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**Component
Maintenance Manual
For
Link Bumper Assembly
P/N 232-149-00**

*Component Maintenance Manual Number
122-009-00
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Record of Revisions

<i>Revision</i>	<i>Date</i>	<i>Page(s)</i>	<i>Reason for Revision</i>
0	05-06-03	All	Original issue.
1	02-25-04	1-1, 2-2, 2-3	Deleted reference to cargo hook part number. Updated Figure 2-1.

Mod No.	Description of Mod	Effectivity

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Section 1

General Information

Introduction

The P/N 232-149-00 Link Bumper Assembly kit is designed to provide a structural connection between the Onboard Systems cargo hook and the load cell on the Eurocopter Swing Suspension System. It also features a plastic bumper ring that protects the hook and cables from damage caused by hitting the swing frame.

The Eurocopter supplied load cell on the swing frame is designed to interface with a Siren rotating hook. Since the attach lug geometry is different on the Onboard Systems hook, this kit is required to allow the Onboard hook to be attached to the Eurocopter load cell.

Specifications

Table 1-1 P/N 232-149-00 Link Bumper Assembly Specifications

Design load	3,500 lbs. (1,580 kg.)
Design ultimate strength	13,125 lbs. (5,953 kg.)
Unit weight	1.0 pounds (0.45 kg.)

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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.

Cargo Hook Removal

This instruction is written under the assumption that a complete Eurocopter swing suspension system is already installed on the aircraft. If the hook is not present on the aircraft proceed to the next instruction.

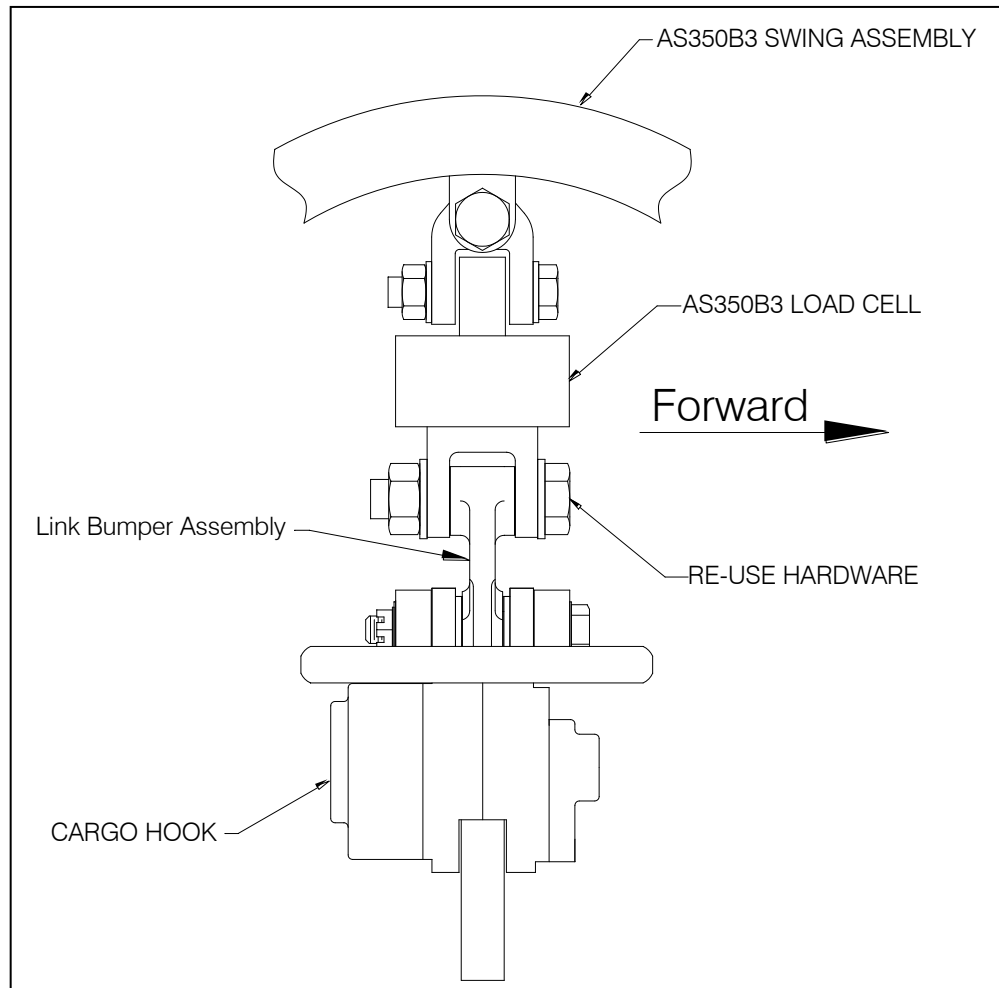
Remove the existing cargo hook and manual release cable from the helicopter by disconnecting the hook from the load cell on the swing suspension and the manual release cable at the fitting on the belly of the aircraft. Note the routing of the manual release cable through the suspension frame to the hook (the Manual Release Adapter Cable, P/N 268-024-00, will be routed the same way). Disconnect the electrical release cable at the hook.

Cargo Hook Installation

Inspect the swing assembly components to insure that they are in serviceable condition.

1. Attach the new Link Bumper assembly to the load cell, re-using the Eurocopter hardware. The cargo hook load beam should point to the left side of the aircraft. Note that the link is not symmetrical and must be oriented the correct direction.

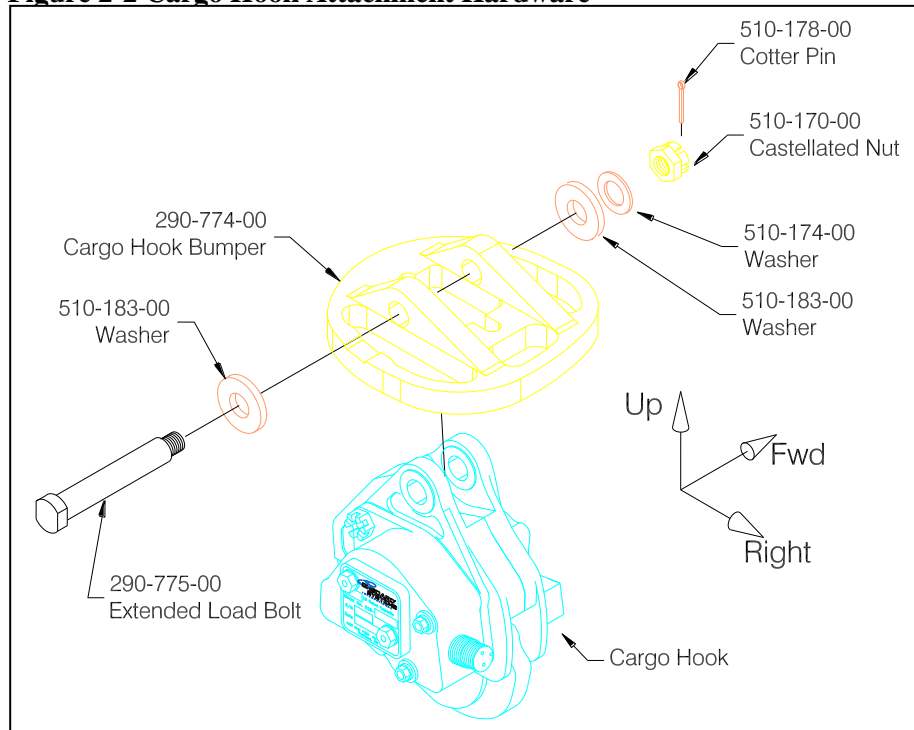
Figure 2-1 Swing Mount Cargo Hook Installation Assembly



Cargo Hook Installation *Continued*

2. Attach the Cargo Hook and Cargo Hook Bumper (P/N 290-773-00) to the Adapter Link on the suspension system with the Extended Load Bolt (P/N 290-775-00) and washer (P/N 510-183-00) as illustrated in Figure 2-2. Lubricate bolt and bushing in Adapter Link with MIL-G-23827 grease.
3. Install washer (P/N 510-183-00) and washer (P/N 510-174-00) over bolt end.
4. Torque nut P/N 510-170-00 on the Extended Load Bolt to 50 in-lb., then rotate nut to next castellation, not to exceed 110 in-lbs. Install and secure cotter pin (P/N 510-178-00).

Figure 2-2 Cargo Hook Attachment Hardware

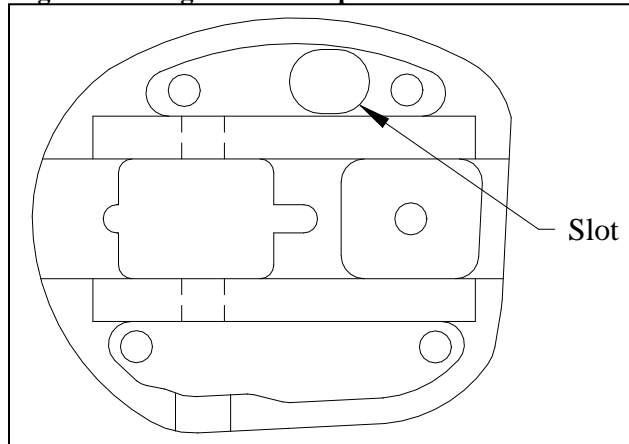


Note: The Cargo Hook Load Beam must point to the left side of the helicopter when looking from the rear.

Cargo Hook Installation *Continued*

Route the electrical release cable connector through the slot in the Cargo Hook Bumper (see below) and connect the new cargo hook electrical release cable connector to the Cargo Hook and secure with safety wire.

Figure 2.3 Cargo Hook Bumper Slot



Installation Check-Out

After installation of the Link Bumper Assembly, perform the following functional checks.

1. Swing the installed Cargo Hook on the suspension to its full extremes to ensure that the manual release cable assembly has enough slack to allow full swing of the cargo hook assembly without straining or damaging the cable. The cable must not be the stop that prevents the Cargo Hook from swinging freely in all directions.
2. Swing the Suspension to its full extremes to ensure that the manual release cable assembly has enough slack to allow full swing of the Suspension without straining or damaging the cable. The cable must not be the stop that prevents the Suspension from swinging freely in all directions.
3. With no load on the cargo hook load beam, pull the handle operated cargo hook mechanical release, the Cargo Hook should release. Reset the cargo hook load beam.

Component Weight

The weight of the Link Bumper Assembly is listed below.

Table 2-2 Component Weight

Weight	Station
1.0 lbs (0.44 kg.)	134.29 in. (3410 mm)

Section 3

Operation Instructions

Operating Procedures

Daily prior to each hook use, 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 Eurocopter Cargo Hook operating instructions.
4. Activate the electrical system and press the cargo hook release button to ensure the cargo hook electrical release is operating correctly. Note: The release solenoid is intended to be energized only intermittently. Depressing the manual release button continuously in excess of 20 sec. will cause the release solenoid to overheat, possibly causing permanent damage. The mechanism should operate smoothly and the Cargo Hook should release. Reset the load beam. If the hook does not relatch do not use the unit until the difficulty is resolved.
5. Activate the manual release lever to test the cargo hook manual release mechanism. The mechanism should operate smoothly and the Cargo Hook must release. Reset the load beam. If the hook does not re-latch do not use the unit until the difficulty is resolved.

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Section 4

Maintenance

The Link Bumper assembly does not have a fixed overhaul schedule. It will be repaired on condition.

Daily inspection: It is checked visually and functionally at the daily inspection for free movement and visual defects.

At hook overhaul intervals, the bushings should be checked for wear and the bumper and link visually checked for cracks or other damage.

Bushing wear limits are as follows:

P/N 517-052-00 (upper bushing) 0.13 mm max. out of round or wear through the bronze material into the steel backing.

P/N 290-364-00 (lower bushing) 0.35 mm max. out of round.

If wear limit is exceeded remove and replace bushings. Install new bushings with zinc chromate primer.

Each time the link is reassembled to the hook, lubricate P/N 290-364-00 lower bushing with MIL-G-23827 grease. Do not lubricate the P/N 517-052-00 upper bushing as it is self lubricating.

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.



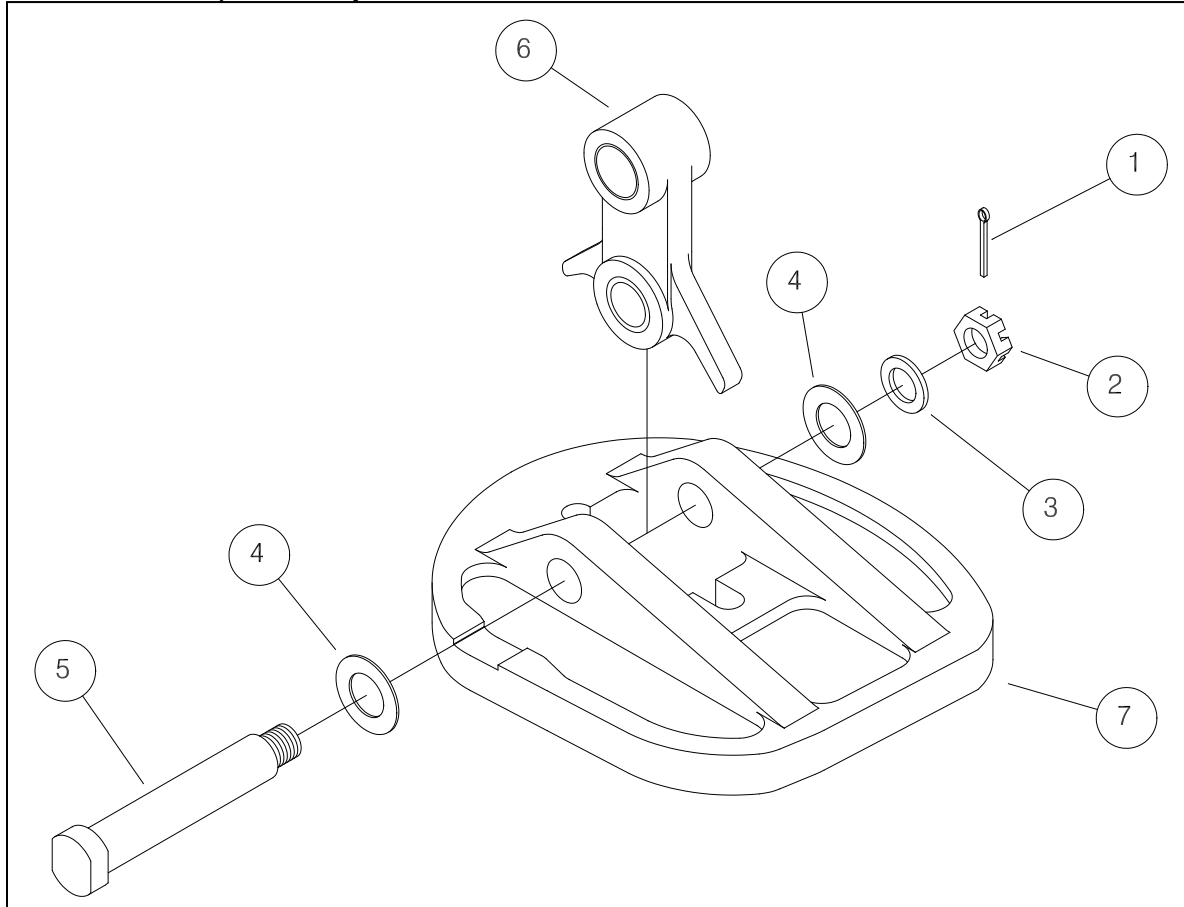
An RMA number is required for all equipment returns.

- 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

Illustrated Parts List

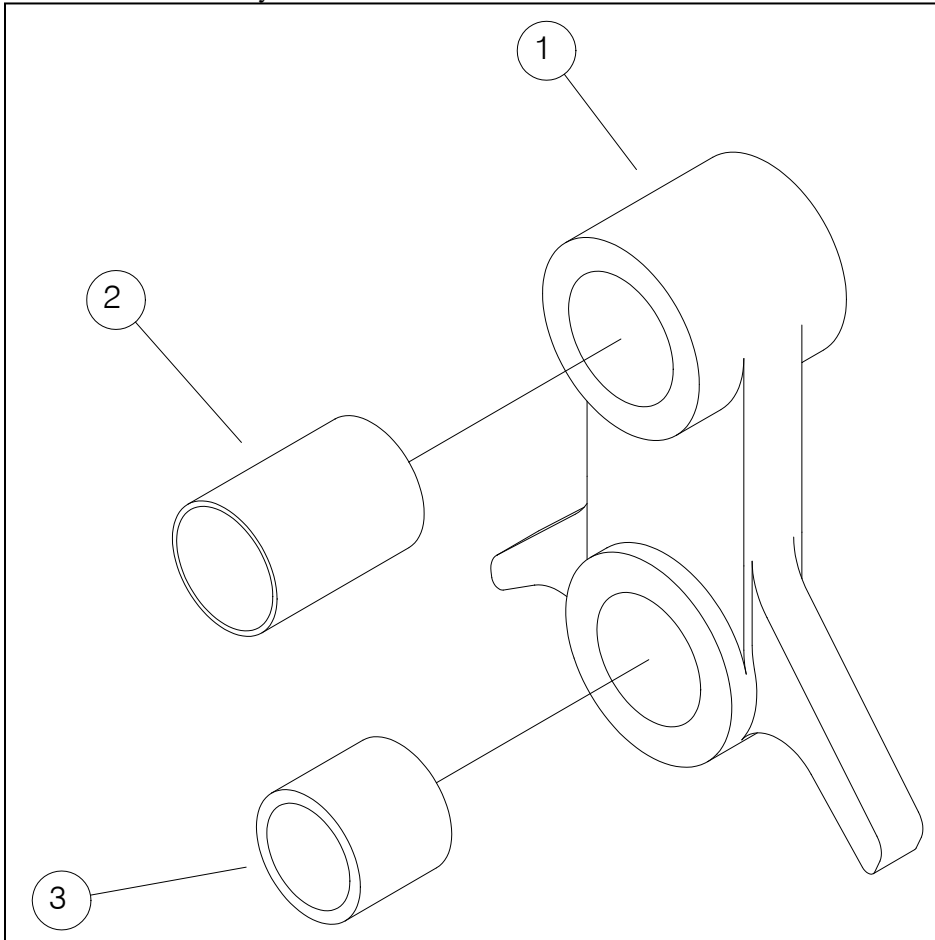
232-149-00 Link Bumper Assembly



ITEM	P/N	DESCRIPTION	QTY
1	510-178-00	Cotter Pin	1
2	510-170-00	Nut	1
3	510-174-00	Washer	1
4	510-183-00	Washer	2
5	290-775-00	Attach Bolt	1
6	232-146-00	Link Assembly	1
7	290-773-00	Replacement Bumper	1

Illustrated Parts List continued

232-146-00 Link Assembly



Item	Part Number	Description	Qty
1	290-771-00	Adapter Link	1
2	517-052-00	Bushing	1
3	290-364-00	Bushing	1