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INTRODUCTION

Scope

This installation instruction describes the step-by-step approach to install and to perform maintenance of the Helitowcart BearPaw Model BP 130 (P/N 112-0005-00) for the EC130-B4 helicopters.

General

The Helitowcart BearPaw is made of machined UHMW TIVAR® polymer sheet. This material combines high-impact performance, low friction and good resistance to chemical. Its high durability will provide superior performance when installed on your helicopter. Any question regarding the Helitowcart BearPaw system shall be directed to Helitowcart Customer Support as indicated in Table (1):

Table 1 – Helitowcart Customer Support

Care of	Mailing Address	Phone, Fax & Email:
Customer Support Helitowcart BearPaw Helitowcart (Vanair inc)	877A Alphonse-Desrochers St-Nicholas, Levis, Quebec, Canada, G7A 3K6	Tel:1 (418) 561-4512 Fax:1 (418) 836-4575 info@helitowcart.com

Helicopter Effectivity

This installation instruction applies to the following helicopter models:

Table 2 – Helicopter Model Effectivity

Make	Model	Transport Canada Type Certificate Data Sheet
Eurocopter	EC 130 B4	H-83

Installer Responsibilities

The installer shall ensure that the installation of the Helitowcart BearPaw does not conflict with any other part of the helicopter configuration. Technicians performing this installation should be familiar with A/C work and should have been familiarized with the different Helitowcart BearPaw system components prior to performing a first time installation. All steps in this procedure must be followed. Deviations from the procedures may result in potential structural failure or equipment malfunction and will result in a non-compliant installation.

INSTALLATION

BearPaw Installation

Reference Documentation:

[1] Helicopter Maintenance Manual EC130 as applicable.

Step 1: Helicopter Preparation

- Ensure the helicopter is safe for maintenance;
- Lift the helicopter using the manufacturer recommended practice provided in Ref [1] as applicable to your helicopter model to allow a ground clearance of the skid in the area of the aft cross tube of approximately 1 ½" (38mm);
- Remove Aft AN5 bolt;

Note: The BearPaw Model BP130 (P/N 112-0005-00) can be installed with or without the skid tube wear shoes.

Step 2: IceBlade Installation

Note: The BearPaw Model BP130 (P/N 112-0005-00) can be installed with or without the IceBlades

- With IceBlade Option
- Install ice blades (Qty: 4) (Iceblades P/N 314-0005-15) under BearPaw pad as per drawing (112-0005-00) provided at Annex A.
- Secure ice blades with washer (Washer P/N 263-0001-17) and nut (P/N 262-0001-17).

Step 3: BearPaw Installation

- Position the BearPaw under the skid as shown in Figure 1 with narrow edge pointing forward.
- Insert washers (P/N 263-0001-17) through all six bolts: 6x(261-0001-17);
- Insert bolts (P/N 261-0001-17) and washer (Washer P/N 263-0001-17) through BearPaw pad as per drawing (112-0005-00) provided at Annex A;
- Insert filler blocks (P/N314-0015-01) in the six bolts as per drawing (112-0002-00) provided at Annex A;

Note: The use of filler blocks (P/N314-0015-01) may be replaced or complemented by the use of washers (P/N 263-0001-17) to fill in the gap. Bolts (P/N 261-0001-17) may be replaced by longer or shorter AN4 bolts as required.

- Insert both U-shaped clips (P/N 314-0026-15) through forward bolts: 4x(261-0001-17);
- Insert both L-shaped clips (P/N 314-0025-15) through aftward bolts: 2x(261-0001-17);
- Insert slotted clip supports (P/N 314-0007-15) through all six bolts. Position slotted clip supports with rounded edge toward helicopter skid;
- Insert washer (P/N 263-0001-17) & screw nuts (P/N 262-0001-17) for a tight fit. Max. torque on nuts 60 in.-lb;
- Re-install removed AN-5 Bolt from step one;
- Remove helicopter from lift;
- Amend Weight & Balance records as required using data provided in Table 3.

Figure 1 – BearPaw Model BP130 (P/N 112-0005-00) - Alignment on Skid



BearPaw Removal

Step 1: Helicopter Preparation

- Ensure the helicopter is safe for maintenance;
- Lift the helicopter using the manufacturer recommended practice provided in Ref [1] to allow a clearance of the skid in the area of the aft cross tube of approximately 1 ½" (38mm);

Step 2: BearPaw Removal

- Remove aftward AN5 bolt;
- Remove nuts (P/N 262-0001-17), slotted clip support (P/N 314-0007-15) on U-shaped clips (P/N 314-0026-15)2x and L-shaped clips (P/N 314-0025-15);
- Remove washers (P/N 263-0001-17), U-shaped clips (P/N 314-0019-15), L-shaped clips (P/N 314-0025-15), filler blocks (P/N314-0015-01) and remove BearPaw pad (P/N 314-0024-01);
- Inspect skid tubes to confirm serviceability;
- Re-install aftward AN5 bolt;
- If the skid tube shoes have been removed, re-install shoes as per reference [1];
- Complete installation by putting helicopter back to normal position by removing lift status;
- Amend Weight & Balance records as required using data provided in Table 3.

Weight & Balance

The following information should be used to amend the helicopter weight and balance information following the installation or removal:

Table 3 – Weight & Balance Data

Item	Weight	Lateral		Longitudinal	
		Arm	Moment	Arm	Moment
Helitowcart BearPaw Model BP130 (P/N 112-0005-00)	20.0 Lb 9.1 Kg	N/A	N/A	182.2 in. 462.9 cm	3644.0 in-lb 42.12 m-kG

Note: Weight and moment provided are for full kit installation.

Parts Lists

The Helitowcart BearPaw detailed parts list is as follow:

Table 4 – Parts List

Description	Qty	Part No.	Drawing no./name
BearPaw Model BP130	1	112-0005-00	BearPaw BP130 Assembly
BearPaw Pad	1	314-0024-01	BearPaw BP130 – Pad
U Shaped Clips	2	314-0026-15	BearPaw BP130 - U Shaped Clips
L Shaped Clips	2	314-0025-15	BearPaw BP130 - L Shaped Clips
Slotted Clip Support	6	314-0007-15	BearPaw - Slotted Clip Support
Filler blocks 3/32"	6	314-0015-01	BearPaw – Filler block 1/8"
Bolts	6	261-0001-17	Bolt- AN4-14
Nuts	6	262-0001-17	Nut- MS20365-428

Washers	12	263-0001-17	Washer – AN960-416
Shrink	3	314-0021-01	BearPaw – Shrink Specifications & Install.(1"x6.25")
IceBlade Option Model OIB	4	314-0005-15	VNR086 / IceBlade Assembly
Nuts	8	262-0001-17	Nut- MS20365-428
Washers	8	263-0001-17	Washer – AN960-416

INSPECTION

Life Limited Items

Three are no life limited items for the Helitowcart BearPaw.

Pre-Flight

Before each flight the following items should be inspected:

- Check that attachment bolts are installed and secured,
- Check that BearPaws are free from visible damage,
- If damage is found, verify allowable damage according to:
 Table 5 – Tolerances for cracks & wear and
 Annex B – BearPaw BP130 Allowable Damage Drawing

Periodic Inspection Schedule

- The Helitowcart BearPaw shall be inspected every 500 flying hours or yearly whichever comes first.
- The Helitowcart BearPaw can be inspected concurrently with the helicopter landing gear inspection.
- Recommended tolerance for performance of inspection is +/- 10% of the 500 hours period.
- Following an inspection, subsequent interval shall be adjusted to meet the original schedule from time of inspection. If inspection is performed earlier than the 10% tolerance, then following inspections shall be scheduled not to exceed the above mentioned tolerance.

500 Hour or Yearly Inspection Details

- Remove Helitowcart BearPaw: See Section "BearPaw Removal",
- Inspect all parts for damage & wear. See table & figure below for allowable damage,
- Replace all damaged parts,
- Replace parts worn beyond the tolerances indicated below.
- See Tolerances for cracks & wear:
 Table 5 – Tolerances for cracks & wear, &
 Annex B – BearPaw BP130 Allowable Damage Drawing

Table 5 – Tolerances for Cracks & Wear

Zone	Nominal Dimension (Inches)	Allowable Damage/Wear (Inches)	Cracks
A	0,50	0,050	
B	1,000	0,250	
C	0,625	0,075	<u>Stiffeners</u> : NO cracks allow in the radius.
D	0,50	0,050	

E	0,05 (FWD) 0.625 (AFT)	0,050 0,075	<u>Holes:</u> NO cracks around the holes.
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Overhaul Requirements

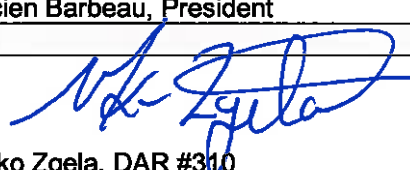
- Not applicable for the designated application of this device.

REVISIONS & APPROVAL

Revisions

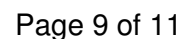
Date	Rev	Nature of Revisions
May 04, 2006	A	Initial issue

Approval

Internal Approval :		
Helitowcart inc.	Lucien Barbeau, President	Date:
External Approval :		
Transport Canada	 Mirko Zgela, DAR #310	Date: <i>May 4, 2011</i>

Annex A

BearPaw Assembly, Drawing no. (112-0005-00)



Annex B

BearPaw Pad, Drawing no. 314-0024-01 Page 4 of 4.

