



APPROVED FLIGHT MANUAL SUPPLEMENT

FMS MB 25.00.149 R0

Modification OAL114, Issue 6

Installation Cargo Swing

Airbus Helicopters AS350 B, B2, B3, BA and D

This supplement must be inserted behind the Rotorcraft Flight Manual (RFM) when the Oceania modification OAL114 has been installed.

The AS350 Flight Manual (latest revision) must be onboard the rotorcraft. The information contained herein supplements or supersedes the basic RFM in those areas described herein.

For limitations, procedures, and performance information not contained in this supplement, consult the basic Flight Manual.

Approved:  _____
Richard Andrews

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1. GENERAL

Modification OAL114 modifies standard cargo swing systems on Airbus Helicopters AS350 rotorcraft. Specifically the modification provides an alternate cargo swing frame, cargo hooks and load cells.

Information in this document supplements or supersedes information in the basic Rotorcraft Flight Manual and the Transport of External Loads Supplements. For limitations, emergency procedures, normal procedures and performance information not contained in this supplement refer to the basic Flight Manual, and the External Load Supplements as listed below in Table 1-1.

Table 1-1: List of external load supplements.

Rotorcraft	AS 350				
Variant	B	B2	B3	BA	D
Airbus Helicopters FMS #	2 / 2A	11 / 12	11 / 12 / 13	11 / 12	2 / 2A

Manuals relating to the Breeze-Eastern and Onboard systems cargo hooks and load cells refer to the respective Flight Manual Supplements as listed in Table 1-2 and Table 1-3.

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Table 1-2: Cargo Hooks

P/N	Manufacturer	Validity	FAA Approved Flight Manual Supplement
17149-1	Breeze Eastern	AS 350 B, B2, BA, D	Refer basic Flight Manual*
528-023-01	Onboard Systems	AS 350 B, B2, BA, D	123-014-00 Rev 1**
528-010-04		AS 350 B, B2, BA, D	120-050-00 Rev 1**
528-017-00		AS 350 B, B2, BA, D	120-072-00 Rev 5**
528-028-00		AS 350 B, B2, BA, D	121-014-01 Rev 0**
528-029-00		AS 350 B, B2, BA, D	121-014-02 Rev 0** or 121-005-01 Rev 1**

* The Breeze Eastern cargo hook is the standard AS350 hook.

** Or later FAA Approved revision.

Table 1-3: Load Cells

P/N Mod Kit	Manufacturer	Validity	FAA Approved Flight Manual Supplement
S12	Breeze Eastern	AS 350 B, B2, BA, D	Refer basic Flight Manual*
D00282-0005		AS 350 B, B2, BA, D	
E-69 210-046-01	Onboard Systems	AS 350 B, B2, BA, D	121-024-00 Rev 1**
E-86 210-221-00		AS 350 B, B2, BA, D	121-032-00 Rev 0**

* The Breeze Eastern load cell is the standard AS350 load cell.

** Or later FAA Approved revision.

2. LIMITATIONS

2.1. External Load Operations

With a load attached to the cargo hook, operation shall be conducted in accordance with NZ CAR Part 133, Helicopter External Load Operations.

2.2. Airspeed Limitations

The maximum permissible speed with load on the cargo hook is 80 kt. Care must be taken when carrying bulky loads on the sling.

NOTE

The pilot is responsible for determining the limit speed according to the load and sling length.

2.3. Cargo Load Limitations

The maximum permissible load on the cargo hook is the lesser of:

- 1400 kg (3086 lb) (the cargo swing frame design load including shackles cargo hook and cable);
- The rotorcraft undercarriage lifting capacity, refer Table 2-1;
- The cargo hook design load, refer Table 2-2;
- The load cell design load, refer Table 2-3;

WARNING

The rotorcraft's weight and balance must be within the envelope of the Flight Manual Supplement listed in Table 1-1.

Table 2-1: Maximum undercarriage lifting capacity of aircraft.

	Variant				
	B	B2	B3	BA	D
Undercarriage Capacity (kg [lb])	1160 [2557]	1160 [2557]	1400 [3086]	1160 [2557]	1160 [2557]

Table 2-2: Maximum loads on cargo hook.

P/N	Description	Load Capacity (kg [lb])
17149-1	Cargo hook	680 [1500]
528-010-04	Cargo hook	1587 [3500]
528-017-00	Bigmouth hook	
528-023-01	Keeperless cargo hook	
528-028-00	Hydraulic keeperless hook	
528-029-00	3600 lb keeperless hook	1633 [3600]

Table 2-3: Maximum loads on load cells.

P/N	Manufacturer	Load Capacity (kg [lb])
S12	Breeze Eastern	1160 [2557]
D00282-0005		1400 [3086]
E-69 210-046-01	Onboard Systems	1360 [3000]
E-86 210-221-00		1400 [3086]

IMPORTANT:

It is the responsibility of the operator to ensure that the load does not exceed the limitations of the cargo frame installation; the cargo hook, load cell or the operating capacity of the rotorcraft. Careful consideration must also be given to rotorcraft weight and balance when carrying external loads, refer to the external loads supplement for the specific rotorcraft type and model before any external load operations.

2.4. Placards

The following placard must be placed as indicated when modification OAL114 is installed.

- a) Mounted on cargo swing frame.

MAX CARGO WEIGHT
1400 KG (3086 LBS)
CAUTION : Rotorcraft and Hook
Limitations also apply

3. EMERGENCY PROCEDURES

Modification OAL 114 includes three standard methods for releasing the cargo hook load.

1. Electrical release switch.
2. Mechanical release lever.
3. Manual release on the cargo hook body.

The electrical and mechanical release mechanisms are standard installations. Refer to the basic Flight Manual and external load supplements (refer Table 1-1).

For cargo hook specific information, refer to the manuals as referred to in Table 1-2 of this Flight Manual Supplement.

4. NORMAL PROCEDURES

4.1. Pre-Flight Inspection

Add the following checklist to daily pre-flight visual inspections.

4.1.1. Exterior Check

- | | |
|--------------------------|---|
| - Cargo swing | Condition, security. |
| - Rotorcraft hard points | Condition. |
| - Cargo hook | Condition, security, hook operation (normal and jettison modes). |
| - Load cell | Condition, security, (IAW manufacturers operation manual, refer Table 1-3). |

4.2. Cargo Hook Rigging

Extreme caution should be exercised when attaching loads to the cargo hook. Ensure full familiarity with the basic Flight Manual, Flight Manual Supplements (refer Table 1-1) and the cargo hook manufacture's operating manual (refer Table 1-2) before operating.

After all load attachments, ensure cargo hook fully locked by applying upward thrust on the cargo hook load beam to ensure it is fully mated with stops.

It is the responsibility of the operator to ensure the cargo hook will function correctly with the rigging used.

WARNING

In wet weather, thick rubber gloves should be worn by the operator handling the hook and load. Release the charge of static electricity by placing an electrical conductor cable or tube between the ground and the cargo release unit (hook).

4.3. Installation and Removal

The cargo swing may only be installed and removed by those personnel approved for such work by the rotorcraft's maintenance organisation.

5. PERFORMANCE

Refer to the Flight Manual Supplement for the corresponding rotorcraft listed in Table 1-1.

6. WEIGHT AND BALANCE

The following weight and balance data applies to the installation of modification OAL114 and unless the rotorcraft equipment list indicates that modification OAL114 was installed at the last weighing this data must be taken into account when determining the weight and balance of the loaded rotorcraft.

Component	Weight (kg)	Station (m)	Moment (kg.m)
OAL114.AS350.MFG.1000 (Swing frame incl attachments)	12	3.27	39.2
17149-1 (Breeze Eastern)	1.7	3.27	5.6
528-010-04 Hook (Onboard Systems)	1.36	3.27	4.4
528-017-00 Hook (Onboard Systems)	2.6	3.27	8.5
528-023-01 Hook (Onboard Systems)	1.36	3.27	4.4
528-028-00 Hook (Onboard Systems)	1.36	3.27	4.4
528-029-00 Hook (Onboard Systems)	1.36	3.27	4.4
S12 Load Cell (Breeze Eastern)	0.58	3.27	1.9
D00282-0005 Load Cell (Breeze Eastern)	0.58	3.27	1.9
E-69 210-046-01 Load Cell (Onboard Systems)	0.68	3.27	2.2
E-86 210-221-00 Load Cell (Onboard Systems)	0.20	3.27	0.7