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FAA APPROVED
ROTORCRAFT FLIGHT MANUAL SUPPLEMENT

STC SR01778SE

Onboard Systems
Cargo Hook Kit
With Talon LC Hydraulic Cargo Hook

MD Helicopter Models
369D, 369E, 369F, 369FF, 369HE,
369HM, 369HS, 500N

R/N _____ S/N _____

FAA Approved: _____
FOR Manager, Seattle Aircraft Certification Office
Federal Aviation Administration
Renton, Washington

Date: AUG 12 2015

Record of Revisions

Rev.	Date	Page(s)	Reason for Revision
0	Oct. 4, 2011	All	Initial Release.
1	Oct. 10, 2011	All	Changed 2nd paragraph in Type of Operation section to read: “These cargo hook kits are approved for non-human external cargo, class B rotorcraft load combinations”. Changed 1st sentence in Pre-flight Check section to read: "Before a flight involving external load operations perform the following". Updated graphics in Figure 4-5.
2	Aug. 12, 2015	All	Updated Type of Operation section.

PART I
GENERAL

This supplement must be attached to the appropriate FAA approved MD Helicopters' Rotorcraft Flight Manual when an Onboard Systems P/N 200-300-00 or P/N 200-301-00 Cargo Hook Kit is installed in accordance with Supplemental Type Certificate (STC) NO. SR01778SE.

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 MD Helicopters' "Cargo Hook Kit" Rotorcraft Flight Manual Supplement.

The 200-300-00 and 200-301-00 kits are upgrade kits, intended for use on rotorcraft previously equipped with an MD Helicopters' cargo hook kit.

The 200-300-00 and 200-301-00 cargo hook kits are comprised of:

- A cargo hook used to attach and release the external load.
- An electrical release system, which serves as the primary cargo hook load release by means of pilot actuation of a push button switch on the cyclic. These kits interface with the MD Helicopters' supplied internal electrical wiring including the switch on the cyclic.
- A hydraulic release system, which provides a secondary means of releasing a cargo hook load. It replaces the MD Helicopters' mechanical release cable system. A lever mounted to the cyclic stick actuates it.

The P/N 200-301-00 kit is the same as the 200-300-00 kit except it includes a Load Weigh System. The Load Weigh System includes a load cell above the cargo hook, a cockpit mounted load weigh indicator, and the interconnecting wire harness.

PART II
LIMITATIONS

Type of Operation

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

The cargo hook kit configurations (as installed in accordance with this STC SR01778SE) 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.

⚠ WARNING

The attach point assembly is designed to allow the cargo hook to pivot and align with the external load in all directions with limits to prevent the cargo hook from contacting the belly of the aircraft. Take precautions to prevent external load angles which exceed the limits of rotation provided by the attach point assembly as the load may not be releasable in this position.

Airspeed Limitations

Consult the MD Helicopters' Flight Manual Supplement for airspeed limits when an external load is attached

Maximum operational 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.

Weight and CG

Center of gravity limits not to exceed the limits certified for the basic helicopter model.

Consult the MD Helicopters' Flight Manual Supplement for center of gravity limits when an external load is attached.

Cargo Hook Load

Load capacities given below are for the equipment described only. External load limits for the rotorcraft still apply. Consult the MD Helicopters' Flight Manual Supplement for external load and structural limitations.

Kit P/N 200-300-00 (no load weigh system) has a maximum load capacity of 3500 lbs. (1,587 kg).

Kit P/N 200-301-00 (includes load weigh system) has a maximum load capacity of 2,500 lbs. (1,134 kg).

Placards

The following placards pertaining to the load weigh system are included with kit P/N 200-301-00. Consult the MD Helicopters' Flight Manual Supplement for placard information relevant to the cargo hook.

Mounted adjacent to the Onboard Systems load indicator:

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

Mounted adjacent to both the load weigh system power switch and circuit breaker:

ELECTRONIC WEIGHING SYSTEM

PART III
EMERGENCY AND MALFUNCTION PROCEDURES

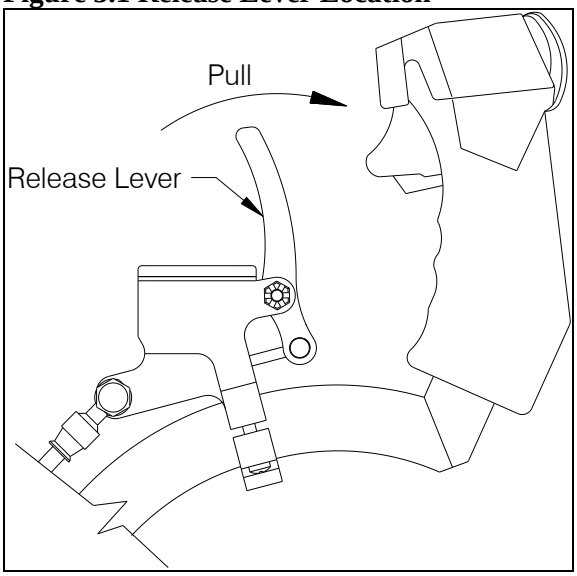
Engine Failure

The presence of an external load may further complicate a failed engine condition. Release of loads attached to the cargo hook should be accomplished as soon as practical; consistent with other safety of flight factors. Consult the MD Helicopters' Rotorcraft Flight Manual Supplement for additional information.

Cargo Hook Emergency Release

Actuate the release lever mounted on the cyclic stick (see Figure 3.1) to release the external load manually in the event of a failure of the electrical release system. Operate the handle quickly and deliberately.

Figure 3.1 Release Lever Location



PART IV
NORMAL PROCEDURES

The normal procedures specified in the basic Flight Manual and in the "Cargo Hook Kit" Flight Manual Supplement issued by MD Helicopters remain applicable and are complemented by the following.

Pre-Flight Check

Before a flight involving external load operations perform the following. If the procedures are not successful do not use the equipment until the problem has been corrected.

1. Check all mounting fasteners to ensure they are tight.
2. Check the load cell (if installed), upper attach gimbal and all other structural components related to the cargo hook for signs of cracks and damage.
3. Check the electrical connectors for security and damage.
4. Check the slave cylinder on the cargo hook for signs of hydraulic fluid leakage.
5. Check the hook load beam for gouges and cracks.
6. Swing the cargo hook assembly to its full travel extremes to verify that it does not reach the range of motion limits of the electrical harnesses and hydraulic hose.

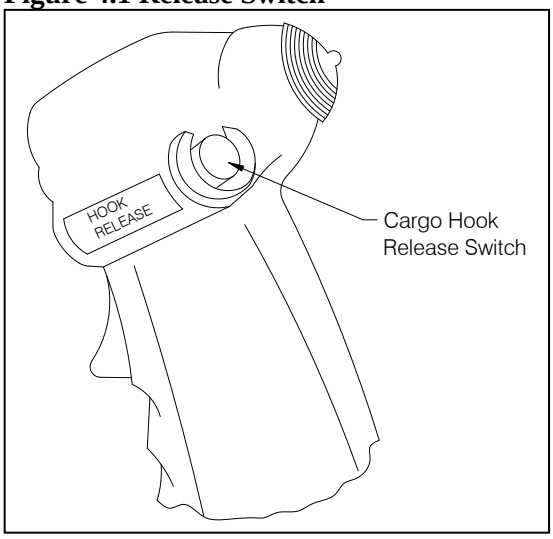
Pre-Flight Check continued

7. Check the operation of the cargo hook's primary load release system. Actuating the electrical release switch on the 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.

NOTICE

The cargo hook kits use the type certificated electrical release switch located on the cyclic (see Figure 4.1). Refer to the MD Helicopter Rotorcraft Flight Manual Supplement for operational information for the rotorcraft's cargo hook electrical release system.

Figure 4.1 Release Switch



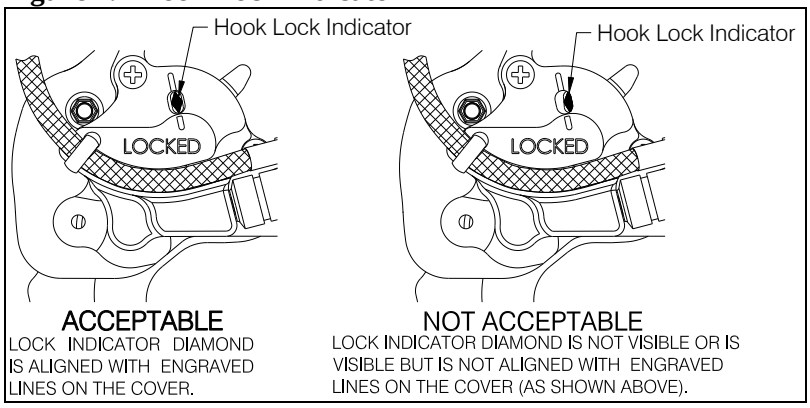
Pre-Flight Check continued

8. Check the operation of the cargo hook's secondary load release system. Pulling the release lever on the cyclic should cause the cargo hook to open. The cargo hook may be returned to the locked position by manually pushing up on the load beam. The cargo hook should snap shut. Verify that the hook lock indicator on the side of the hook returns to the fully locked position.

⚠ CAUTION

In the fully locked position the hook lock indicator should align with the lines on the cover (see Figure 4.2).

Figure 4.2 Hook Lock Indicator

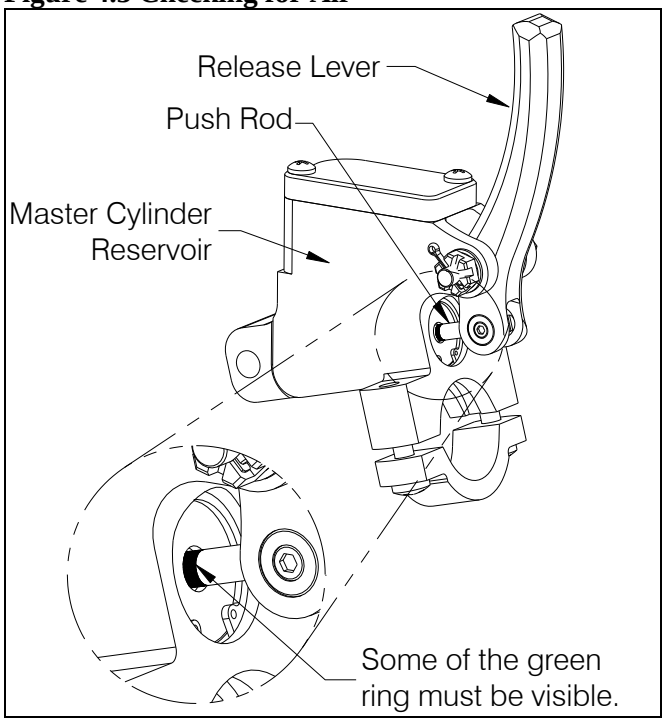


The hook may be flown in the open position to facilitate loading by ground crew.

Pre-Flight Check continued

9. Check the hydraulic release system for excess air in the lines by pulling the release lever firmly until it bottoms out. Check the push rod position (see Figure 4.3). If some of the green ring on the push rod is visible, the system is ready for use. If none of the green ring is visible, the system needs to be bled. Refer to applicable Owner's Manual or ICA for bleed instructions.

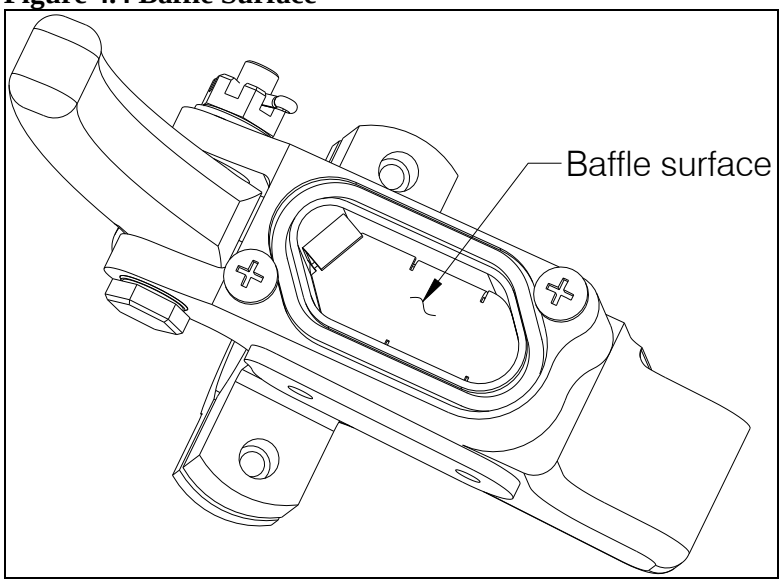
Figure 4.3 Checking for Air



Pre-Flight Check continued

10. Check the fluid level in the master cylinder reservoir. The master cylinder reservoir features a transparent lid through which the fluid level can be checked. Hydraulic fluid must be visible over the baffle surface (see below).

Figure 4.4 Baffle Surface

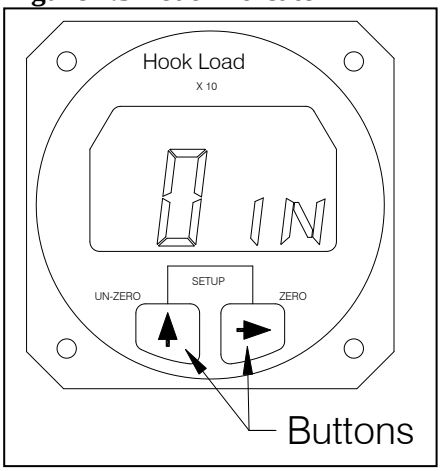


Pre-Flight Check continued

Step 5 only applies if the load weigh system (included with kit P/N 200-301-00) is installed.

11. 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 4.5) 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 4.5 Load Indicator



Cargo Hook Rigging

Extreme care must be exercised in rigging a load to the Cargo Hook. See Figure 4.6 for the recommended rigging configuration and rigging to avoid. The examples shown are not intended to represent all possibilities.

WARNING

It is the responsibility of the operator to ensure the hook will function properly with the rigging. Some combinations of small primary rings and large secondary rings could cause fouling during release.

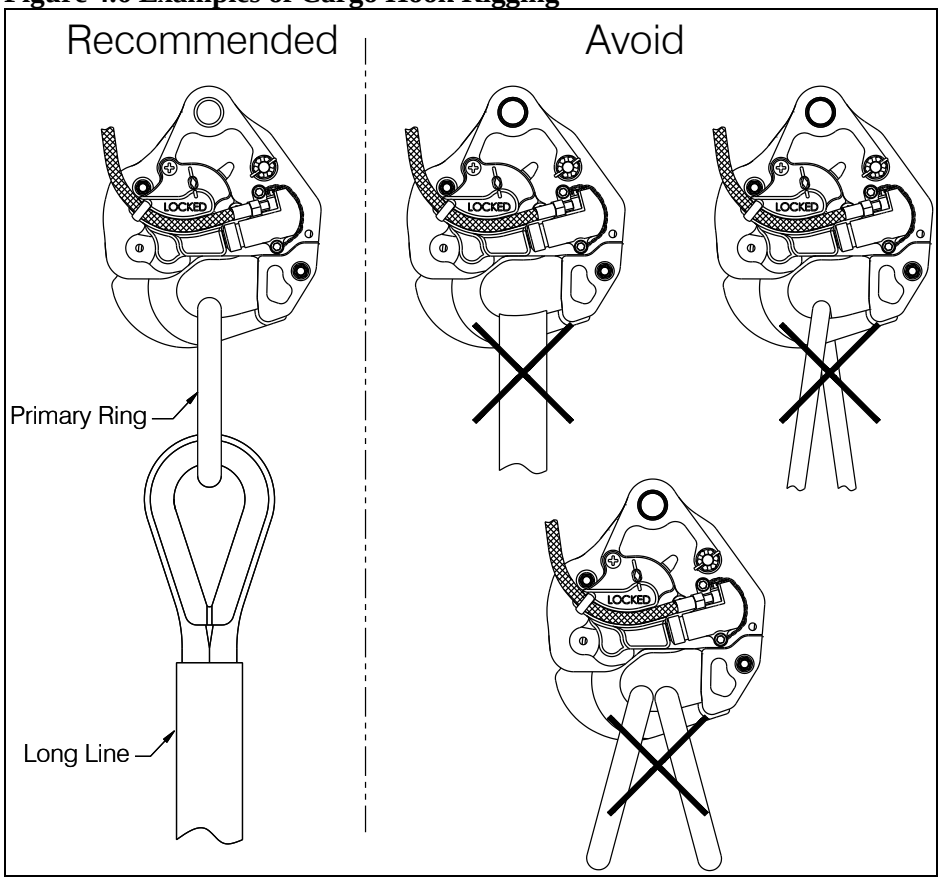
WARNING

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 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 4.5.

In Flight

Consult the MD Helicopter Rotorcraft Flight Manual Supplement for your particular model for normal in flight procedures.

Figure 4.6 Examples of Cargo Hook Rigging



PART V
PERFORMANCE

The basic Flight Manual and "Cargo Hook Kit" Flight Manual Supplement issued by MD Helicopters remain applicable when there is no external load attached.

When there is an external load attached, performance will be reduced depending on its size, weight and shape.

The following applies if the load weigh option is installed.

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 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.

PART VI
WEIGHT AND BALANCE DATA

Consult the MD Helicopter Rotorcraft Flight Manual Supplement for your particular helicopter model for weight and balance data.