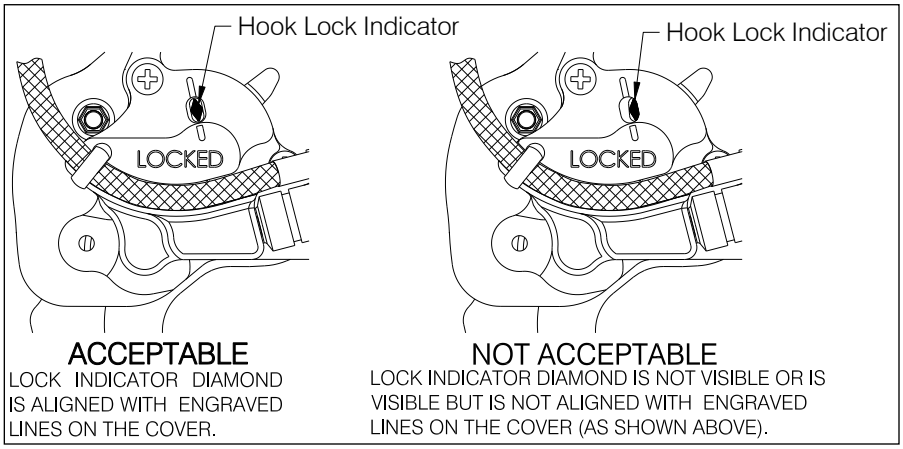


Figure 2.1 Hook Lock Indicator

6. Check the operation of the cargo hooks' backup quick release sub-systems (BQRS).

   Pull the release lever for the primary cargo hook. With no load on it the cargo hook load beam should fall to the open position.

   Push up on the load beam and verify that it latches and the hook lock indicator is aligned with the engraved line on the manual release cover.

   Repeat for the secondary cargo hook (if HEC operations are being performed).

7. Check the BQRS' hydraulic release systems for excess air in the lines. Pull the primary release lever firmly until it bottoms out. Check the push rod position (see Figure 2.2). If some of the green ring on the push rod is visible, the system is ready for use. If none of the green ring is visible, the system needs to be bled. Repeat with the secondary release lever.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

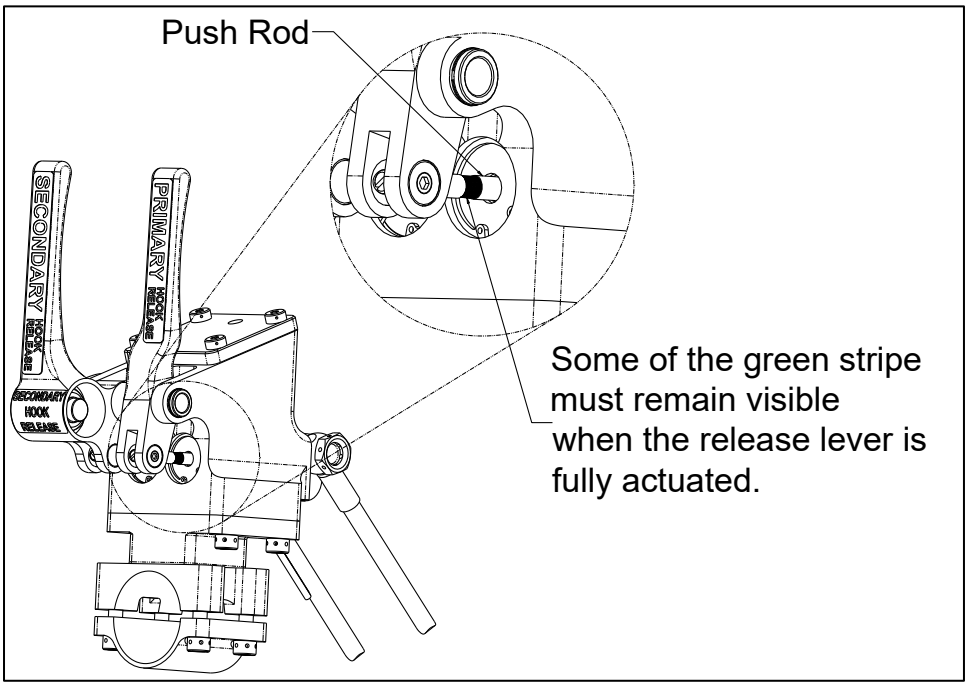


Figure 2.2 Checking System for Air

8. Check the fluid level in the master cylinder reservoir. The master cylinder reservoir features a transparent lid through which the fluid level can be checked. The fluid level must be within the range indicated by the circle on the baffle plate in the reservoir.

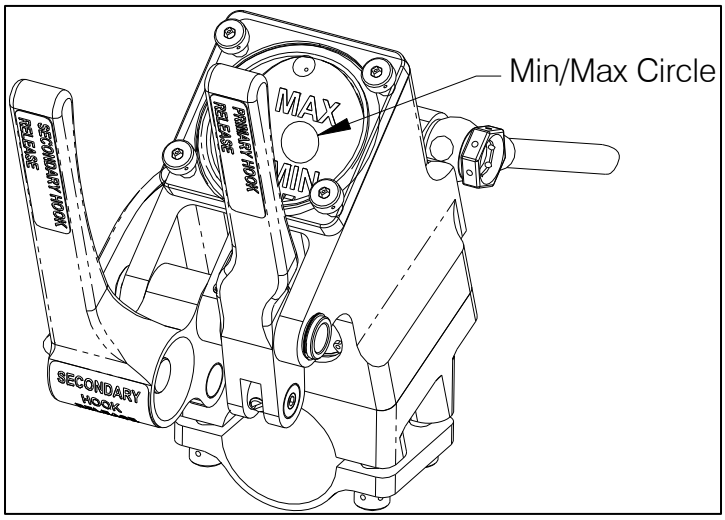


Figure 2.3 Fluid Level

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

If the load weigh system is installed perform the following as part of the pre-flight check.

9. Verify the C40 Load Indicator displays the Load screen (shown below). This screen is shown after power up, during power up an Information screen will display the Hook Hours, software version, and the unit's serial number (S/N).

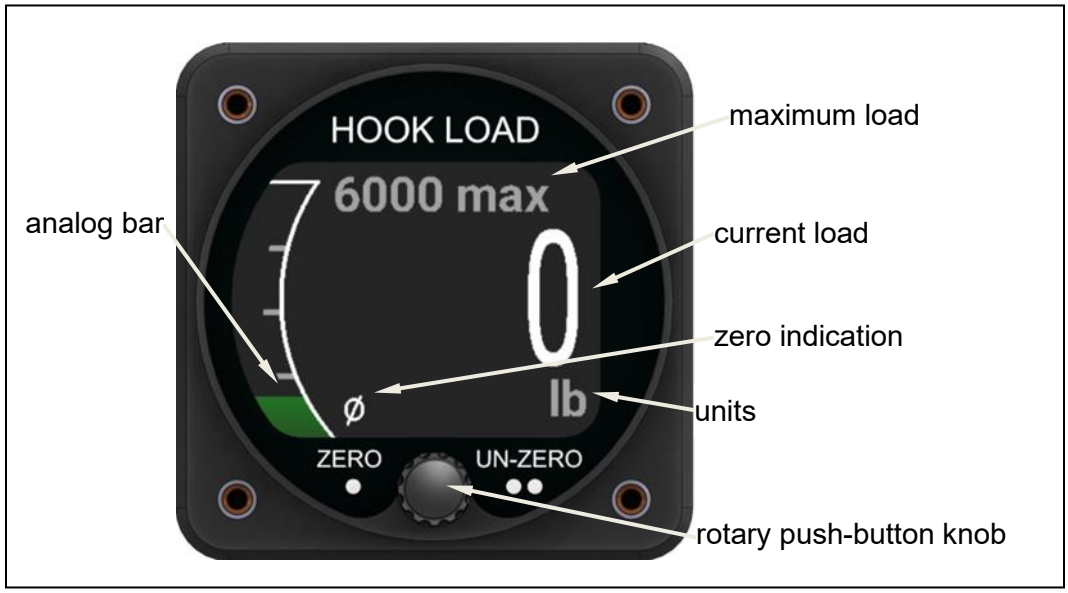


Figure 2.4 Load Screen

NOTICE

Refer to Owner's Manual 120-152-00 for detailed setup instructions including changing the units, changing the brightness of the display, etc. and additional operation instructions.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

The C-40 model includes a Maximum Load setting, this setting provides the option to select a maximum load for each flight involving external load operations based on flight conditions (temperature, altitude, fuel, etc.) or it can be set to the maximum NHEC or HEC external load rating.

To set the maximum load:

- From the Load screen, press and hold the rotary push button knob until the Maximum Load screen appears. Release the knob.



Figure 2.5 Maximum Load Screen

- Rotate the knob to the left or right to decrease or increase the value to the desired setting.
- Press the knob to set this value.

To zero (or tare) the weight of the long line, net, remote hook, etc. from the displayed load, apply that weight to the cargo hook and press the knob once and the display should zero out. Press the knob twice to un-zero (un-tare) the display and add this weight back in.

If the Load Indicator is not going to be used during a flight, the screen can be turned off by pressing and holding the rotary knob until the screen turns off.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

If the C-39 model Indicator is installed: after a brief self-diagnostic routine is complete verify the indicator display indicates “0” as shown below (with no load on the cargo hook).

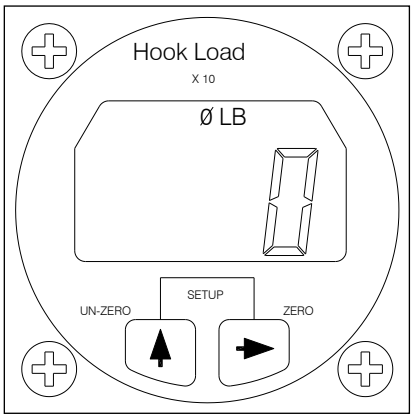


Figure 2.6 C-39 Indicator Display

NOTICE

For the C-39 model refer to Owner’s Manual 120-039-00 for setup instructions including changing the units, changing the calibration code, zeroing the display, changing the dampening level, etc.

This document is proprietary to Onboard Systems Int’l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int’l., all rights reserved

Attaching an HEC Load:

For carrying of HEC, Onboard Systems Y-rope P/N 490-019-00 must be used. The Y-rope has a PRIMARY leg and a SECONDARY leg. These are different lengths, are labeled, and are color-coded (the PRIMARY leg is green and is shorter than the SECONDARY leg which is orange).

Attach the Y-rope to the cargo hooks as follows (see Figure 2.7)

- Attach the green PRIMARY leg of the Y-Rope to the primary (aft) cargo hook
- Attach the longer (orange) SECONDARY leg to the secondary (forward) cargo hook. The parts attaching the secondary cargo hook to the aircraft are also orange to provide additional visual means of connecting the correct leg to the correct cargo hook.

⚠ CAUTION

The secondary cargo hook is a backup means of securing an HEC load and should never be loaded independently and should only be used with the slack line of the Y-rope connected to it. The external load limit is 800 lbs when using the Secondary Cargo Hook.

NOTICE

Instruct ground crew to ensure that the helicopter has been electrically grounded prior to attaching the load to drain charge of static.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

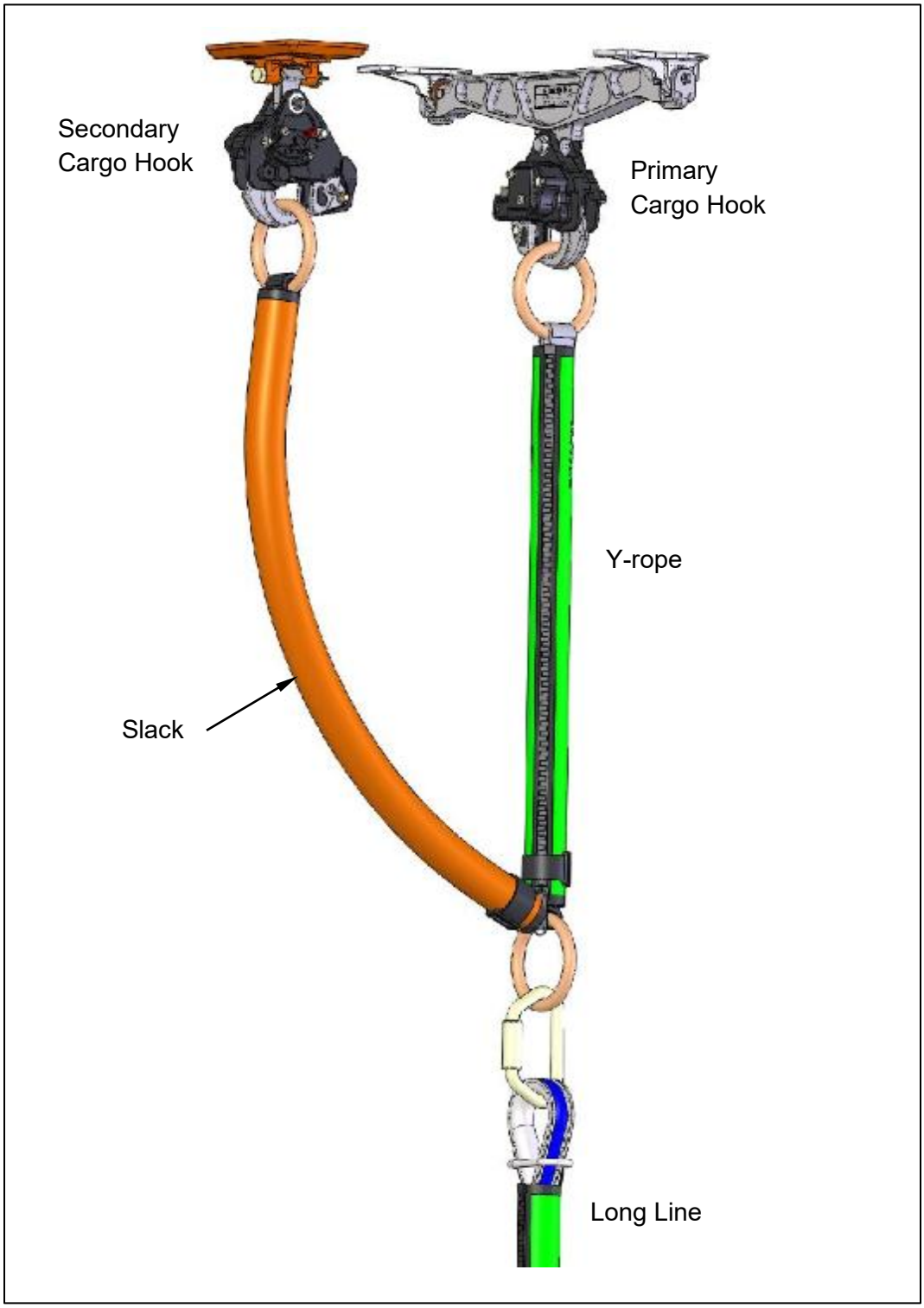


Figure 2.7 HEC Load Attachment

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

Attaching a NHEC Load:

The SECONDARY line of the Y-rope may remain attached to the secondary cargo hook while carrying equipment (NHEC) in support of HEC operations, provided that the 800 lb HEC load limit is not exceeded.

See Figure 2.8 for the recommended rigging configuration and configurations to avoid when carrying NHEC loads on the primary cargo hook. The examples shown are not intended to represent all possibilities.



Nylon type straps (or similar material) or rope should not be used directly on the cargo hook load beam. If nylon straps or rope must be used they should be first attached to a steel primary ring. Verify that the ring will freely slide off the load beam when it is opened. Only the primary ring should be in contact with the cargo hook load beam.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

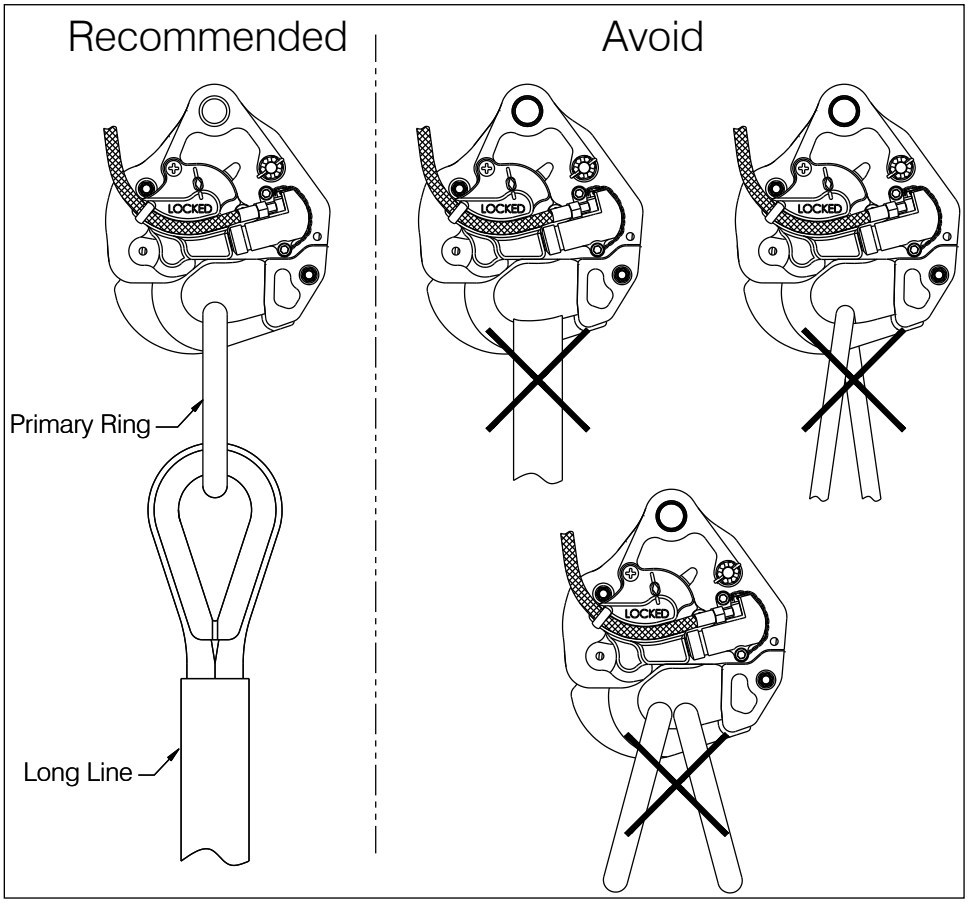


Figure 2.8 Examples of Cargo Hook Rigging

WARNING

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

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

2.8 Take-off

1. Following attachment of the external load, slowly increase the collective pitch and ascend vertically, maintaining the rotorcraft directly above the load.
2. When the slack in the long line is removed dwell briefly before lifting the load vertically from the surface.
3. Check torque required to hover with the external load.
4. Check for adequate directional control.
5. Take off into the wind, if possible, and ensure clearance of the external load over obstacles.

2.9 In-Flight Operations

Make all control movements gently with gradual acceleration and deceleration and only slightly banked turns.

Maximum airspeed is dependent upon the size, weight, and shape of the external load and sling length. Closely observe the behavior of the load during flight and as airspeed is increased.



Use caution when flying with an unloaded long line as this is an extreme snag hazard.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

2.10 Descent and Landing

1. Perform the approach at minimum rate of descent.
2. Execute the approach to hover with sufficient height to prevent the load from hitting obstacles on or being dragged along the ground and then slowly descend vertically to set the load on the ground.
3. Press the pushbutton switch on the cyclic to release the external load from the cargo hook. For dual cargo hook operations, press the secondary release switch mounted in the release lever to release the secondary cargo hook and then press the switch on the cyclic grip to release the external load from the primary cargo hook.
4. The release levers on the cyclic are intended as a backup release in the event of an inability to release the load with the push-button switches but may be used to release the external load in normal circumstances.
5. Visually check to ensure that the external load has been released.



Verify that the external load and long line is free from the rotorcraft before departing the drop-site.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

3.0 Emergency/Malfunction Procedures

Engine Failure:

The presence of an external load may further complicate a failed engine condition. In an emergency, land the rotorcraft as soon as practical.

Loss of Y-rope Attachment to Either Cargo Hook:

Land the rotorcraft as soon as practical.

3.13 Cargo Fails to Release Electrically:

In the event that the Cargo Hook System will not release the external load electrically, proceed as follows:

1. Maintain tension on the sling.
2. Pull the Secondary Hook and Primary Hook release levers on the cyclic in succession.

4.0 Performance

4.5 Hover Ceiling

Refer to the Rotorcraft Flight Manual BHT-407-FM-1 or BHT-407-FM-2 or BHT-407-FM-3 or OGE hover performance to assist in planning operations.

There is no change from the Rotorcraft Flight Manual when no load is attached to the cargo hooks.

Performance may be affected depending on its size, weight, and shape of external load.

The Load Weigh System is intended as a means of MONITORING the weight of the load suspended from the Cargo Hook. Before lifting a load, it is recommended that the load weight be estimated, the shape/size is considered and, upon lifting the load, monitor the load indicator and compare the actual engine torque value vs. the expected value for a given weight to verify sufficient performance.

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

5.0 Equipment Description

The Dual Cargo Hook System is comprised of:

1. Dual cargo hooks on the belly of the aircraft (reference Figure 5.1) for attachment, transport and release of external loads. Transport of HEC requires the use of an Onboard Systems Y-rope (P/N 490-019-00) attached to both the primary and secondary cargo hook.
2. An approved long line configuration to provide the means to connect the HEC harness (not included) to the Y-rope.
3. An optional Load Weigh System. The Load Weigh System is a compliment to the external load lifting system. Its purpose is to display the weight of the load carried on the cargo hook. It includes the pin load cell at the cargo hook, a load indicator in the cockpit, and an interconnecting wire harness.

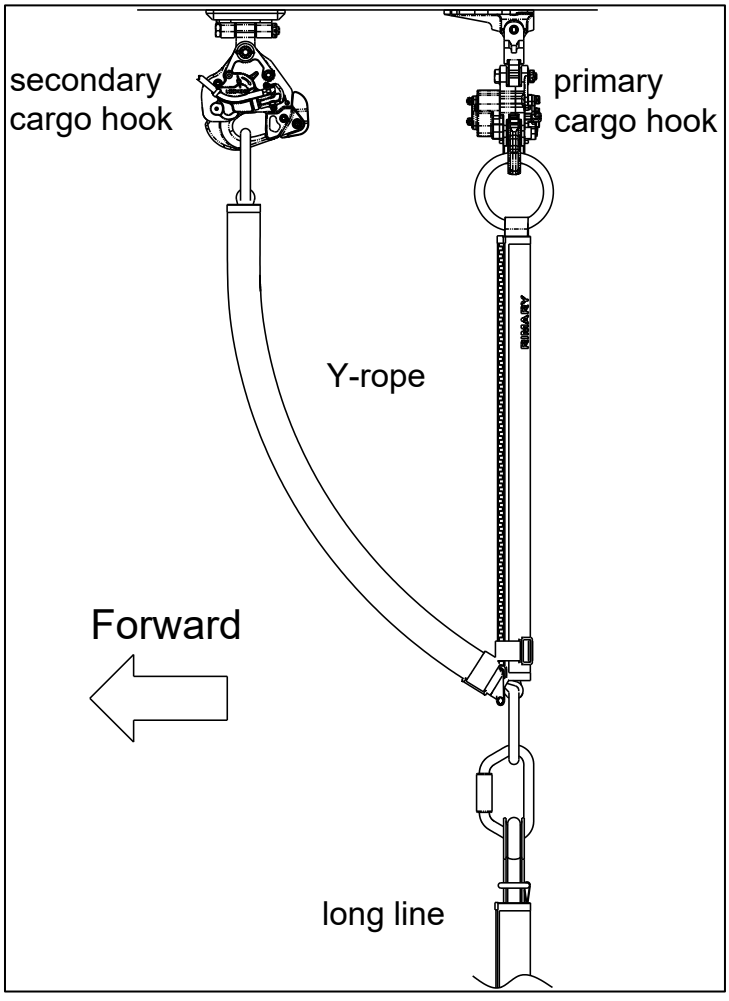


Figure 5.1 Dual Cargo Hook System Overview

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved

4. A primary quick release sub-system (PQRS) and a backup quick release sub-system (BQRS) for each of the cargo hooks including controls integrated into a dual master cylinder (see Figure 5.2) on the cyclic. The primary cargo hook's PQRS interfaces with the existing Bell type certificated switch on the cyclic (not shown).

   The PQRSs are electrical release systems which are actuated by means of pilot actuation of the push-button switches on the cyclic.

   The Dual Master Cylinder Assembly includes an independent release lever to actuate the BQRS for each cargo hook.

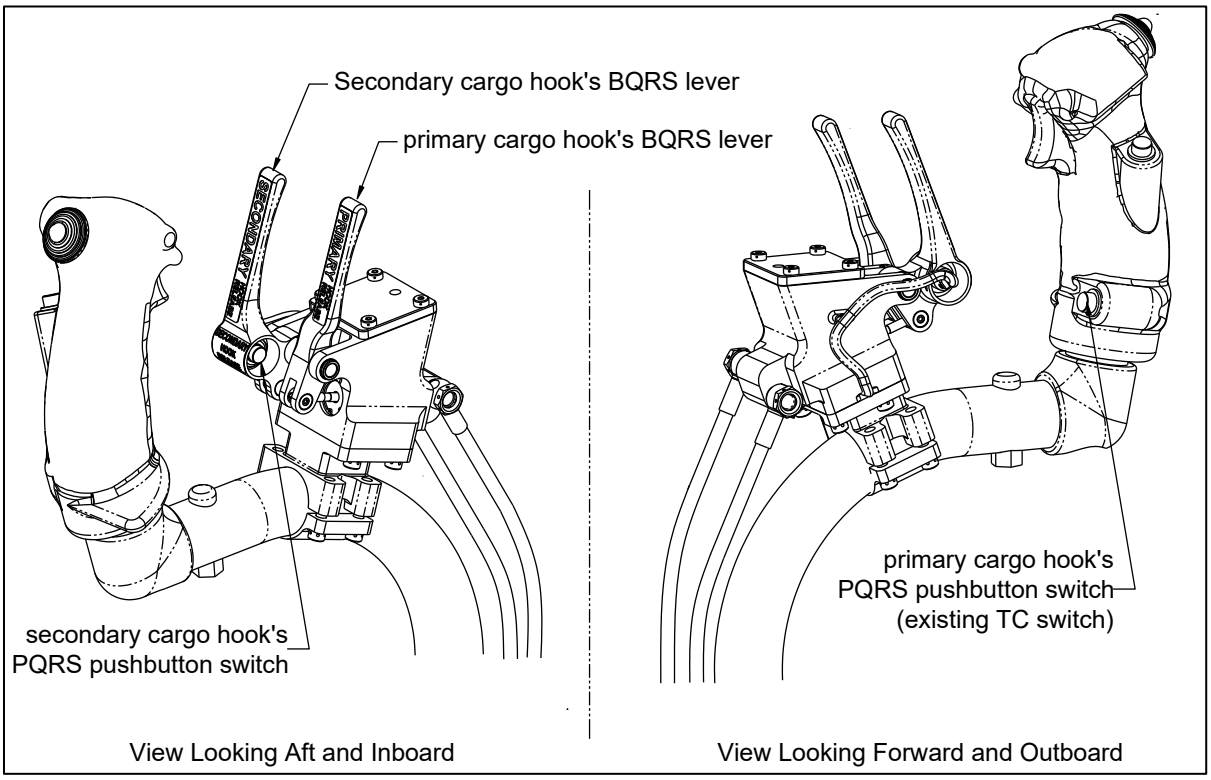


Figure 5.2 Dual Master Cylinder - Cargo Hook Controls

This document is proprietary to Onboard Systems Int'l. Disclosure or reproduction is not allowed. © 2026 Onboard Systems Int'l., all rights reserved