



**ONBOARD SYSTEMS
INTERNATIONAL**

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www.OnboardSystems.com

August 21, 2007

Subject: Service Bulletin 159-020-00, Rev. 0
for Onboard Systems Bell 206L / 407 Cargo Hook Suspension System

Dear Valued Customer,

Onboard Systems has issued a Service Bulletin for the above-referenced kit, and we strongly recommend that all operators comply with the instructions provided. This service bulletin and updated manuals may also be downloaded from our website at:

http://www.onboardsystems.com/Support/Manuals_and_Documents.php

Our records indicate that your company may have purchased the affected equipment under one of the following part numbers:

200-195-00	200-250-00	200-259-01
200-196-00	200-258-00	
200-249-00	200-259-00	

Please review this Service Bulletin and determine if the equipment is still in your possession. If this equipment is no longer in your possession, please forward this information to the current owner or your customer.

Required parts will be available from Onboard Systems at no charge during the mandated period of compliance. Parts are supplied FOB Factory and assume that you will return to us the used parts that you replace.

Onboard Systems is dedicated to supporting helicopter external load operators and we welcome any feedback and comments you may have. If you have any questions or require additional information, please feel free to contact us.

Best regards,

Karsten Lemmon
Vice President, Sales and Marketing
Karsten@OnboardSystems.com



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SERVICE BULLETIN

Document No. 159-020-00 Rev. 0

Date: August 17, 2007

Subject: Bell 206L/407 Cargo Hook Suspension System failure.

Helicopters Affected: All aircraft equipped with the following Onboard Systems Cargo Hook Suspension Kits:

200-195-00
200-196-00
200-249-00
200-250-00
200-258-00
200-259-00
200-259-01

Compliance: Recommended within 6 months of the issue date of this Service Bulletin. For systems without a load cell, a one-year compliance period is recommended.

Description: Onboard Systems has had one reported case of failure of the E-85 Load Cell, 210-179-00 and two known instances of unrepairable damage to the same Load Cell. This Load Cell is a component of the Cargo Hook Suspension Assembly used on several models of the Bell 206L / 407 helicopter and is shown below in Figure 1.

Figure 1. Suspect Part: 210-179-00, E-85 Load Cell



Failure Area
Under Cover



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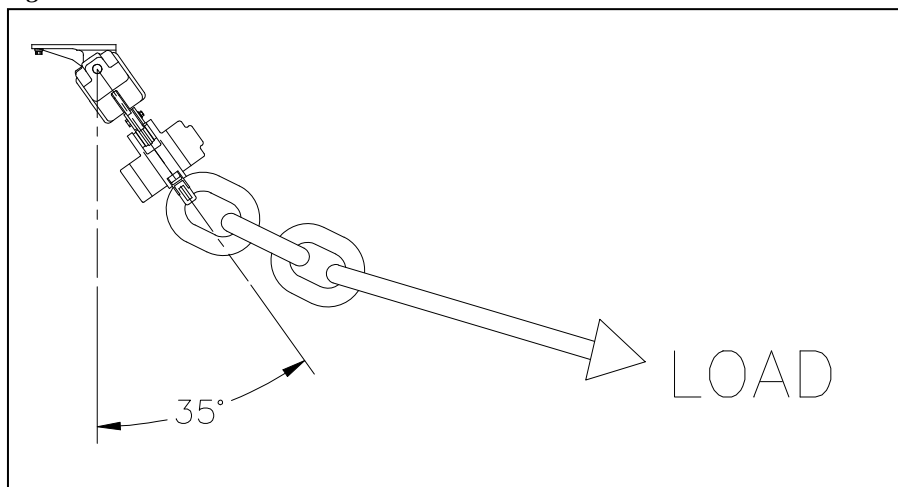
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Cause: Investigation has shown that failure of the Load Cell resulted from excessive bending stresses.

In the typical operational mode of the Cargo Suspension System, the Load Cell is not subject to bending. The Cargo Suspension system is designed to accommodate loads through an angle of up to 35°—both forward and aft. However, when loads exceed 35°, the travel stops on the Pillow Blocks prevent the Suspension Beam from further rotation and cause bending stresses to be carried by the Load Cell.

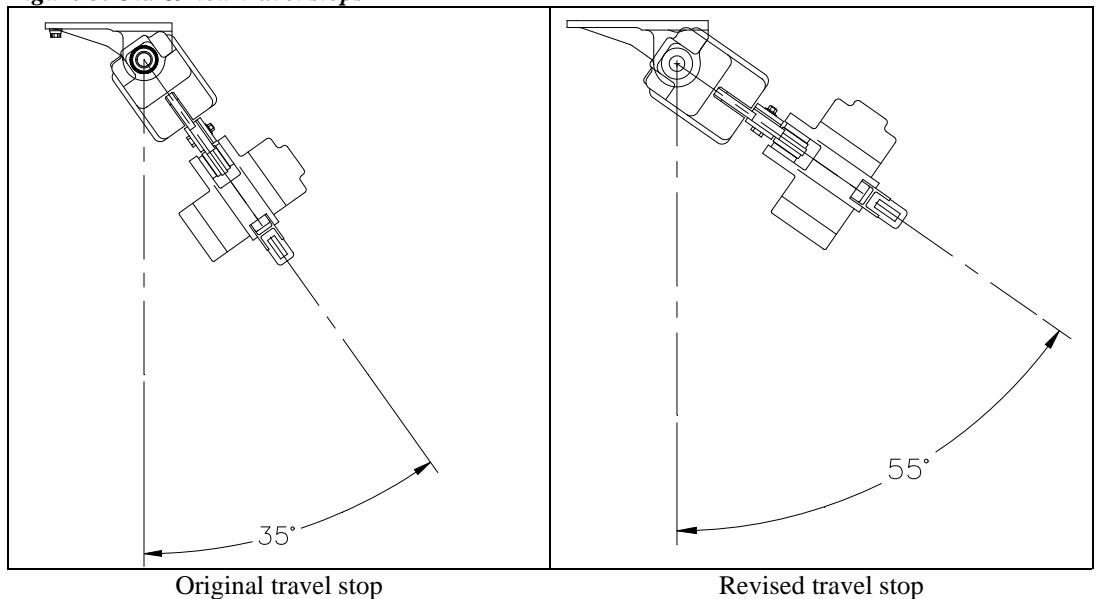
The situation is most likely to occur when flying at high speed with light loads which have large aerodynamic drag. For example, an empty fire or fertilizer bucket or an empty long line. Figure 2 illustrates the adverse loading situation.

Figure 2. Adverse condition



Solution: Onboard Systems has redesigned the Pillow Block to allow trailing angles up to 55°. See Figure 3. This design minimizes the possibility of placing bending stresses on the Load Cell or Carriage by allowing for large trailing angles.

Figure 3. Old & new travel stops



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Approval: The engineering design aspects of this bulletin are FAA approved.

Manpower: Inspection & Pillow Block replacement; approximately 2-3 man-hours will be required.

Required Material: The following material is required for accomplishment of this bulletin and may be obtained from Onboard Systems:

Table 1. Required Materials

Material	Quantity
232-030-02 Pillow Block Assembly	2

NOTE

This Service Bulletin requires that the load cell be returned to the factory for inspection. An overhaul exchange unit may be available for temporary use. Contact Onboard Systems for additional information.

Special Tools: None

Weight and Balance: Not affected

Electrical Load Data: Not affected

References: None

Publications Affected:

Owner's Manual, 120-085-00
Owner's Manual, 120-055-00
Owner's Manual, 120-092-00
ICA, 123-007-00

The latest Owner's Manuals are available through Onboard Systems' website at www.onboardsystems.com

Point of Contact: For additional assistance, contact Keys Miller at Onboard Systems. Phone: 360-546-3072 or 1-800-275-0883. Email: keys@onboardsystems.com.

Disposition of Parts Removed: Return removed Pillow Block assemblies to the factory.

Material/Part availability: Parts will be available from Onboard Systems at no charge to the customer during the mandated period of compliance.



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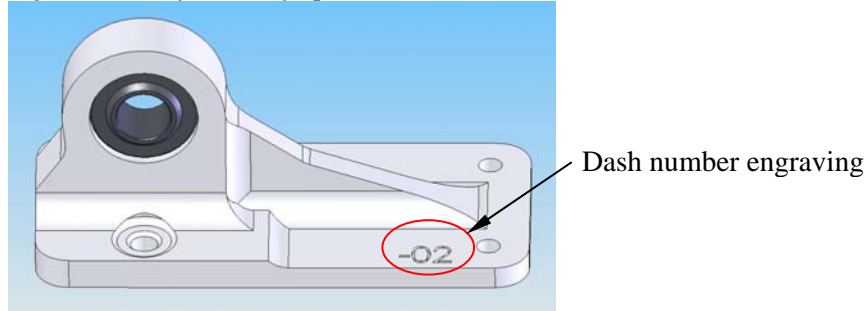
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Action: The user should replace the existing Pillow Blocks (232-030-01) with the new Pillow Blocks (232-030-02). The new Pillow Block can be identified by the “-02” marking on the surface. See Figure 4.

Figure 4. Identification of updated Pillow Block



This bulletin requires two different actions depending on the particular installation:

For Suspension Systems with a Load Cell (P/N's 200-259-00, 200-196-00, 200-250-00) the user should perform the following tasks:

1. Visually inspect the Pillow Blocks to see if the new Pillow Blocks have already been installed. If the Pillow Block has a “-02” marking on it then no further action is required. If the Pillow Block is not marked, then proceed to the next step.
2. Disassemble the Beam and remove the Load Cell Assembly (210-179-00).
3. The next step requires an assessment of damage to the Load Cell. However, the cover plates may hide damaged areas on the Load Cell. As the Load Cell is not field-serviceable, it must be returned to the factory for a one-time inspection.
4. Remove the old Pillow Blocks (232-030-01) and replace with the new Pillow Blocks (232-030-02). Refer to the appropriate Onboard Systems Owners Manual for instructions on how to install the Pillow Blocks. See the list of affected publications.

For Suspension Systems without a Load Cell (P/N's 200-195-00, 200-258-00, 200-249-00) the Carriage, 290-369-00, is also suspected of potential failure in the same mode. The user should therefore perform the following tasks:

1. Visually inspect the Pillow Blocks to see if the new Pillow Block has been installed. If the Pillow Block has a “-02” marking on it then no further action needs to be taken. If the Pillow Block is not marked then perform the following tasks.
2. Disassemble the beam to remove the carriage (290-369-00).
3. Visually inspect the carriage to verify that it is free of cracks, excessive wear or other damage. If questionable damage is found, return the part to Onboard Systems for evaluation or replacement.
4. Remove the old Pillow Blocks (232-030-01) and replace with the new Pillow Blocks (232-030-02). Refer to the appropriate Onboard Systems Owners Manual for instructions on how to install the Pillow Blocks. See the list of affected publications.



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SERVICE BULLETIN COMPLIANCE RECORD

Bell 206L/407 Cargo Hook Suspension System Pillow Blocks
Document No. 159-020-00, Revision 0

To help us monitor compliance with this Service Bulletin, please fill out and fax this form to (360) 546-3073.

<i>Company name:</i>	
<i>Date of SB compliance:</i>	
<i>Number of aircraft affected:</i>	
<i>Contact person:</i>	
<i>Address:</i>	
<i>City, State, Country:</i>	
<i>Telephone:</i>	
<i>Email:</i>	

<i>Comments:</i>

