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2,750 Pound Big Mouth Cargo Hook Kit

for the

Lama series helicopters

Cargo Hook Kit, H-Frame, Part Number 200-239-00
Cargo Hook Kit, Frame Swing, Part Number 200-240-00

Owner's Manual

Owner's Manual Number 120-079-00
January 18, 2007
Revision 5

ONBOARD™ SYSTEMS INTERNATIONAL

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RECORD OF REVISIONS

Revision	*Date*	*Page(s)*	*Reason for Revision*
1	11-10-99	*	Original Issue
2	3-9-00	4-8, 4-9	Added additional location option of connector plug on solenoid cover.
3	6-14-00	1-2, Section 4 2-1	Updated Specifications table to reflect test data. Removed cargo hook overhaul information from Section 4 and moved to new Cargo Hook Service Manual 122-003-00 Added torque spec for load bolt.
4	9/17/02	Title, 4-3	Factory address change.
5	01/18/07	2-3, 2-5, 2-8 & 2-9 Section 4 TOC, Section 1, 2-3, 2-9, & Section 3	Updated figures to show new knob configuration. Updated maintenance information to refer to service manual 122-003-00. Updated Warnings Cautions and notes per current standards.

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Section 1
General Information

Introduction

The 200-239-00 Cargo Hook Kit is approved as a replacement on the Lama SA 315B when modified by STC SH1735SW, which includes the ERC H-Frame 17112 and cargo hook 14027-4.

The 200-240-00 Cargo Hook Kit is approved as a replacement on the Lama SA315B when equipped with the Hook A90B-100, Frame 315A73-10-120 and Gimbal 3160S73-06-517.

Warnings, Cautions & Notes

The following definitions apply to Warnings, Cautions & Notes used in this manual.

Means that if this information is not observed, serious injury, death or immediate loss of flight safety could occur

Means that there is a risk of injury or degradation in performance of equipment if this information is not observed.

Draws the reader's attention to information which may not be directly related to safety, but which is important or unusual.

Bill of Materials

The following items are included with the H-Frame Kit P/N 200-239-00. If shortages are found contact the company from whom the system was purchased.

Table 1-1 200-239-00 H-Frame Cargo Hook Kit Bill of Materials

Part Number	Description	Quantity
528-017-01	Cargo Hook with Load Bolt and Load Bolt Hardware	1
410-131-00	Electrical Connector	1
290-426-00	Hook to Manual Release Adapter	1
290-332-00	Load Bolt	1
232-070-00	Hook to Gimbal Adaptor, H-Frame	1
510-183-00	Washer, AN 9600816L	1
510-174-00	Washer NAS 1149F0663P	1
510-170-00	Nut, AN 320-C6	1
510-252-00	Jam Nut, NAS 509-5C	1
512-005-00	Adel Clamp	2
510-178-00	Cotter Pin, MS24665-302	1
120-079-00	Owner's Manual	1
122-003-00	Cargo Hook Service Manual	1

Bill of Materials, continued

The following items are included with the Swing Frame Kit P/N 200-240-00. If shortages are found contact the company from whom the system was purchased

Table 1-2 200-240-00 Swing Frame Cargo Hook Kit Bill of Materials

Part Number	Description	Quantity
528-017-01	Cargo Hook with Load Bolt and Load Bolt Hardware	1
410-131-00	Electrical Connector	1
290-532-00	Hook to Manual Release Adapter	1
290-524-00	Hook Bumper	2
232-071-00	Hook to Gimbal Adapter, Swing	1
290-525-00	Bungee Bracket	1
510-138-00	Screw, 6-32 1¼ FH SS	4
510-091-00	Nut, 6-32 Esna	4
510-278-00	Washer, AN 960-6	4
512-021-00	Adel Clamp #20	4
510-252-00	Jam Nut	1
120-079-00	Owner's Manual	1
122-003-00	Cargo Hook Service Manual	1

Inspection

Inspect the kit items for evidence of damage, corrosion and security of lock wire and fasteners. If damage is evident, do not use the items until they are repaired.

Specifications

Table 1-3 Cargo Hook 528-017-01 Specifications

Design load	2,750 lb. (1,246 kg.)
Design ultimate strength	15,750 lb. (7,139 kg.)
Electrical release capacity	6,875 lb. (3,116 kg.)
Mechanical release capacity	6,875 lb. (3,116 kg.)
Force required for mechanical release at 2,750 lb.	10 lb. Max. (.600” travel)
Electrical requirements	22-28 VDC, 6–8 amps
Minimum release load	10 pounds
Unit weight	5.75 pounds (2.6 kg.)
Mating electrical connector	PC06A8-2S SR

Theory of Operation

The primary elements of the Cargo Hook are the load beam, the internal mechanism, and a DC solenoid. The load beam supports the load and is latched through the internal mechanism. The DC solenoid and an external manual release cable provide the means for unlatching the load beam.

The load beam is normally returned to its closed position after release of the load by a spring in the internal mechanism. In the closed position, a latch engages the load beam and latches it in this position. The load is attached to the load beam by passing the cargo sling ring into the throat of the load beam past a spring-loaded keeper, which secures the load.

To release the load, the latch is disengaged from the load beam. With the latch disengaged, the weight of the load causes the load beam to swing to its open position and the cargo sling slides off the load beam. A spring in the internal mechanism then drives the load beam back to its closed and latched position.

A load release can be initiated by three different methods. Normal release is achieved by pilot actuation of the push-button switch in the cockpit. When the push-button switch is pressed, it energizes the DC solenoid in the Cargo Hook, and the solenoid opens the latch in the internal mechanism. In an emergency, release can be achieved by operating a mechanical release cable. The manual release cable operates the internal mechanism of the Cargo Hook to unlatch the load beam. The load can also be released by the actuation of a knob located on the side of the Cargo Hook.

Section 2
Installation Instructions

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.

Installation Instructions, H-Frame

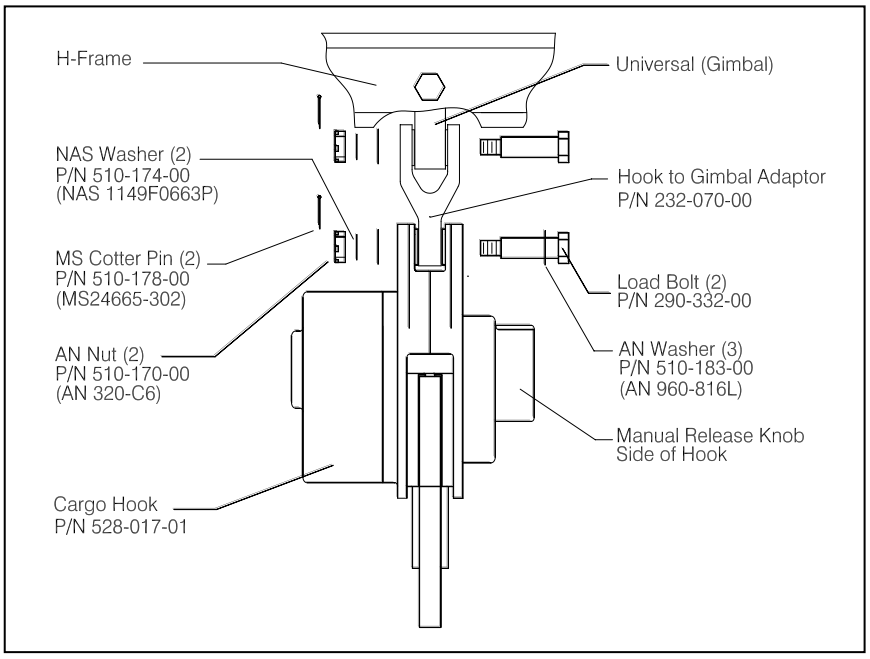
Cargo Hook Removal

Remove the old Cargo Hook from the aircraft by disconnecting the hook from the H-Frame universal (gimbal). Disconnect the manual and electrical release cables at the hook.

Hook to H-Frame Installation

Attach the new Cargo Hook to the Hook to Gimbal Adapter. The 232-070-00 Hook to Gimbal adapter is installed with the longer lower arm pointing to the rear of the hook. The interface tab on the adapter will prevent installation of the adapter in the opposite orientation. Attach the Hook to Gimbal adapter to the H-Frame Gimbal using the hardware supplied, as illustrated below. The cargo hook load beam tip should point forward.

Figure 2-1 Hook to H-Frame Installation



In two places, torque nut 510-170-00 on bolt 290-332-00 to 50 in-lb., then rotate nut to next castellation, not to exceed 110 in-lbs. Install and secure cotter pin 510-178-00.

Cargo Hook Installation, H-Frame, continued

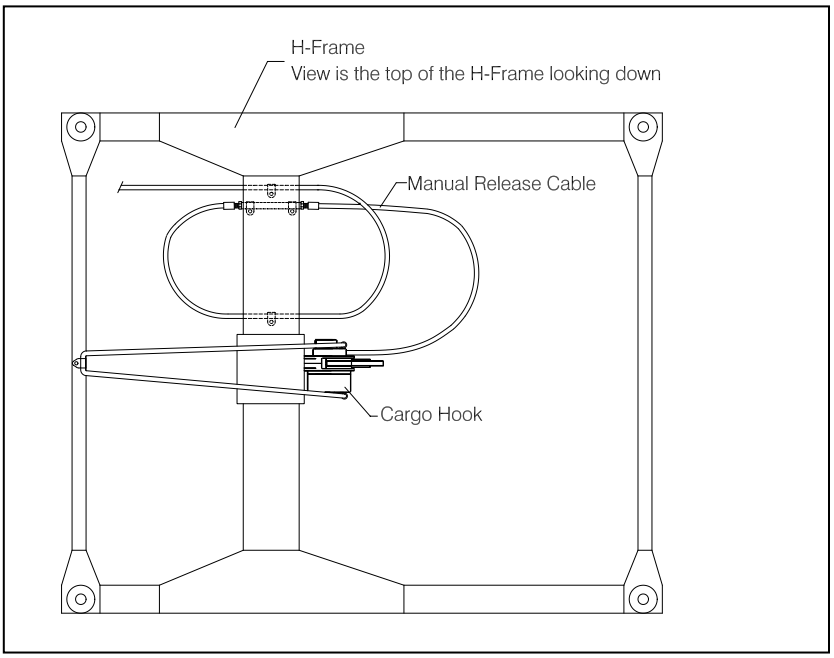
Manual Release Cable Installation

Locate the Manual Release Cable and hold downs as illustrated below. As various Load Cell configurations may be utilized the exact routing and position of the cable and hold downs should be determined upon installation. In determining the location make sure that the Cargo Hook is free to move in all possible direction without straining or kinking the Manual Release Cable, and that the bend radius of the mechanical release cable is as large as possible.

Because the new cargo hook provides additional ground clearance, use of the original bungee cord is optional. If needed, install the Bungee cord as illustrated below in figure 2-2 and figure 2-4.

Remove the manual release cover from the new Cargo Hook. Thread the Hook to Manual Release Adapter, P/N 290-426-00 into the new Cargo Hook. Connect the manual release cable to the Adapter. Place the cable ball end fitting into the hook manual release fork fitting as illustrated in Figure 2-3. Reinstall the cover assembly. Adjust the adapter to give .125" of free play as viewed through the window with the manual release knob in the non-release position. Tighten the jam nut against the hook and safety wire the manual release cable nut to the jam nut and to the cover screw.

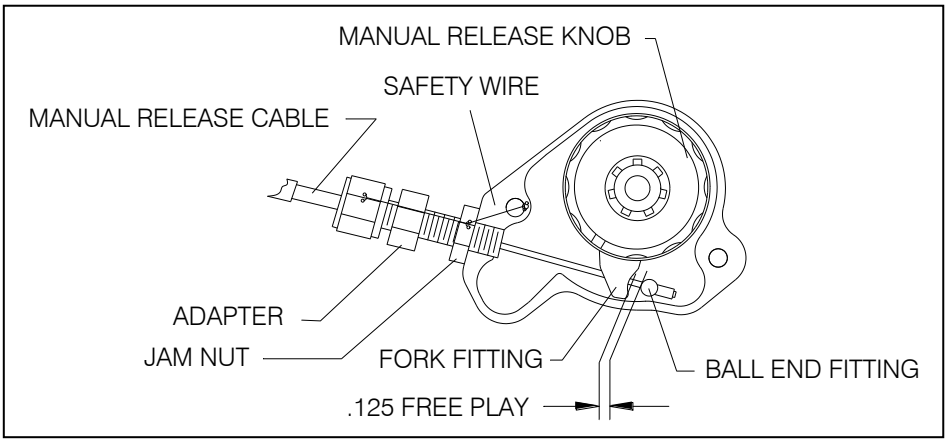
Figure 2-2 Manual Release Cable Rig



Cargo Hook Installation, H-Frame, continued

Manual Release Cable Installation, continued

Figure 2-3 Manual Release Cable Rig



Electrical Release Cable Installation

It will be necessary to replace the connector on the electrical release cable with the one supplied with the Cargo Hook Kit. Listed below is the pin out for the cargo hook connector.

Connect the cargo hook electrical release cable connector to the Cargo Hook and secure with safety wire.

Table 2-1 Cargo Hook Connector

Pin	*Function*
A	Ground
B	Power

CAUTION

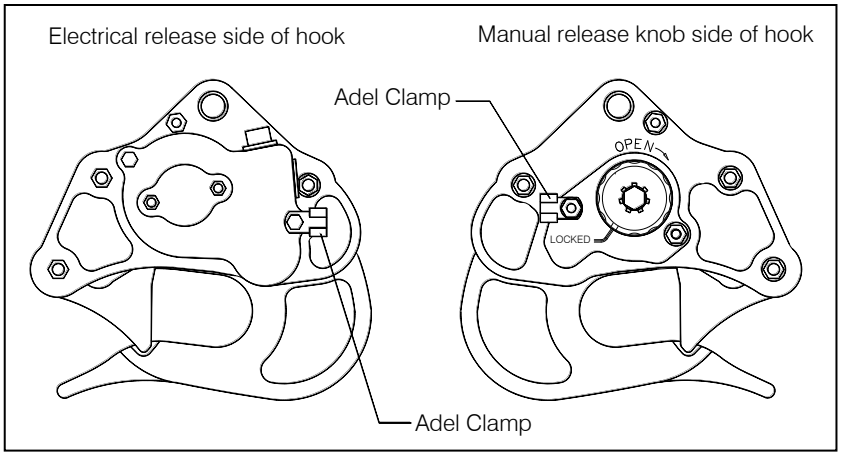
The Cargo Hook is equipped with a suppression diode that will be damaged if the Cargo Hook electrical connections are reversed. Do not attach the electrical connector until the polarity of the aircraft connector is determined to be compatible with the Cargo Hook connector listed in Table 2-1.

Cargo Hook Installation, H-Frame, continued

Adel Clamp Installation

Re-use of the bungee cord, used to secure the cargo hook, is optional. The new cargo hook provides additional ground clearance making its use unnecessary in most conditions. If the bungee cord is to be used secure the 2 supplied adel clamps, P/N 512-005-00, to the cargo hook bolts as illustrated. Safety wire the bolts.

Figure 2-4 Adel Clamp Installation



Installation Instructions, Swing Frame

Cargo Hook Removal

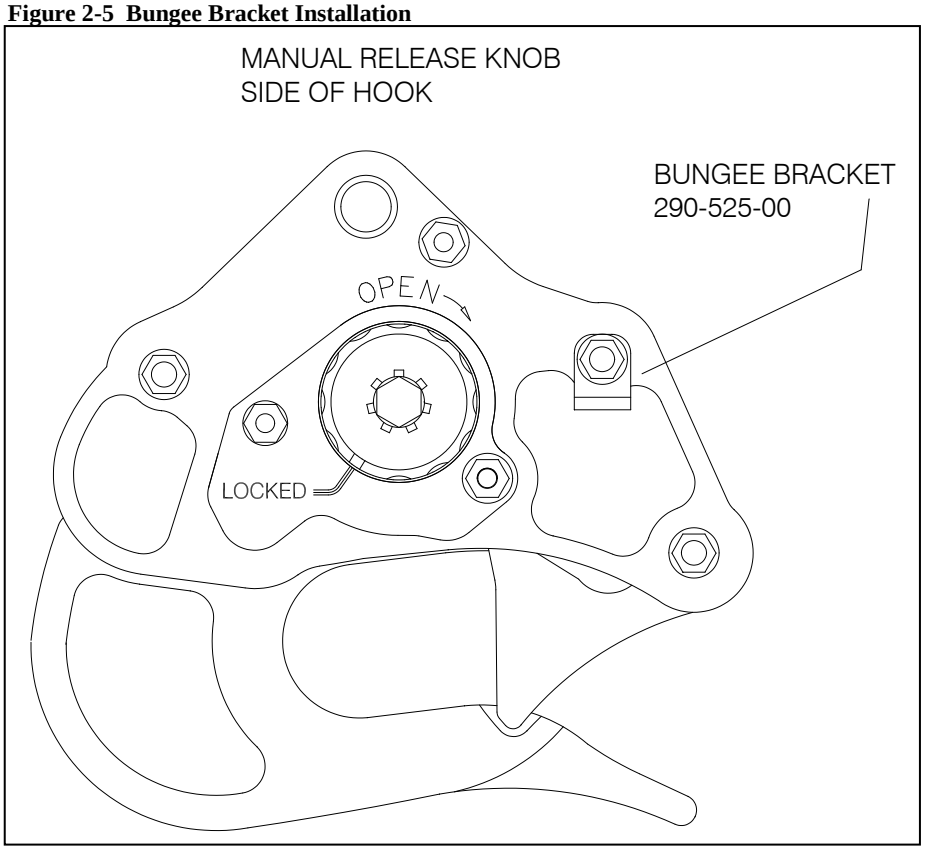
Remove the old Cargo Hook from the aircraft by disconnecting the hook from the Gimbal Joint and the manual and electrical release cables.

Inspect the Gimbal and attaching hardware to insure that they are in serviceable condition.

Bungee Bracket Installation

Re-use of the Bungee cord, used to secure the cargo hook is optional. The new cargo hook provides additional ground clearance, making the bungee cords use unnecessary in most conditions. If the bungee cord is to be used, attach the 290-525-00 Bungee Bracket as illustrated. Remove the frame nut and washer **without removing the bolt.** Install the 290-525-00 Bungee Bracket and retorque the nut, it is not necessary to re-use the washer. The Bungee Bracket will be used to attach the cargo hook to the bungee cord.

Figure 2-5 Bungee Bracket Installation

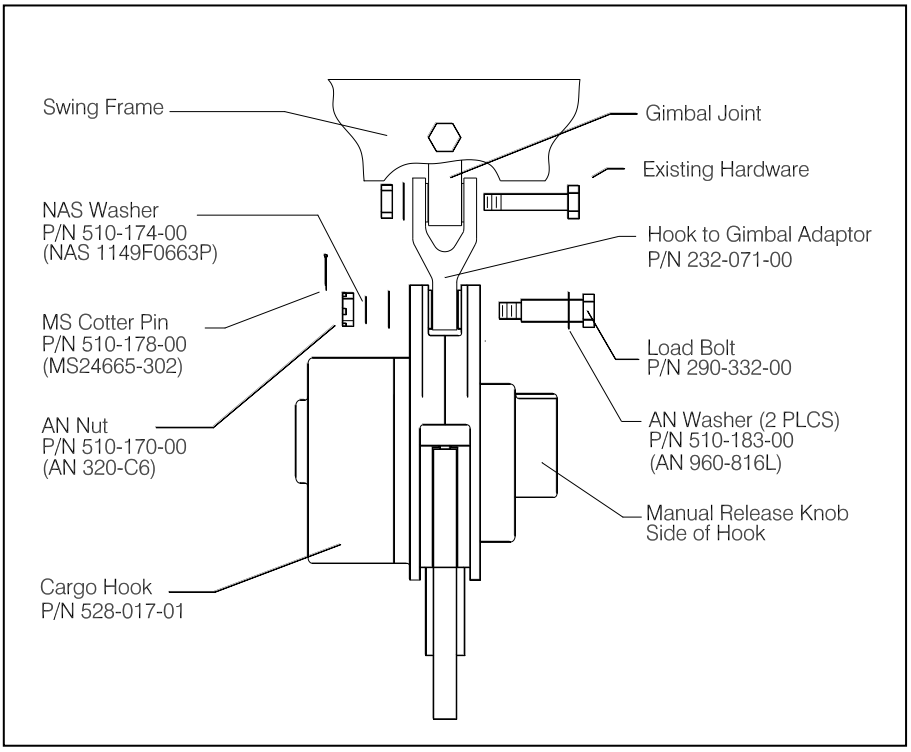


Cargo Hook Installation, Swing Frame, continued

Hook to Gimbal Joint Installation

Inspect the swing assembly components to insure that they are in serviceable condition. Attach the new Cargo Hook to the Gimbal Adapter. The 232-071-00 Gimbal adapter is installed on the cargo hook with the longer lower arm pointing to the rear of the hook. The hook interface tab on the adapter will prevent installation of the adapter in the opposite orientation. Attach the cargo hook and Gimbal adapter to the Swing Frame Gimbal, using existing hardware and the hardware supplied as illustrated below. The cargo hook load beam should point aft.

Figure 2-6 Hook to Gimbal Installation



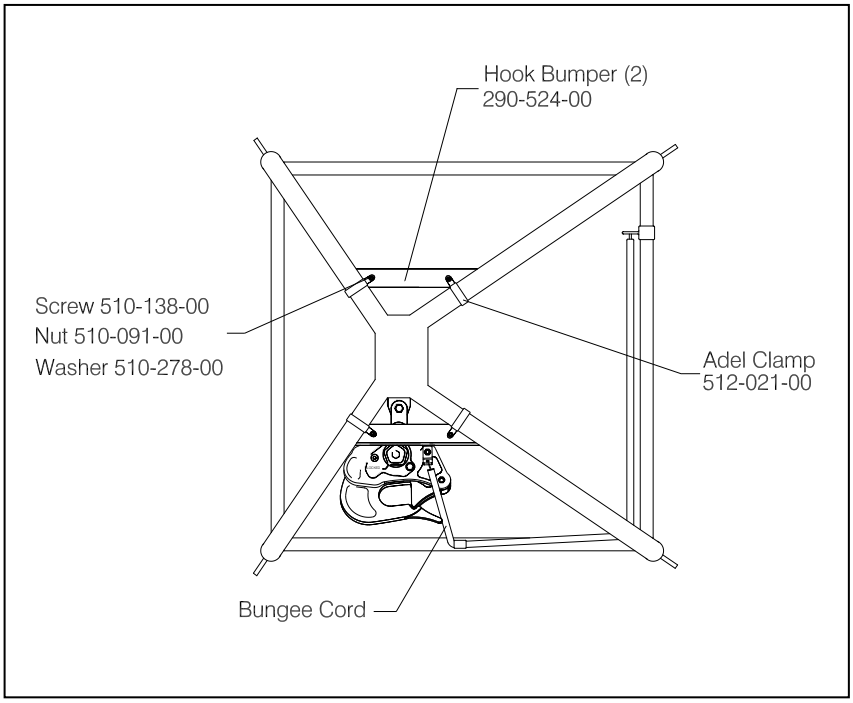
In two places, torque nut 510-170-00 on bolt 290-332-00 to 50 in-lb., then rotate nut to next castellation, not to exceed 110 in-lbs. Install and secure cotter pin 510-178-00.

Cargo Hook Installation, Swing Frame, continued

Hook Bumper Installation

Attach the two Hook Bumpers to the Swing Frame, as illustrated using the hardware provided. Do not use the new hook without the Hook Bumpers as they protect the manual release fitting and the electrical release connector from damage when the hook swings about.

Figure 2-7 Hook Bumper Installation



Bungee Installation

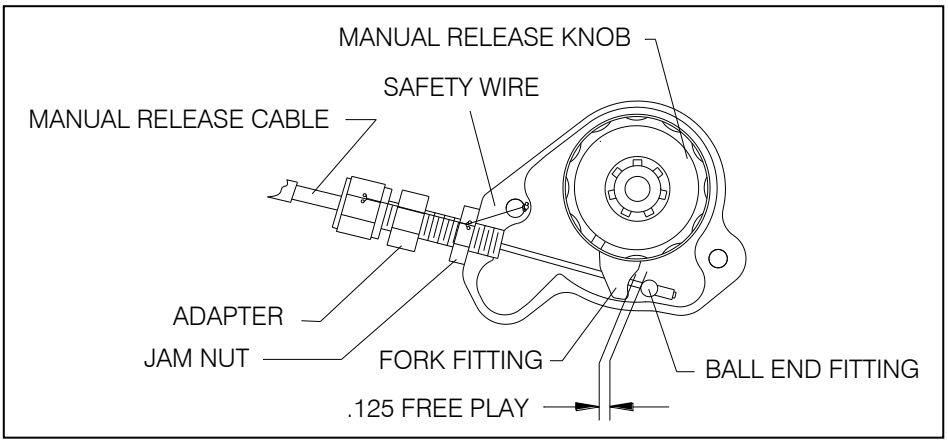
Attach the bungee hook to the bungee bracket on the cargo hook.

Cargo Hook Installation, Swing Frame, continued

Manual Release Cable Installation

Remove the manual release cover from the new Cargo Hook. Thread the Hook to Manual Release Adapter, P/N 290-532-00 into the new Cargo Hook. Connect the manual release cable to the Adapter. Place the cable ball end fitting into the hook manual release fork fitting as illustrated in Figure 2-8. Reinstall the cover assembly. Adjust the cable to give .125" of free play with the manual release knob in the non-release position.

Figure 2-8 Manual Release Cable Rig



Electrical Release Cable Installation

It will be necessary to replace the connector on the electrical release cable with the one supplied with the Cargo Hook Kit. Listed below is the pin out for the cargo hook connector and corresponding Aerospatiale wire numbers.

Wire NM10T4 is for a hook open indicator light. The P/N 528-017-01 Cargo Hook does not have a hook open switch. Insulate and secure the end of this wire. If hook open indication is desired, contact the factory as this feature can be added to the P/N 528-017-01 Cargo Hook.

Connect the cargo hook electrical release cable connector to the Cargo Hook and secure with safety wire.

Table 2-2 Cargo Hook Connector

Pin	*Function*	*Wire No.*
A	Ground	NM10T5
B	Power	MM3T5

Electrical Release Cable Installation , continued

CAUTION

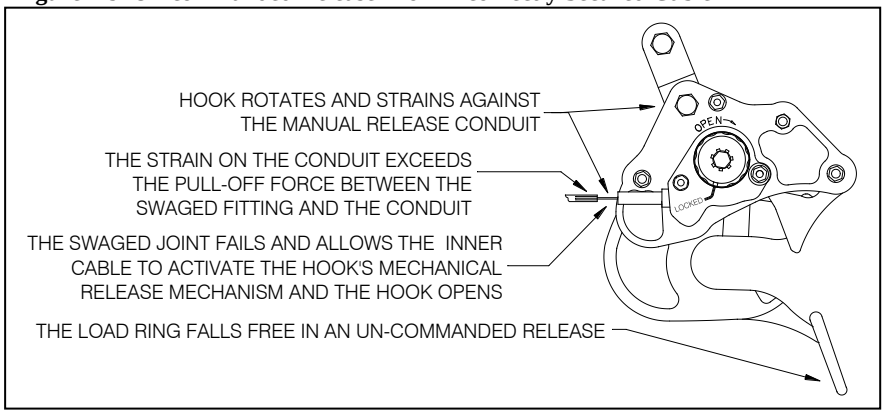
The Cargo Hook is equipped with a suppression diode that will be damaged if the Cargo Hook electrical connections are reversed. Do not attach the electrical connector until the polarity of the aircraft connector is determined to be compatible with the Cargo Hook connector listed in Table 2-2.

Installation Warning for both installations

WARNING

Un-commanded cargo hook release will happen if the manual and electrical release cables are improperly restrained. The cables must not be the stops that prevent the Cargo Hook from swinging freely in all directions. If the Cargo Hook loads cause the hook to strain against 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 combination of collective or Cargo Hook position is restrained by the manual or electrical release cables.

Figure 2-9 Un-commanded Release From Incorrectly Secured Cable



Installation Check-Out

After installation of the Cargo Hook, perform the following functional checks.

1. Swing the installed Cargo Hook to ensure that the manual release cable assembly and the electrical release cable have enough slack to allow full swing of the suspension assembly without straining or damaging the cables. The cables must not be the stops that prevent the Cargo Hook from swinging freely in all directions.

2. Apply 10-20 pounds to the cargo hook load beam and pull the handle operated cargo hook mechanical release, the Cargo Hook should release.

3. Close the cargo hook release circuit breaker and position the battery switch to the ON position. Apply 10-20 pounds to the cargo hook load beam and depress the cargo hook electrical release button, the Cargo Hook should release.

4. See all service instructions for your specific helicopter model for additional installation instructions.

Component Weights

The weight of the cargo hook components are listed in Table 2-3.

Table 2-3 Component Weights

Item	Weight in Pounds
Cargo Hook	5.75
Cargo Hook Adaptor	.68

Paper Work

Remove the Flight Manual Supplement from the back of this manual and place it into the Rotorcraft Flight Manual. In the US, fill in FAA form 337 for the initial installation. This procedure may vary in different countries. Make the appropriate aircraft log book entry.

Section 3

Operation Instructions

Operating Procedures

Prior to each job perform the following:

1. Ensure that the Cargo Hook has been properly installed and that the manual and electrical release cables do not limit the movement of the hook.

2. Be completely familiar with this manual, particularly the Cargo Hook rigging section.

3. Be completely familiar with all the aircrafts Cargo Hook operating instructions.

4. Activate the electrical system and press the release button to ensure the cargo hook electrical release is operating correctly. The Cargo Hook must relatch after release. If the hook does not relatch do not use the unit until the difficulty is resolved.

NOTE

The release solenoid is intended to be energized only intermittently. Depressing the electrical release button continuously in excess of 20 sec. will cause the release solenoid to overheat, possibly causing permanent damage

5. Activate the manual release lever in the cockpit to test the cargo hook manual release mechanism. The mechanism should operate smoothly and the Cargo Hook must relatch after release. If the hook does not relatch do not use the unit until the difficulty is resolved.

See the trouble shooting table in Section 4 and the aircraft service instructions that cover the original Cargo Hook installation for additional instructions.

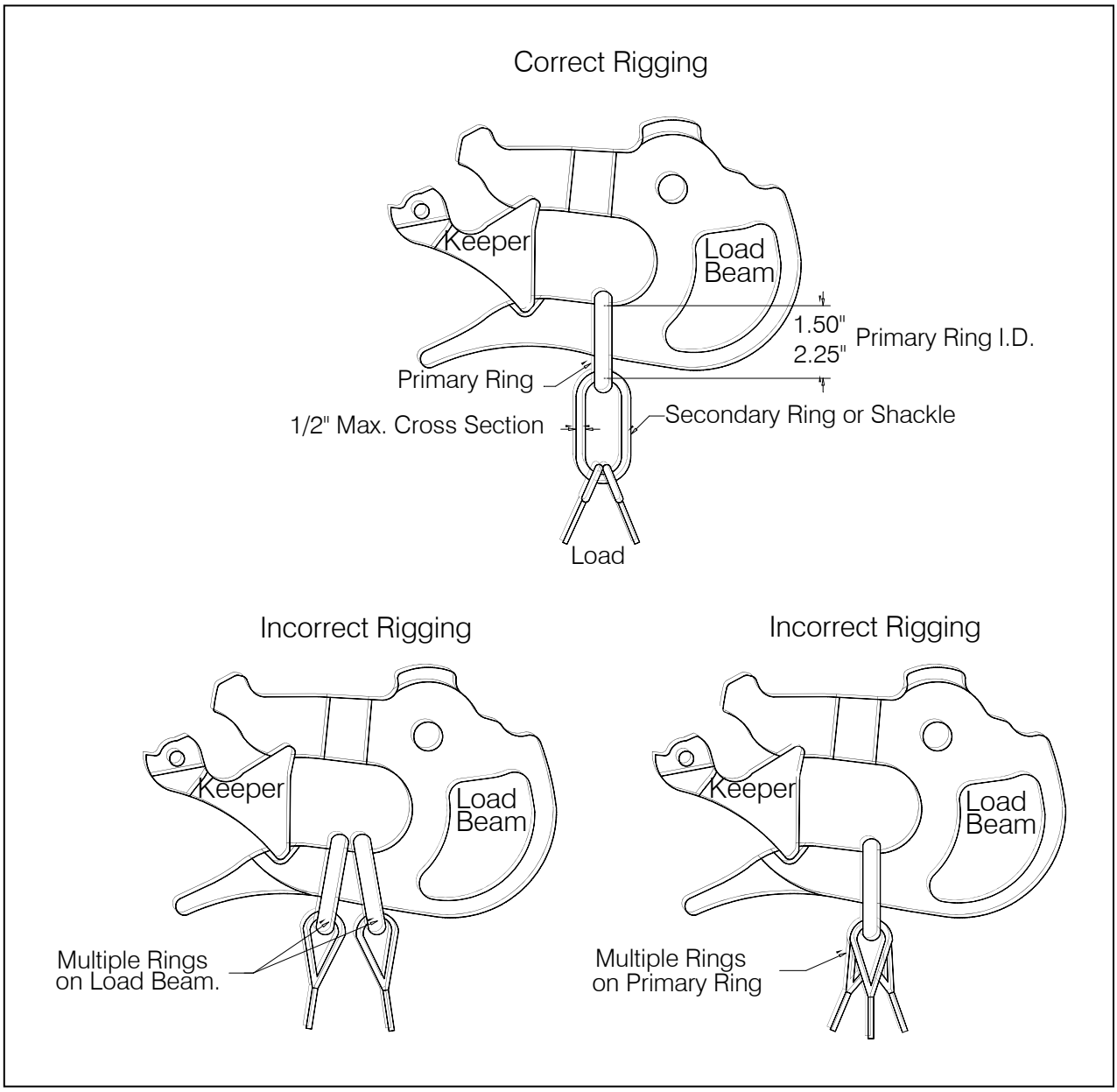
Cargo Hook Rigging

Extreme care must be exercised in rigging a load to the Cargo Hook. If the load ring is too big it may work its way around the end of the load beam and be supported for a time on the keeper and then fall free. If the load ring is too small it may jam itself against the load beam during an attempted release. The following illustrations show recommended configurations and potential difficulties that must be avoided.

The examples shown are not intended to represent all problem possibilities. It is the responsibility of the operator to assure the hook will function properly with the rigging.

Cargo Hook Rigging, continued

Figure 3-1 Examples of Correct and Incorrect Cargo Hook Rigging

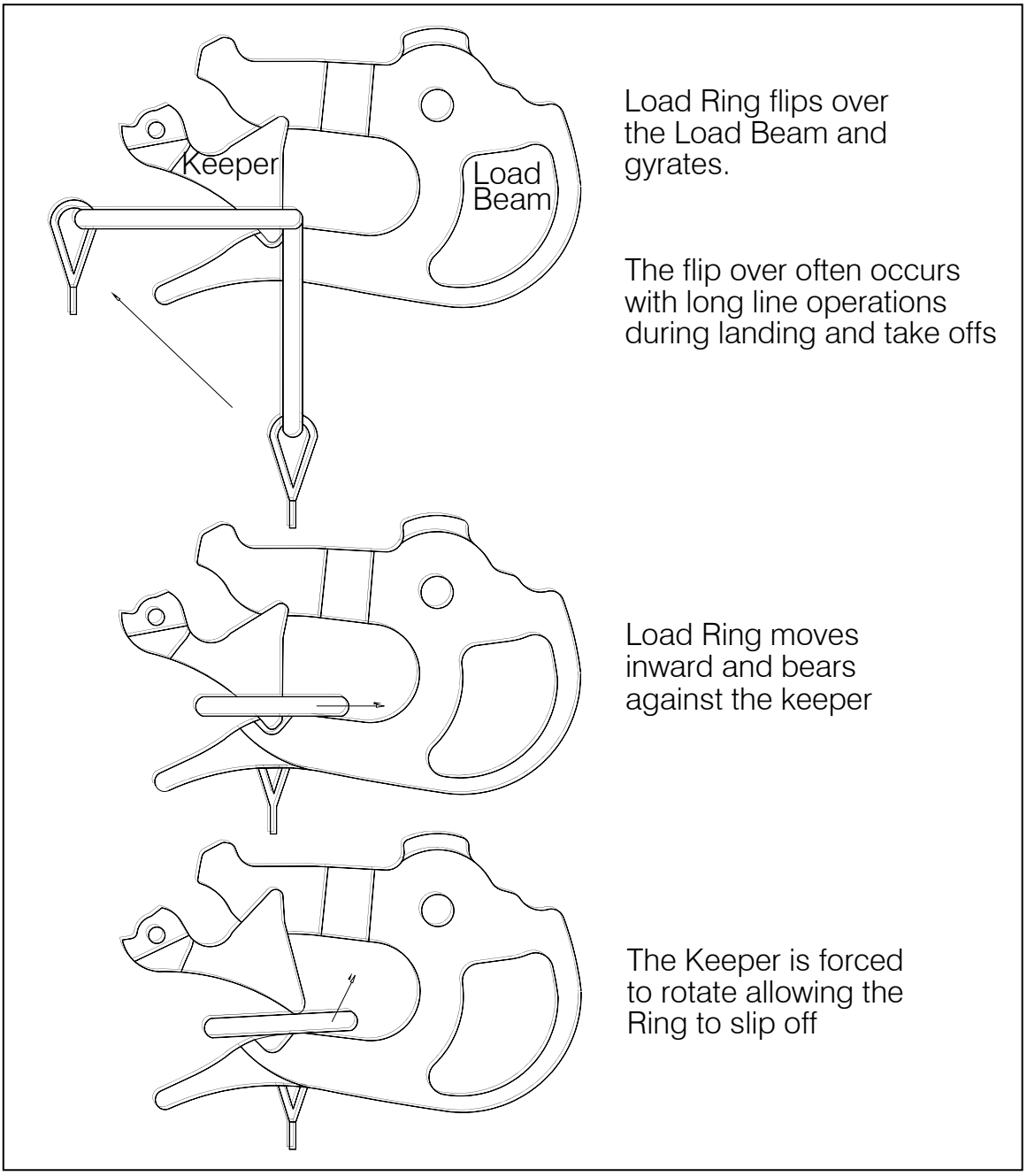


Un-Commanded Release Due to Too Large of a Load Ring

WARNING

Load rings that are too large will cause an un-commanded release. The ring will flip over the end of the load beam and flip the keeper up and then fall free. Only correctly sized load rings must be used. See examples below.

Figure 3-2 Un-Commanded Release Due to Too Large of a Load Ring

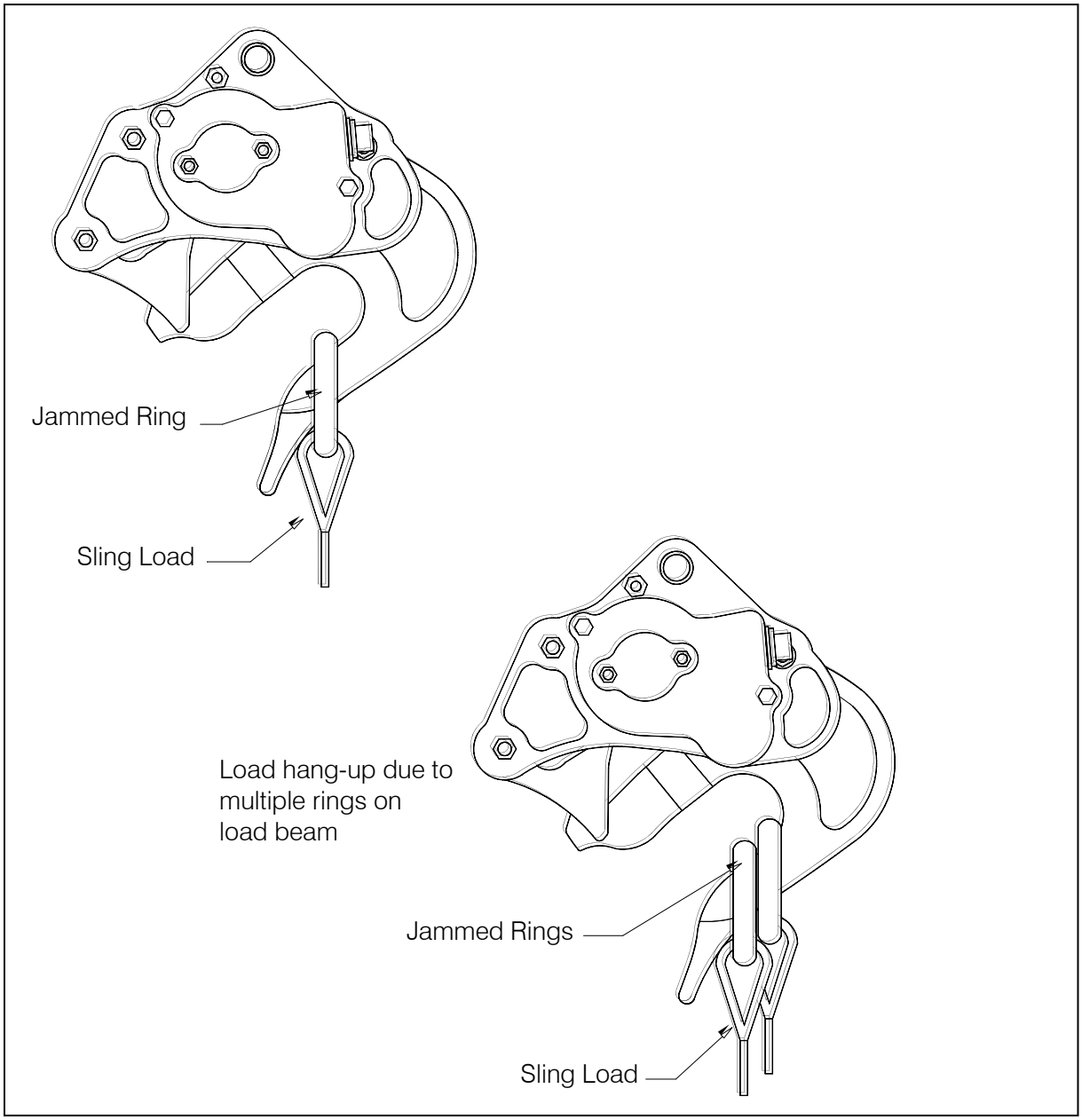


Load Hang-Up Due to Too Small of a Load Ring or Multiple Load Rings

WARNING

Load rings that are too small or multiple load rings will hang on the load beam when the load is released. Only correctly sized load rings must be used. See examples below.

Figure 3-3 Load Hang-Up Due to Too Small a Load Ring or Multiple Load Rings

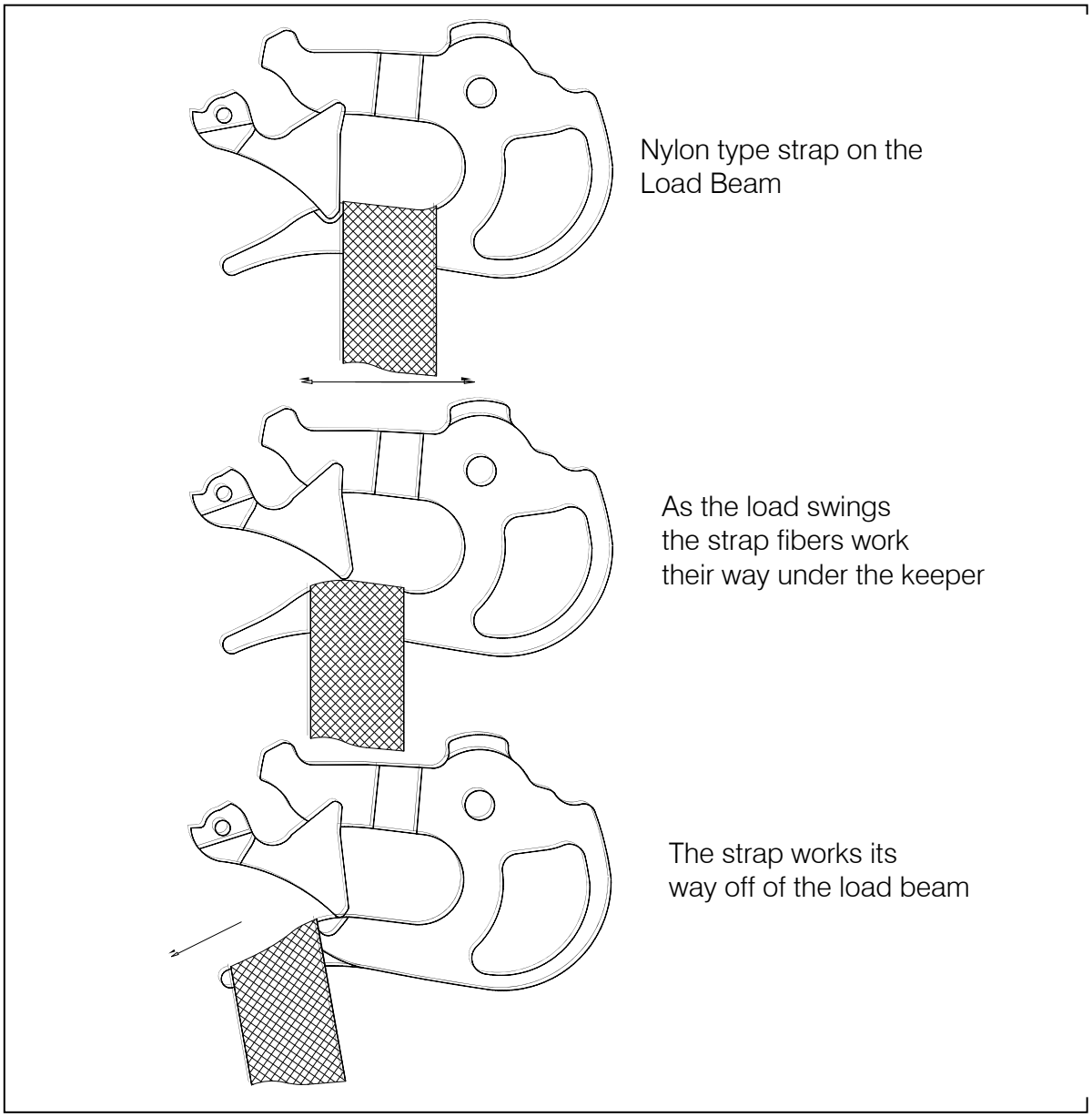


Un-Commanded Release Due to Nylon Type Straps

WARNING

Nylon type straps (or similar material) must not be used directly on the cargo hook load beam as they have a tendency to creep under the keeper and fall free. If nylon straps must be used they should be first attached to a correctly sized primary ring. Only the primary ring should be in contact with the cargo hook load beam. See examples below.

Figure 3-4 Un-Commanded Release Due to Nylon Type Straps

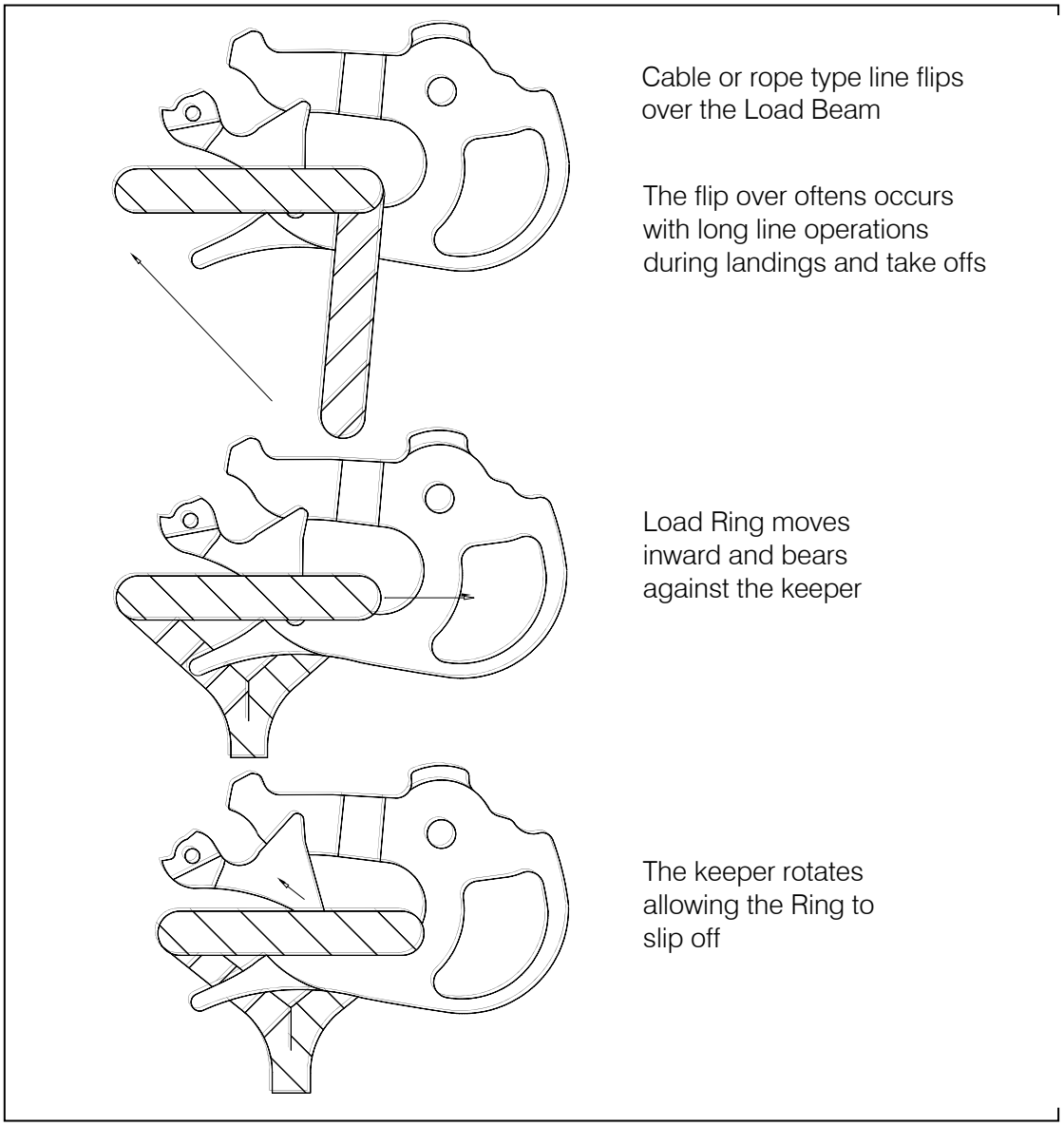


Un-Commanded Release Due to Cable or Rope Type Straps

WARNING

Cable or rope type straps must not be used directly on the cargo hook load beam. Their braided eyes will work around the end of the load beam and fall free. If cable or rope is used they should be first attached to a correctly sized primary ring. Only the primary ring should be in contact with the cargo hook load beam. See examples below.

Figure 3-5 Un-Commanded Release Due to Cable or Rope Type Straps



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Section 4
Maintenance

Refer to Cargo Hook Service Manual 122-003-00 for detailed maintenance information.

Inspection

The inspection of the Cargo Hook Kit shall be in accordance with the table 4-1 shown below.

Table 4-1 Inspection

Part Number	Daily Check	At Overhaul Interval*
528-017-01 Cargo Hook	Refer to Service Manual 122-003-00.	Refer to Service Manual 122-003-00.
232-070-00 232-071-00 Gimbal Adapter	Check for security of attachment, fasteners, excessive wear or cracks. Replace if cracks are found.	Inspect to the requirements of the Adapter Overhaul section below. Overhaul at the same interval as the Cargo Hook.
Threaded parts	Visually check for presence and security of fasteners.	Replace

* Refer to Service Manual 122-003-00 for overhaul interval for the Cargo Hook.

Adapter Overhaul

Inspect the Adapter Link per the following instructions at overhaul:

- Visually inspect the adapter link for dents, gouges, corrosion and other damage. Repair dents, gouges, nicks, scratches and corrosion if less than .030" deep, blend out at a ratio of 20:1, length to depth, replace if otherwise damaged.
- Inspect the bushing and bearing surfaces for wear and corrosion. Pitting, corrosion or excessive wear is cause for rejection. Maximum permissible bushing clearance is .010" on diameter.
- Perform Magnetic Particle Inspection on Adapter 232-070-00 (or 232-071-00) in accordance with ASTM E-1444 and MIL-STD-1907, Grade A. No cracks are permitted.

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 an RMA number before shipping your return.

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

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

Section 5
Certification

FAA STC

United States of America
Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number **SR00765SE**

This certificate, issued to **Onboard Systems**
13915 NW 3rd Court
Vancouver, WA 98685

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 6 *of the* Civil Air *Regulations.*

Original Product—Type Certificate Number: H1IN
Make: Eurocopter
Model: SA.315B

Description of the Type Design Change: Fabrication of Onboard Systems Model 200-239-00 (H-frame) or 200-240-00 (frame swing) cargo hook kit in accordance with FAA Approved Onboard Systems Master Drawing List No. 155-044-00, Revision 2, dated October 5, 2000, or later FAA approved revision; and installation of this cargo hook kit in accordance with FAA approved Onboard Systems Owner's Manual No. 120-079-00, Revision 3, dated June 14, 2000, or later FAA approved revision. Inspect this cargo hook in accordance with Onboard Systems Owner's Manual No. 120-079-00, Revision 3, dated June 14, 2000, and Service Manual No. 122-003-00, Revision 0, dated June 14, 2000, or later FAA approved revision.

Limitations and Conditions: Approval of this change in type design applies only to those Eurocopter Model SA.315B rotorcraft, which were previously equipped with an FAA approved installation of a Siren Model A90B hook or those modified by the installation of a Breeze Eastern P/N 14027-4 hook per STC No. SH1735SW. This approval should not be extended to rotorcraft of this model on which other previously approved modifications are incorporated unless it is determined by the installer that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that rotorcraft. Modified rotorcraft must be operated in accordance with an FAA approved copy of Onboard Rotorcraft Flight Manual Supplement (RFMS) No. 120-079-00, dated December 29, 1999, or later FAA approved revision. A copy of this Certificate, FAA approved RFMS, and Owner's and Service Manuals, must be maintained as part of the permanent records of the modified rotorcraft.

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

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 24, 1999
Date of issuance: December 29, 1999
Date reissued:
Date amended: May 21, 2001; January 13, 2003

By direction of the Administrator

(Signature)

Manager, Seattle Aircraft
Certification Office
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

FAA FORM 8110-2(10-68)

Canadian STC

Transport Canada / Transports Canada
Aviation / Aviation

Aircraft Certification Branch
620 - 800 Burrard Street
Vancouver, BC V6Z 2J8

Your file *Votre référence*
00-190S-84
Our file *Notre référence*
P-00-0092

January 2, 2001

Onboard Systems
11212 NW St. Helens Road
Portland
USA OR 97231

Attention : Mr. Mark Lemmon

Subject: Acceptance of Foreign STC SR00765SE

This is in response to your letter dated January 13, 2000, requesting Transport Canada approval of the subject STC.

In accordance with our current policy associated with the review of foreign STCs, some STCs applicable to certain categories of aircraft may be accepted solely on the basis of their foreign certification, and do not require the issue of a corresponding certificate by Transport Canada. The subject STC falls within these criteria.

This STC will be entered in the national index of STCs that have been reviewed and accepted by Transport Canada for installation on Canadian-registered aeronautical products.

This letter confirms formal acceptance of the referenced STC by Transport Canada.

Yours truly,

H. W. Wong
for
Regional Manager, Aircraft Certification

cc: Mr. Ali Bahrami
FAA Seattle ACO

Canada

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FAA APPROVED

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

Lama Helicopter Model SA315B

R/N _____ **S/N** _____

FAA Approved: Jeffrey A. Morfitt
for Manager, Special Certification Branch
Seattle Aircraft Certification Office

Date: DEC 29 1999
Revised:

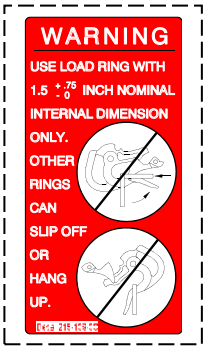
INTRODUCTION

This supplement must be attached to the appropriate approved Rotorcraft Flight Manual when an Onboard Systems 200-239-00 or 200-240-00 Cargo Hook Kit is installed in accordance with Supplemental Type Certificate (STC) NO. SR00765SE. The information contained herein supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures and performance information not contained in this supplement, consult the basic Rotorcraft Flight Manual and applicable supplements.

I. LIMITATIONS

The basic Flight Manual remains applicable. When an Onboard Systems 200-239-00 or 200-240-00 Cargo Hook Kit is installed, the following placard applies:

- Mounted on bottom of Cargo Hook.



II. PERFORMANCE

The basic Flight Manual and Rotorcraft Flight Manual Supplement – Transport of external loads remains applicable.

III. PROCEDURES

Before each Cargo Hook use perform the following procedures. If the procedures are not successful do not use the equipment until the problem has been corrected.

Inspect all mounting fasteners to ensure that they are tight.
Visually inspect the electrical connector for loose or damaged pins and sockets.
Operate the keeper manually and check that it snaps back to its normal position on the load beam.
Inspect the case and covers for cracks and damage.
Inspect the load beam for gouges and cracks.
Cycle the manual release mechanisms to ensure proper operation.
Cycle the electrical release mechanisms to ensure proper operation.

III. PROCEDURES, continued

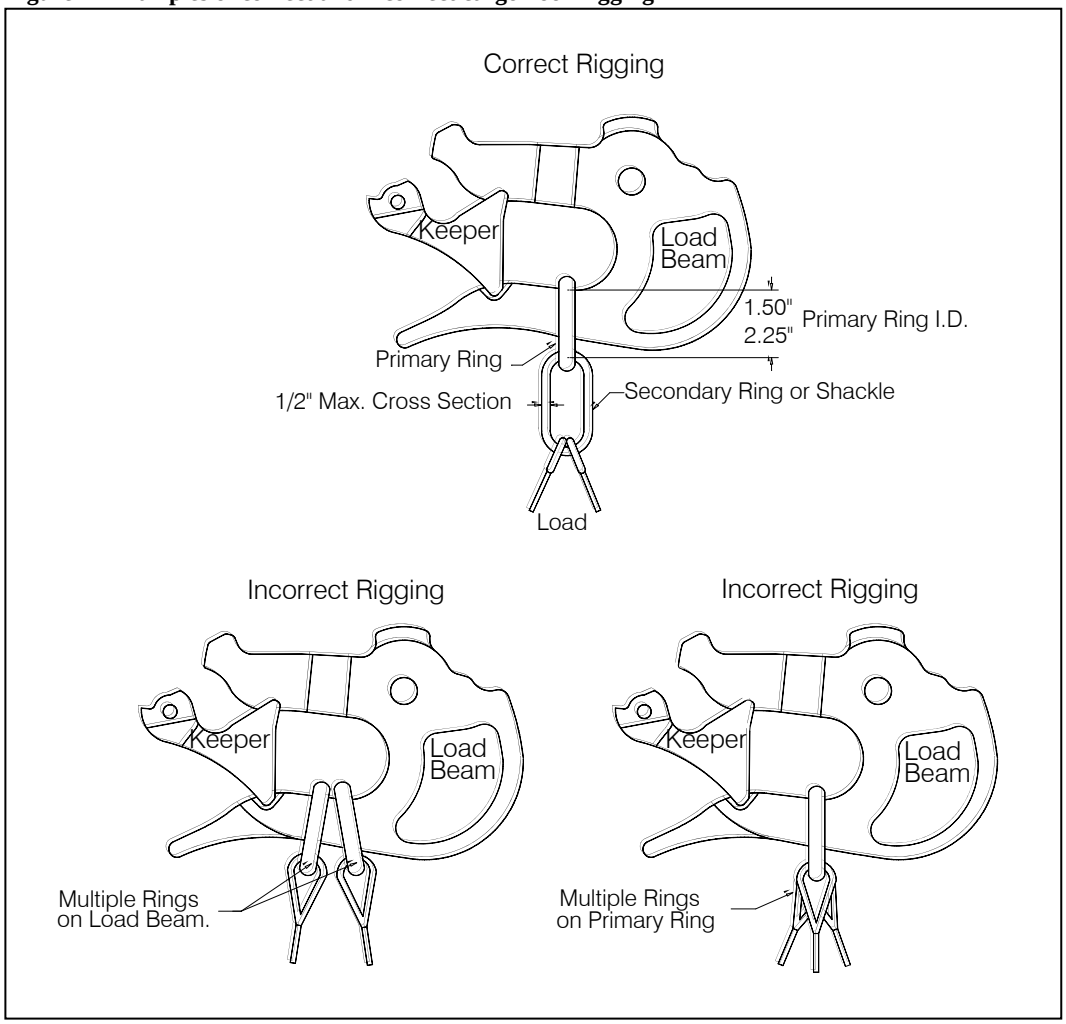
Charge Larguee (load released) light when Onboard Hook Kit 200-240-00 is installed on a swing type suspension system. The load released light will be inoperative. Disregard references to this light in the Flight Manual Supplement – Transport of external loads.

Cargo Hook Rigging

Extreme care must be exercised in rigging a load to the Cargo Hook. If the load ring is too big it may work its way around the end of the load beam and be supported for a time on the keeper and then fall free. If the load ring is too small it may jam itself against the load beam during an attempted release. The following illustrations show recommended configurations and potential difficulties that must be avoided.

WARNING: The examples shown are not intended to represent all problem possibilities. It is the responsibility of the operator to assure the hook will function properly with the rigging.

Figure 1 Examples of correct and incorrect cargo hook rigging

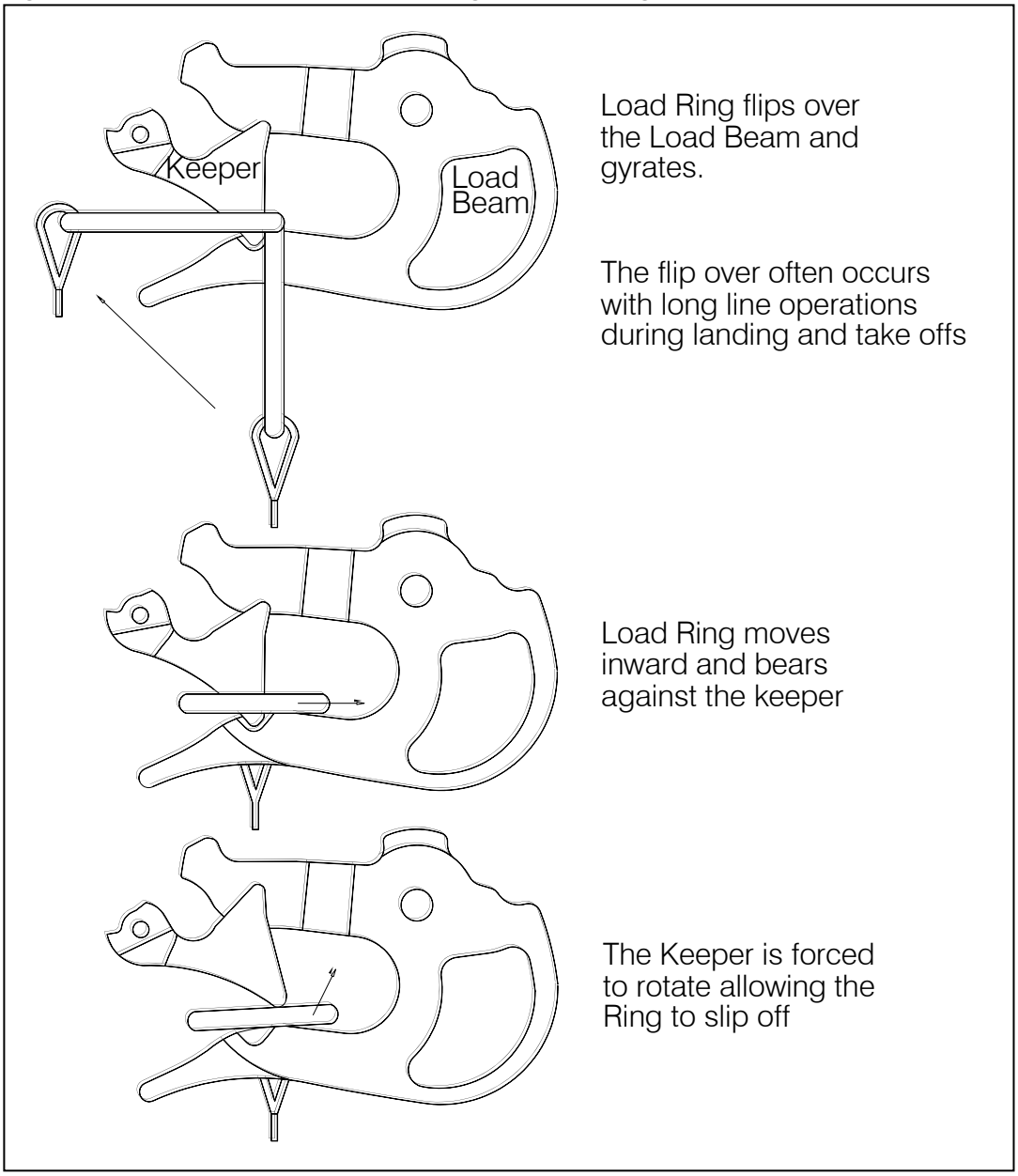


III. PROCEDURES, continued

Un-Commanded Release Due to Too Large of a Load Ring

WARNING: Load rings that are too large will cause an un-commanded release. The ring will flip over the end of the load beam and flip the keeper up and then fall free. Only correctly sized load rings must be used. See examples below.

Figure 2 Un-commanded release due to load rings that are too large

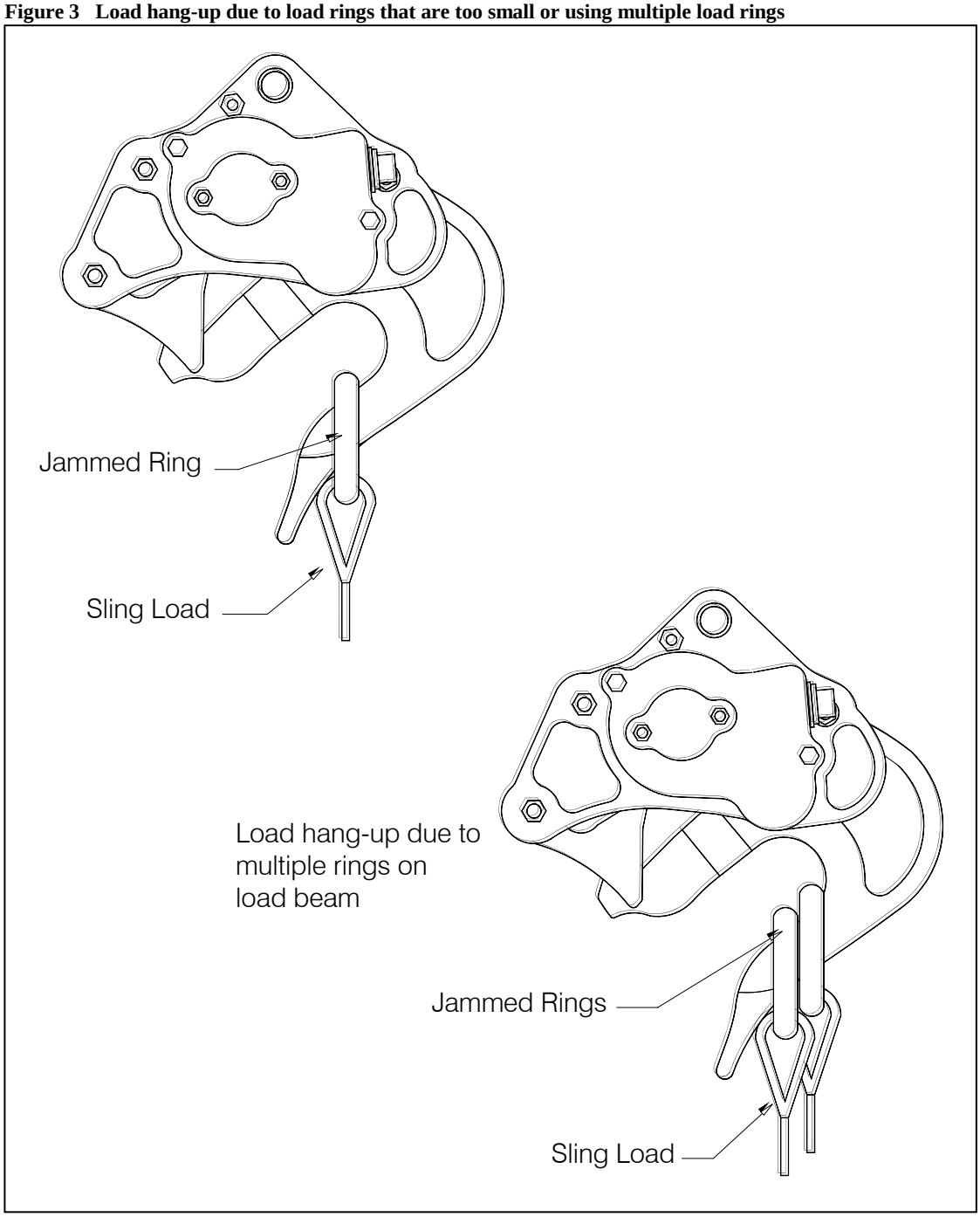


III. PROCEDURES, continued

Load Hang-Up Due to Too Small of a Load Ring or Multiple Load Rings

WARNING: Load rings that are too small or multiple load rings will hang on the load beam when the load is released. Only correctly sized load rings must be used. See examples below.

Figure 3 Load hang-up due to load rings that are too small or using multiple load rings

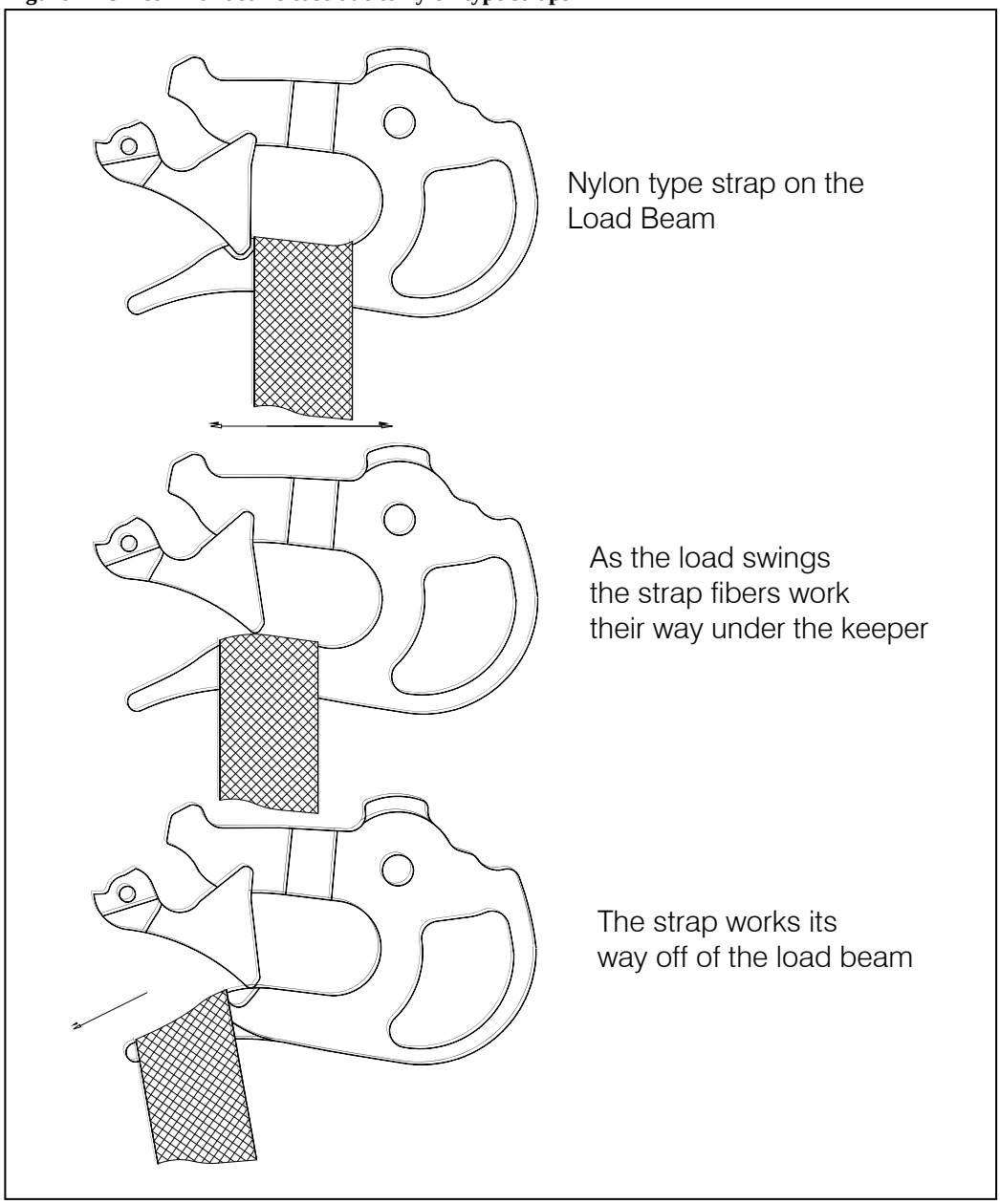


III. PROCEDURES, continued

Un-Commanded Release Due to Nylon Type Straps

WARNING: Nylon type straps (or similar material) must not be used directly on the cargo hook load beam as they have a tendency to creep under the keeper and fall free. If nylon straps must be used they should first be attached to a correctly sized primary ring. Only the primary ring should be in contact with the cargo hook load beam. See examples below.

Figure 4 Un-commanded release due to nylon type straps



III. PROCEDURES, continued

Un-Commanded Release Due to Cable or Rope Type Straps

WARNING: Cable or rope type straps must not be used directly on the cargo hook load beam. Their braided eyes will work around the end of the load beam and fall free. If cable or rope is used they should first be attached to a correctly sized primary ring. Only the primary ring should be in contact with the cargo hook load beam. See examples below.

Figure 5 Un-commanded release due to cable or rope type straps