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FAA APPROVED
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

STC SR00713SE

Cargo Hook Suspension Kit

for the

Bell 204B, 205A, 205A-1, 205B, 210, 212, 412, 412EP, 412CF
Agusta AB412, AB412EP
Rotorcraft Dev. Corp. UH-1H, Northwest Rotorcraft UH-1H,
OAS Parts LLC UH-1H
Tamarack Helicopters UH-1F, UH-1H

R/N _____ S/N _____

FAA Approved: _____
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Federal Aviation Administration
Renton, Washington

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Record of Revisions

Rev.	Date	Page(s)	Reason for Revision
0	OCT 1 3 2015	All	Initial Release.
1	MAR 3 0 2017	1, 7, 9	Added 412CF, Tamarack UH1-F and UH-1H models to title page, removed reference to 14 CFR part 133, updated appearance of cockpit release switch placard.

Introduction

This supplement must be attached to the appropriate FAA approved Rotorcraft Flight Manual when an Onboard Systems 200-391-XX or 200-401-XX series Cargo Hook Suspension System is installed in accordance with Supplemental Type Certificate (STC) NO. SR00713SE. 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 the Supplement for External Cargo Operation issued by the type certificate holder.

The 200-391-XX and 200-401-XX Cargo Hook Suspension Systems serve as replacement suspension systems for the suspension system installed under the type certificate or the Onboard Systems rotating suspension system (P/N series 200-088 and 200-089). These systems require that the rotorcraft be previously equipped with cargo hook fixed provisions.

The suspension systems (see Figure 1 for overview) include the:

- Cargo Hook. An optional cargo hook (P/N 528-020-12) with these kits includes a delay circuit to help protect against inadvertent load release as a result of accidental contact with the Cargo Release switch or inadvertently pressing the switch. This circuit requires that the release switch be held for approximately ½ second in order to release the cargo hook load. This feature is referred to as Surefire Release.

- Bumper. The bumper serves to protect the cargo hook and also to limit the travel of the suspension system. It interfaces with the existing rotorcraft contact surface.

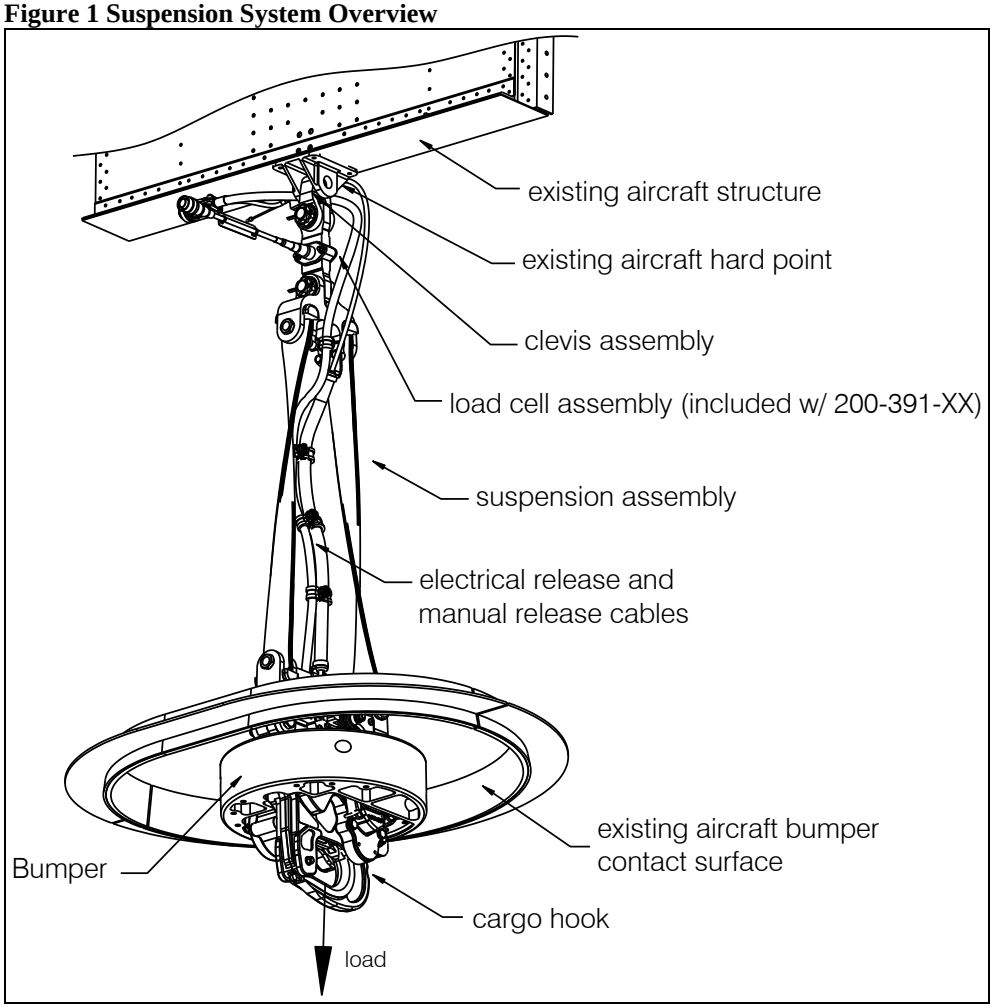
Introduction continued

- Suspension Assembly. The suspension assembly transfers the load from the cargo hook up to the existing aircraft hard point. The suspension assembly included with these kits is a non-rotating design. It utilizes two strap assemblies which are flexible to accommodate torsion loads imparted by the equipment on the long line.
- External Electrical Release Cable. The electrical release cable interfaces with the rotorcraft's existing internal cargo hook electrical release system including the push button switch on the cyclic to serve as the cargo hook's primary quick release system (PQRS).
- External Manual Release Cable. The external manual release cable connects to the rotorcraft's existing internal cargo hook manual release cable including its actuation means in the cockpit to serve as the cargo hook's backup quick release system (BQRS).
- Load Cell Assembly. Included with kit P/N 200-391-XX only, this kit also includes the associated load weigh indicator in the cockpit and the interconnecting wire harness. This system provides the pilot with an indication of the weight of the load being carried on the cargo hook.

An optional Anti-Torque System (see Figure 2 for overview) can be installed for use with large torque inducing equipment such as a large fertilizer bucket which uses a spreader bar. This system transmits the torsional loads directly from the cargo hook through the bumper to a bracket mounted forward of the cargo hook on the belly of the rotorcraft.

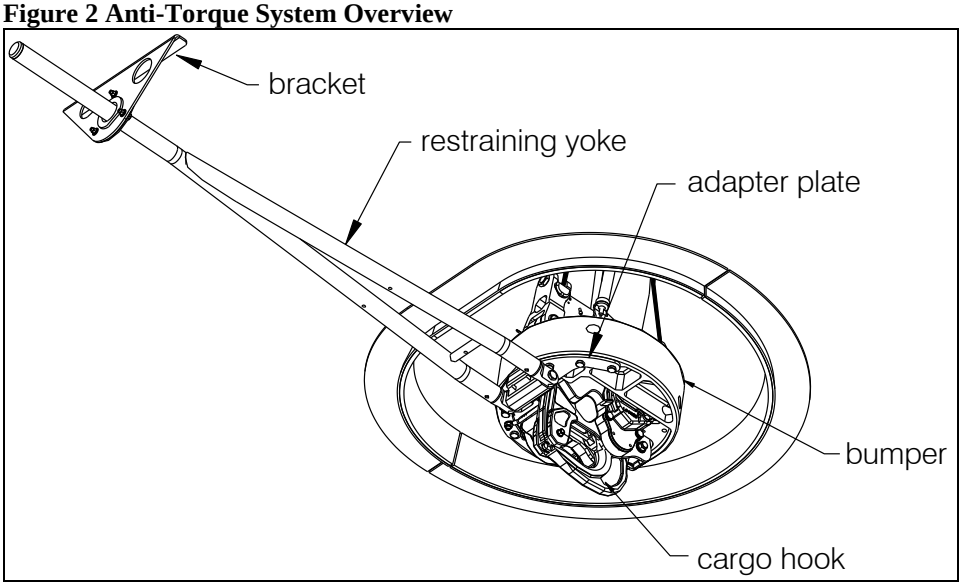
Introduction continued

Figure 1 Suspension System Overview



Introduction continued

Figure 2 Anti-Torque System Overview



1. Limitations

1-3 Type of Operation

The basic Flight Manual and Supplement for External Cargo Operation issued by the type certificate holder remain applicable.

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

The cargo hook suspension systems (as installed in accordance with this STC SR00713SE) do not meet the 14 CFR part 29 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.

WARNING

Take precautions to prevent large load angles, an external load with an angle greater than the maximum angle of rotation of the cargo hook suspension may not be releasable in this position.

1. Limitations continued

1-6 Weight and Center of Gravity

Consult the Supplement for External Cargo Operation issued by the type certificate holder for weight and center of gravity limitations.

The maximum weight to be carried on the cargo hook is the lesser of that specified by the Supplement for External Cargo Operation for your particular model or 5000 lbs (2268 kg).

1-7 Airspeed

Consult the Supplement for External Cargo Operation issued by the type certificate holder for airspeed limitations when carrying external cargo.

Maximum air speed with external loads is dependent upon the load configuration and sling length. It is the operator's responsibility to establish the maximum operational speed for each specific configuration.

1. Limitations continued

1-20 Placards

Consult the Supplement for External Cargo Operation issued by the type certificate holder for additional placards. The following placards are included under this STC.

- Adhered on the cargo hook adjacent to the manual release lever:

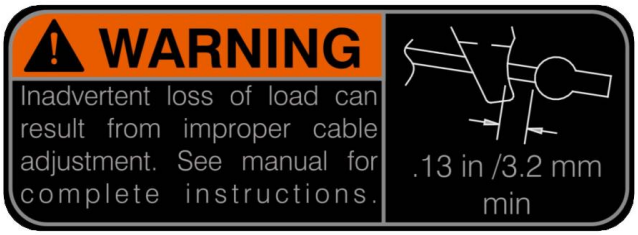
- Adhered on the solenoid housing of optional cargo hook P/N 528-020-12 which is equipped with Surefire Release.

- Adhered adjacent to the cockpit release switch if optional Cargo Hook with Surefire Release P/N 528-020-12 is installed.

1. Limitations continued

1-20 Placards

- Adhered on the top of the cargo hook frame:



When a P/N 200-391-XX Cargo Hook Suspension System with Load Weigh is installed, the following placards apply:

- Adjacent to the Onboard Systems load weigh indicator in full view of the pilot and 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.

- Adjacent to both the power switch and the circuit breaker in full view of the pilot and copilot:

ELECTRONIC WEIGHING SYSTEM

2. Normal Procedures

The normal procedures in the Supplement for External Cargo Operation issued by the type certificate holder are applicable and are complemented by the following procedures.

NOTICE

If Cargo Hook with Surefire Release (P/N 528-020-12) is installed, the electrical release includes a ½ second time delay. See specific procedures in this section for this cargo hook model.

2-3 Pre-flight Check

Before a flight involving external load operations perform the following procedures.

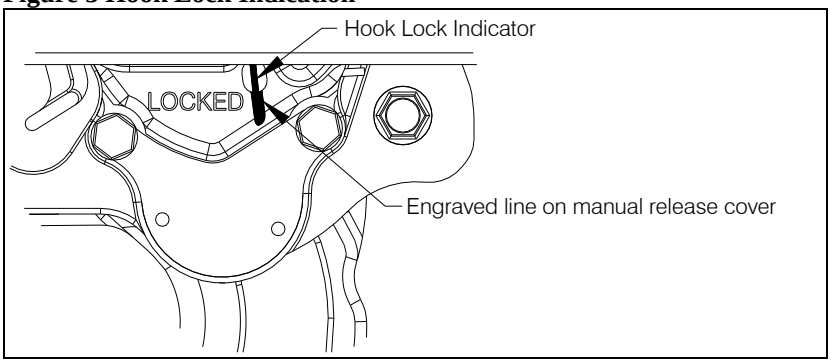
1) Check the electrical connectors for damage and security.
2) Check the cargo hook bumper ring for damage.
3) Check the suspension strap assemblies for damage.
4) Move the suspension system through its full range of movement and ensure that it moves freely.
5) If the Anti-Torque System is installed, check its fasteners for presence and security.
6) If the Anti-Torque System is installed check the restraining yoke and the bracket on the belly for damage and security.
7) If the Anti-Torque System is installed, move the suspension system through its full range of movement and ensure that it moves freely and the Anti-Torque System does not limit its range of movement (other than twisting).

2. Normal Procedures continued

2-3 Pre-flight Check continued

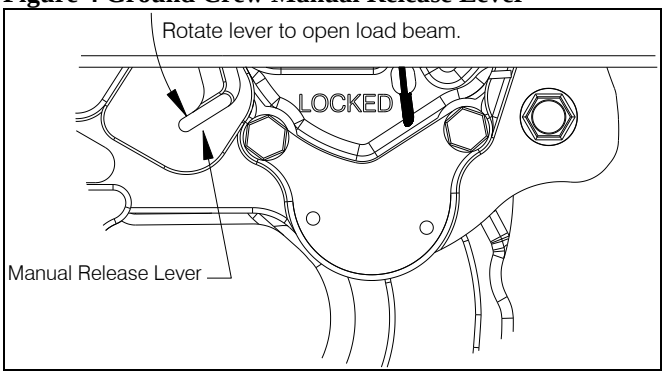
8) Cycle the manual release system to ensure proper operation. Depress the manual release pedal in the cockpit and the load beam should fall open. Push up on the load beam and verify that it latches and the hook lock indicator is aligned with the engraved line on the manual release cover (see Figure 3).

Figure 3 Hook Lock Indication



9) Repeat previous step except use the manual release lever on the side of the cargo hook (see Figure 4).

Figure 4 Ground Crew Manual Release Lever



2. Normal Procedures continued

2-3 Pre-flight Check continued

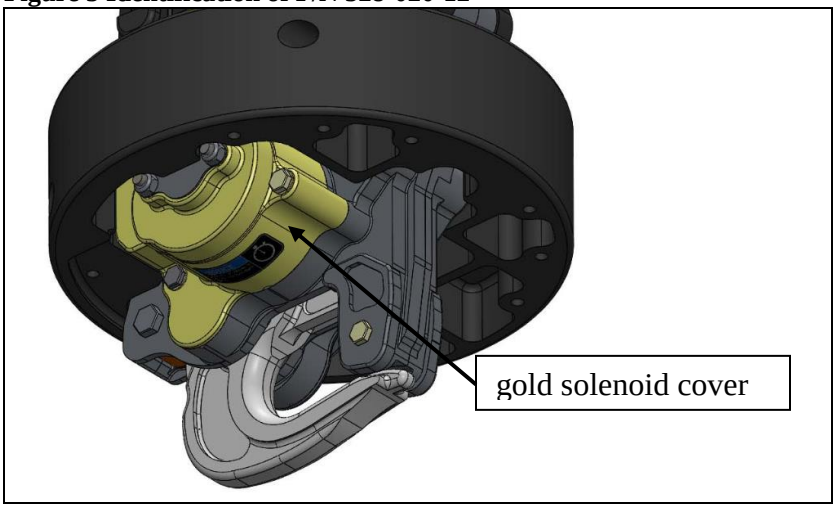
10) Cycle the electrical release system to ensure proper operation.

The following instructions are applicable to the optional cargo hook P/N 528-020-12. In addition to the P/N, this cargo hook can also be identified by its gold color solenoid cover.

NOTICE

By design (to help protect against inadvertent load release) cargo hook P/N 528-020-12 requires that the Cargo Release switch on the cyclic be held for at least ½ second to release the load.

Figure 5 Identification of P/N 528-020-12



2. Normal Procedures continued

2-3 Pre-flight Check continued

- Press and release the Cargo Release switch without holding it down, the load beam should remain closed.
- Press and hold the Cargo Release switch for several seconds, the load beam should fall to the open position and the cargo hook solenoid should continue to cycle repeatedly.
- 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.

The following instructions are applicable to cargo hook P/N 528-020-10.

- Press the Cargo Release switch on the cyclic, the 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.

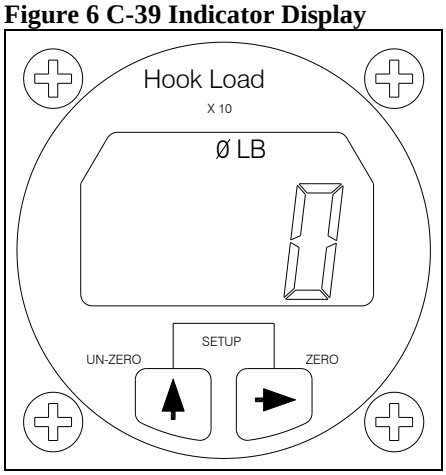
2. Normal Procedures continued

2-3 Pre-flight Check continued

If the Load Weigh System is installed, perform the following additional procedure:

11) Power on the C-39 Load Indicator. After a brief self-diagnostic routine is complete the indicator display should indicate "0" as shown below (with no load on the cargo hook):

Figure 6 C-39 Indicator Display



NOTICE

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.

2. Normal Procedures continued

Cargo Hook Rigging

Extreme care must be exercised in rigging a load to the Cargo Hook. Steel load rings are recommended to provide consistent release performance and resistance to fouling. The following illustration shows the recommended rigging and rigging to avoid.

WARNING

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

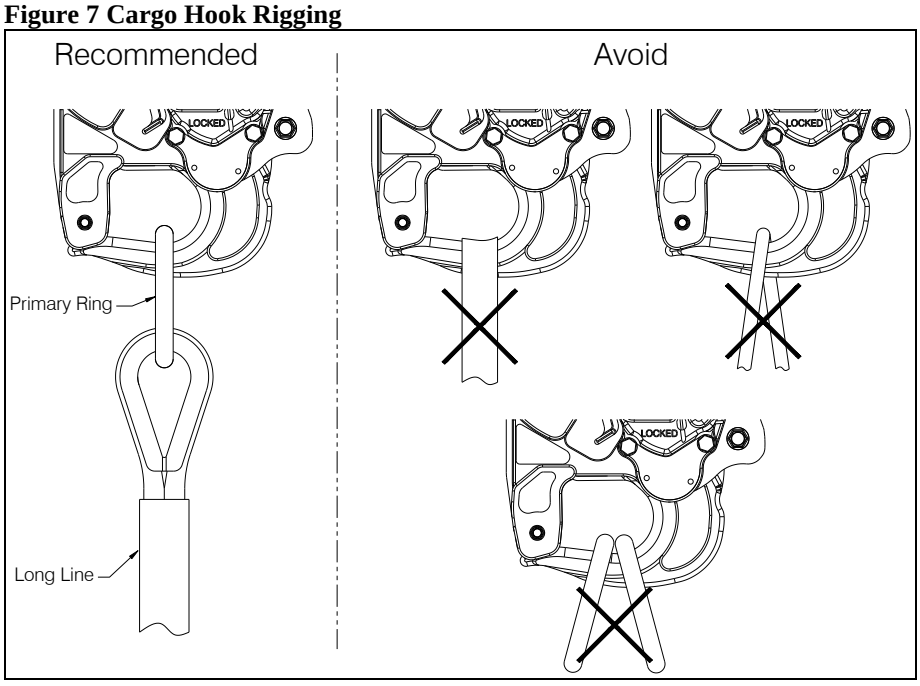
Nylon Type Straps or Rope

WARNING

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 correctly sized primary ring. Only the primary ring should be in contact with the cargo hook load beam. See the following illustration.

2. Normal Procedures continued

Figure 7 Cargo Hook Rigging



3. Emergency Procedures

Consult the Flight Manual Supplement for External Cargo Operation issued by the type certificate holder for additional emergency procedures during external load operations.

⚠ DANGER

In an emergency such as snagged load or engine failure, the manual release system should be the first option for release of the external load as this system provides greater load release authority in an overload condition. If the manual release option fails, NEXT try the electrical release.

4. Performance

The basic Flight Manual and Supplement for External Cargo Operation remain applicable.

When the Load Weigh System 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.