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**ROTORCRAFT FLIGHT MANUAL
SUPPLEMENT**

**Bell Helicopter Models
206L, 206L-1, 206L-3, 206L-4, 407**

R/N _____ S/N _____

FAA Approved:  _____
for Manager, Seattle Aircraft Certification Office

Date: 11 DEC 14

Revised:



Rotorcraft Flight
Manual Supplement
Bell 206L/407 Suspension System


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INTRODUCTION

This supplement must be attached to the appropriate Bell FAA approved Rotorcraft Flight Manual when an Onboard Systems 200-258-01 or 200-259-02 Cargo Hook Suspension Kit is installed in accordance with Supplemental Type Certificate (STC) NO. SR00898SE. 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 Rotorcraft Flight Manual Supplement – Cargo Hook issued by Bell Helicopter.

The 200-258-01 and 200-259-02 Cargo Hook Suspension Kits include the cargo hook, suspension beam assembly, and pillow blocks. The suspension beam assembly supports the cargo hook and allows it to align itself with a load. The pillow blocks support each end of the suspension beam assembly and attach to the rotorcraft's hard points. In addition the kits include the external manual release cable and external electrical harness. These items interface with the fixed cargo hook provisions on the rotorcraft including the pilot interface with the cargo hook's release systems.

The 200-259-02 kit includes a load weigh system. The load weigh system consists of a cockpit-mounted indicator, a load cell at the cargo hook, and the interconnecting wiring harness.

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1. LIMITATIONS

1-3. Types of Operation

The basic Rotorcraft Flight Manual and Rotorcraft Flight Manual Supplement – Cargo Hook issued by Bell Helicopter remain applicable and are complemented by the following.

With a load attached to the cargo hook, operation shall be conducted in accordance with the respective national operational requirements. For US operators 14 CFR part 133 is applicable.

The cargo hook kit configurations (as installed in accordance with this STC SR00898SE) do not meet 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.

The load weigh indicator (included with kit P/N 200-259-02) shall be operated in accordance with Section 3 of Owner’s Manual 120-092-01.

1-20 Placards

The following placards are applicable to the kits approved under this STC.

Mounted on the bottom of the suspension beam assembly:

 WARNING	EXTERNAL LOAD LIMIT	407 2650 LB (1202 KG)
		206L 2000 LB (907 KG)



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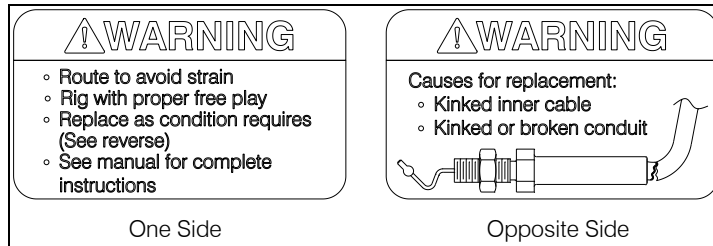
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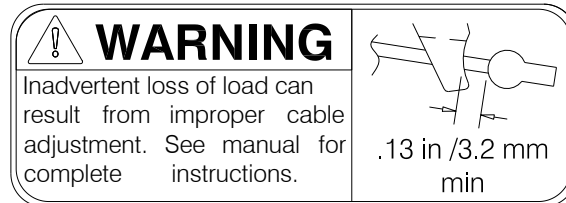
1. LIMITATIONS continued

1-20 Placards continued

Located on the manual release cable, near the cargo hook:



Located on the bottom of the cargo hook:



When an Onboard Systems kit P/N 200-259-02 is installed the following placards apply.

Mounted adjacent to the Onboard Systems load weigh indicator in full view of pilot or co-pilot:

TURN THE WEIGHING SYSTEM OFF WHEN NAVIGATION EQUIPMENT IS IN USE. NO AIRCRAFT OPERATION SHOULD BE PREDICATED ON THE READING OF THE ONBOARD WEIGHING SYSTEM.

Mounted adjacent to the power switch and the circuit breaker in full view of the pilot and co-pilot.

ELECTRONIC WEIGHING SYSTEM

2. NORMAL PROCEDURES

2-3 Pre-flight Check

Consult the Rotorcraft Flight Manual Supplement – Cargo Hook issued by Bell Helicopters for additional procedures.

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. Visually check all cargo hook fasteners to ensure that they are tight.
2. Visually check the electrical connector for damage and security.
3. Visually check the cargo hook for cracks and damage.



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2. **NORMAL PROCEDURES** continued

2-3 **Pre-flight Check** continued

4. Cycle the cargo hook's electrical release mechanism to ensure proper operation. Pressing the CARGO RELEASE switch on cyclic should cause the cargo hook load beam to open. The cargo hook may be returned to the 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 (see Figure 1).

NOTICE

The cargo hook interfaces with the rotorcraft's electrical release system as supplied by Bell. Consult the Flight Manual Supplement – Cargo Hook for operation of electrical release system.

CAUTION

In the closed and fully locked position the hook lock indicator must align with the lines on the manual release cover (see Figure 1).



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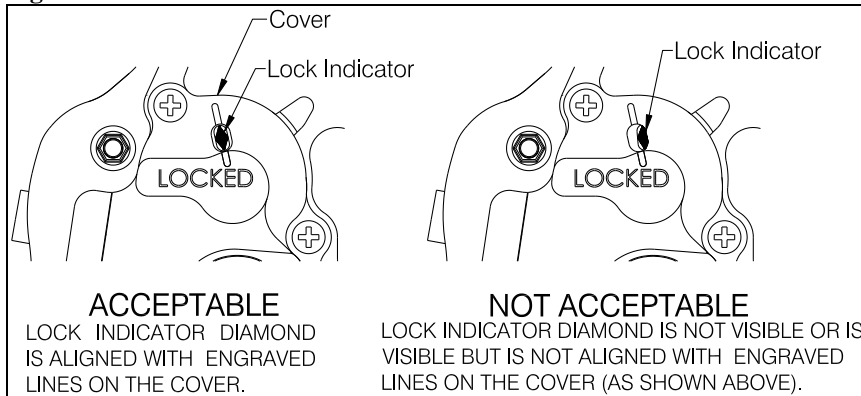
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2. **NORMAL PROCEDURES** continued

2-3 **Pre-flight Check** continued

Figure 1 Hook Lock Indicator



5. Cycle the manual release mechanism to ensure proper operation. Pull the manual release lever in the cockpit. The cargo hook load beam must open. Return the cargo hook load beam to the locked position by manually pushing up on it. The load beam should snap shut. Verify that the hook lock indicator on the side of the hook returns to the fully locked position. The cargo hook may be flown in the open position to facilitate loading by a ground crew.

NOTICE

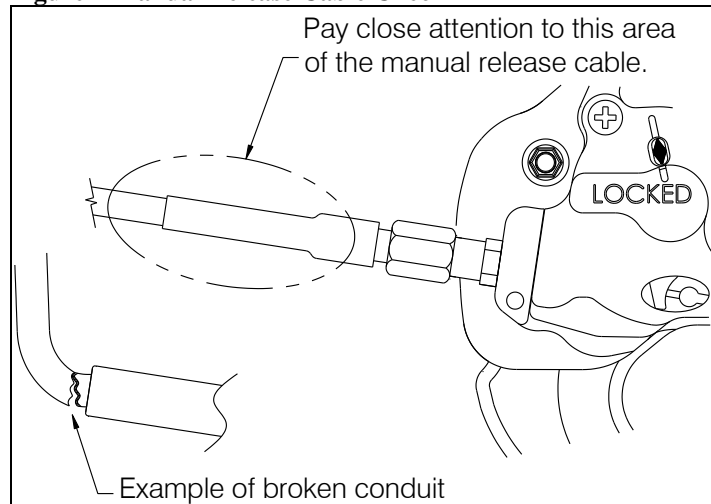
The cargo hook interfaces with the rotorcraft's manual release system as supplied by Bell. Consult the Flight Manual Supplement – Cargo Hook for operation of the manual release system.

2. NORMAL PROCEDURES continued

2-3 Pre-flight Check continued

6. Move the cargo hook and the suspension system throughout their full ranges of motion to ensure the manual release cable and electrical harnesses have enough slack. The cable or electrical harnesses must not be the stops that prevent the cargo hook or suspension from moving freely in all directions.
7. Move the cargo hook back and forth on the suspension beam to ensure that it rolls freely and that there are no obstructions within the beam.
8. Visually check the manual release cable for damage, paying close attention to the flexible conduit at the area of transition to the cargo hook end fitting (refer to Figure 2). Check for kinked, broken, or splitting of the outer black conduit in this area and separation of the conduit from the steel end fitting.

Figure 2 Manual Release Cable Check

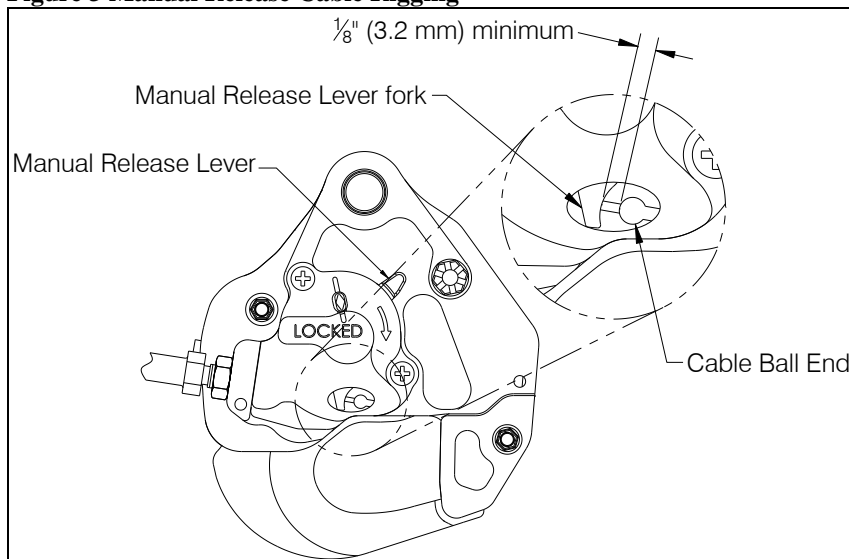


2. NORMAL PROCEDURES continued

2-3 Pre-flight Check continued

9. Check the manual release cable rigging through the window in the cargo hook manual release cover. With the cargo hook load beam closed and locked, rotate the manual release lever clockwise to remove the free play (the free play is taken up when the hook lock indicator begins to move, this is also readily felt as the lever rotates relatively easily for several degrees as the free play is taken up) and hold it in this position while checking the gap between the release lever fork and the cable ball end as shown below. Visually check that there is approximately a minimum gap of 1/8" (3.2 mm) as shown in Figure 3.

Figure 3 Manual Release Cable Rigging

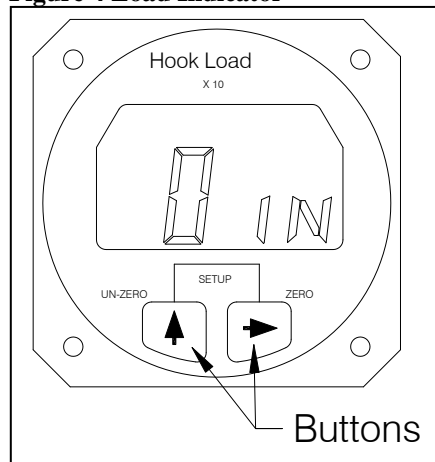


2. **NORMAL PROCEDURES** continued

When an Onboard Systems 200-259-02 Cargo Hook Suspension System with Load Weigh is installed, perform the following additional procedure:

1. To initialize the Load Indicator, perform the following:
Power on the Load Indicator and allow it to warm up for 5 minutes (with no load on the hook). Press both Indicator buttons at the same time to go to the setup mode. Scroll through the menu, using the left button, until “0 in” (see Figure 4) is displayed, then press the right button. Remove any weight from the cargo hook that is not to be zeroed out and press either button to complete the procedure.

Figure 4 Load Indicator



2. NORMAL PROCEDURES continued

Cargo Hook Rigging

Extreme care must be exercised in rigging a load to the Cargo Hook. The following illustration shows the recommended rigging configuration and rigging to avoid.



The example shown is not intended to represent all possibilities. It is the responsibility of the operator to ensure the hook will function and release properly with the rigging.

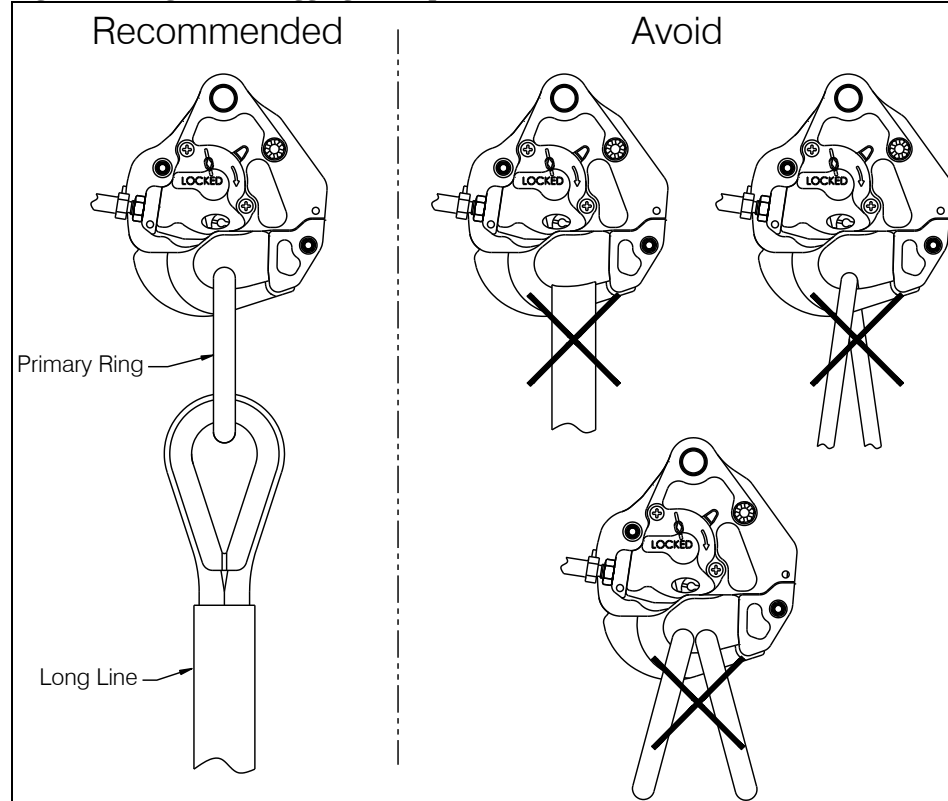
Nylon Type Straps or Rope



Nylon type straps (or similar material) or rope must 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. See Figure 5.

2. NORMAL PROCEDURES continued

Figure 5 Cargo Hook Rigging Examples



2. NORMAL PROCEDURES, continued

Trailing Loads

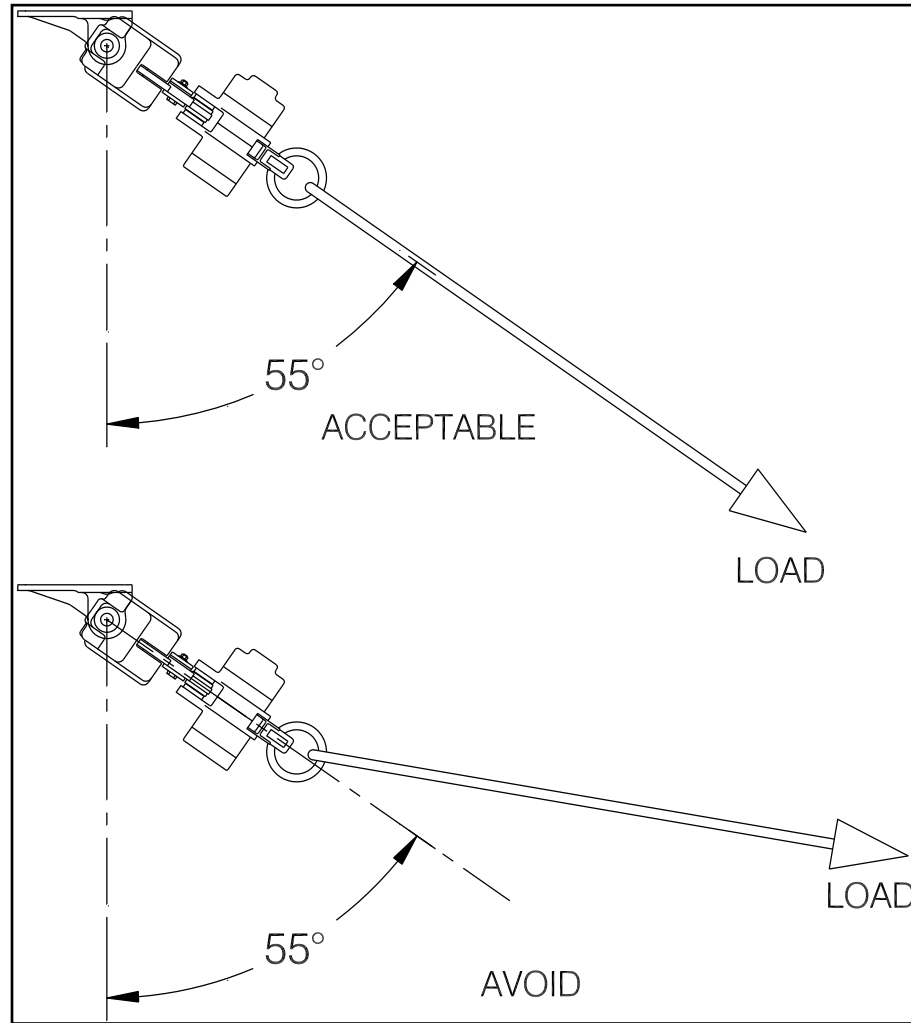


The suspension system is designed to accommodate loads through an angle of up to 55° from vertical —both forward and aft. However, when loads exceed 55°, the travel stops on the Pillow Blocks prevent the Suspension Beam from further rotation and cause bending stresses to be carried by the Load Cell. Care should be taken to avoid this flight regime.

The situation is most likely to occur when flying at high speeds with light loads, which have large aerodynamic drag, for example - an empty fire or fertilizer bucket or an empty long line. Figure 6 illustrates the adverse loading situation.

2. NORMAL PROCEDURES, continued

Figure 6 Trailing Loads



3. EMERGENCY PROCEDURES

The Rotorcraft Flight Manual Supplement – Cargo Hook issued by Bell remains applicable.

4. PERFORMANCE

The Rotorcraft Flight Manual Supplement – Cargo Hook issued by Bell remains applicable.

When an Onboard Systems 200-259-02 Cargo Hook Suspension System with Load Weigh is installed the following applies. The Load Weigh System is designed and installed as a means of MONITORING the load (weight) suspended from the cargo hook. Functional and performance characteristics have not been determined on the basis of the load cell indication or display. Therefore, this instrument shall NOT be used as a primary indication of performance and flight operation must NOT be predicated on its use.



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