

SERVICE BULLETIN

**Kawasaki BK117**

TITLE: Rescue Winch System - Inspection of the Boom and Support Assembly

1. EFFECTIVITY

(1) Helicopters Affected:

<u>Model</u>	<u>Mfg. Serial No.</u>
KAWASAKI-BK117 C-2	All (Helicopters equipped with the Rescue Winch System)

(2) Parts Affected:

<u>Part No.</u>	<u>Part Name</u>	<u>Remarks</u>
44307-500	Boom and Support Assembly	

2. PURPOSE

In accordance with EASA's new requirements for HEC (Human External Cargo), fatigue strength calculations have been performed on the boom and support assembly, a component of the rescue winch system, thereby adding a repetitive inspection.

This Service Bulletin describes the determination of the hoist cycle and the inspection of the boom and support assembly accordingly.

3. CATEGORY

MANDATORY

4. COMPLIANCE

- (1) Determination of the Hoist Cycle for the Boom and Support Assembly
After receipt of this Service Bulletin, accomplish the work in accordance with section 9.(1) of this Service Bulletin within four weeks.
- (2) Inspection of the Boom and Support Assembly
 - a. If hoist cycles are more than or equal to 3,330
Perform an initial inspection in accordance with section 9.(2) before the next hoist operation.
 - b. If hoist cycles are less than 3,330
Perform an initial inspection in accordance with section 9.(2) before 3,330 hoist cycles are reached.
 - c. After initial inspection
Repeat the inspection in accordance with section 9.(2) every 3,330 hoist cycles.

5. JCAB APPROVAL

Approved by JCAB.

6. LOGBOOK ENTRY

Make an entry in the Aircraft Logbook and on the Boom and Support Assembly Log Card stating that the work has been accomplished in accordance with KSB-117-481.

7. MAN-HOUR REQUIRED

Approximately 0.5 man-hours (for reference only) will be required for the hoist cycle determination.

Approximately 4 man-hours (for reference only) will be required for replacement of the boom and support assembly.

8. WEIGHT AND BALANCE CHANGE

None.

9. ACCOMPLISHMENT INSTRUCTIONS

(1) Determination of the Hoist Cycles for the Boom and Support Assembly

a. Method to determine hoist cycles

(a) If the hoist cycles for the boom and support assembly are known:

Determine the hoist cycles to be the recorded value and proceed to section 9.(1) d.

(b) If the hoist cycles for the boom and support assembly are unknown:

Proceed to section 9.(1) b. or c., and determine the hoist cycles to be the calculation result of the flight hours (hereafter, "Fh") or TSN/TSO.

b. Calculation of the hoist cycles of the boom and support assembly in accordance with the Fh or TSN (for the boom and support assemblies that have not been overhauled)

(a) If the Fh of the boom and support assembly are known:

- Multiply the Fh of the boom and support assembly by 2, and then use the result as the hoist cycles for the boom and support assembly.

Example: The affected boom and support assembly was installed on a helicopter for 60.10 Fh (round up to the next full Fh).

Total: $61 \times 2 = 122$ hoist cycles for the boom and support assembly

- Proceed to section 9.(1) d.

(b) If the Fh of the boom and support assembly are unknown:

- Multiply the TSN (months) of the boom and support assembly by 50, and then use the result as the hoist cycles for the boom and support assembly since manufacturing.

Example: The TSN of the affected boom and support assembly is 8 years, 3 months and 10 days (rounded up to the next full month: $8 \times 12 + 4 = 100$ months)

Total: $100 \text{ (months)} \times 50 \text{ (hoist cycles of the boom and support assembly/month)} = 5,000$ hoist cycles for the boom and support assembly from TSN

- Proceed to section 9.(1) d.

- c. Calculation of the hoist cycles of the boom and support assembly in accordance with the Fh or TSO (for the boom and support assemblies that have been overhauled)
 - (a) If the Fh of the boom and support assembly since the last overhaul (TSO) are known:
 - Multiply the TSO of the boom and support assembly by 2, and then use the result as the hoist cycles for the boom and support assembly from TSO.
Example: TSO of the affected boom and support assembly is 9.05 Fh (round up to the next full Fh).
Total: $10 \times 2 = 20$ hoist cycles for the boom and support assembly from TSO
 - Proceed to section 9.(1) d.
 - (b) If the Fh of the boom and support assembly from TSO are unknown:
 - Multiply the TSO (months) of the boom and support assembly by 50, and then use the result as the hoist cycles for the boom and support assembly from TSO.
Example: TSO of the affected boom and support assembly is 11 months and 2 days (round up to the next full month: $11 + 1 = 12$ months).
Total: $12 \text{ (months)} \times 50 \text{ (hoist cycles of the boom and support assembly/month)} = 600$ hoist cycles for the boom and support assembly from TSO
 - Proceed to section 9.(1) d.
- d. Complete the hoist cycle determination by making an entry in the Aircraft Logbook and on the Boom and Support Assembly Log Card.

(2) Inspection of the Boom and Support Assembly

- a. Preparation
 - (a) Remove the externally mounted boom and support assembly from the helicopter in accordance with AMM 85-12-02, 4-1.
 - (b) Remove the rescue hoist from the boom and support assembly in accordance with CMM 25-00-21-1.
 - (c) Remove the wire harness from the boom and support assembly in accordance with CMM 25-00-21-1.
 - (d) Remove the sealing compound from the joint between the boom elbow (2,

Figure 1) and the boom tube (3) in accordance with CMM 25-00-21-1.

- (e) Remove the boom tube (3) from the boom elbow (2) in accordance with CMM 25-00-21-1.

b. Procedure

Perform an inspection of the boom and support assembly in accordance with the following.

- (a) Clean the boom and support assembly (1, Figure 1) in accordance with CMM 25-00-21-1.
- (b) Use a magnifying glass (MAX 6x), a borescope, and as necessary, a mirror to inspect the inner and the outer surfaces of the boom and support assembly (1), especially in ZONE A of Figure 1 and the riveted areas for the following:
 - Cracks
 - Deformation
 - Dents
 - Corrosion
 - Other damage
- (c) If cracks, deformations, dents, corrosion and/or other damage are discovered, send the boom and support assembly (1) to a qualified repair shop for inspection and repair.

c. Close Up

- (a) Install the boom tube (3, Figure 1) on the boom elbow (2) in accordance with CMM 25-00-21-1.
- (b) Apply sealing compound to the joint between the boom elbow (2) and the boom tube (3) in accordance with CMM 25-00-21-1.
- (c) Install the wire harness on the boom and support assembly in accordance with CMM 25-00-21-1.
- (d) Install the rescue hoist on the boom and support assembly in accordance with CMM 25-00-21-1.
- (e) Install the boom and support assembly on the helicopter in accordance with AMM 85-12-02, 4-1.
- (f) Clean the work area.

- d. Complete the boom and support assembly inspection by making an entry in the

10. PARTS AND MATERIALS INFORMATION

- (1) Required Parts for One Helicopter

None required.

- (2) Required Materials for One Helicopter

Specification	Nomenclature	Qty	Remarks
SAE AMS-S-8802 Class B-2 or Equivalent	Sealing Compound	AR	CM 662 (NOTE)

NOTE: CM part numbers indicate consumable material CM numbers in the
MAINTENANCE MANUAL.

- (3) Parts to be Removed

None.

11. SPECIAL TOOLS REQUIRED

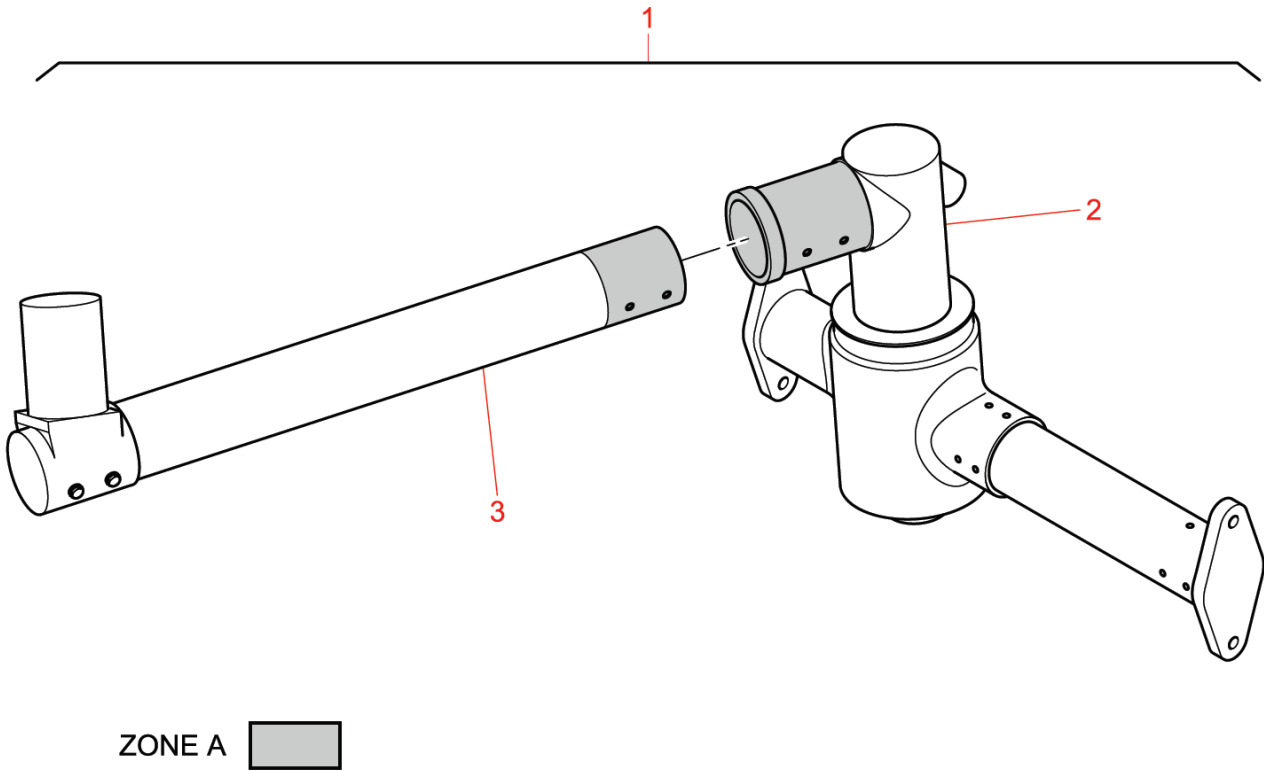
None required.

12. REFERENCE TECHNICAL DATA

KAWASAKI BK117C-2 AIRCRAFT MAINTENANCE MANUAL (AMM)

GOODRICH COMPONENT MAINTENANCE MANUAL PART NUMBER 44301-1

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- 1. Boom and Support Assembly
- 2. Boom Elbow
- 3. Boom Tube

**Figure 1 Inspection of the Boom and Support Assembly
(Shown mounted on the left side)**