



SERVICE BULLETIN

DATE: 26 NOVEMBER 2003

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TAILBOOM ASSEMBLY OVERLAP INSPECTION AND REWORK

1. PLANNING INFORMATION

A. Aircraft Affected:

Model 500N and 600N Helicopters, equipped with the part numbered and serial numbered tailboom assemblies listed below.

B. Assembly/Components Affected By This Bulletin:

Tailboom Assembly, P/N 500N3600-501, S/N: 006040-0001 thru 006040-0011.
Tailboom Assembly, P/N 600N3500-507, S/N: 006040-0001 thru 006040-0003,
006040-0005, 006040-0007, 006040-0008.
Tailboom Assembly, P/N 600N3500-509, S/N: 006040-0001 thru 006040-0003,
007604-0001, 007604-0002.

C. Reason:

To notify 500N and 600N operators that certain part numbered/serial numbered tailboom assemblies contain overlaps in the outer skin longitudinal splices that do not meet design criteria.

Failure to comply with this Bulletin may result in cracks in the tailboom assembly. This condition could lead to component failure and result in loss of control of the helicopter.

D. Description:

Procedures in this Bulletin provide affected owners and operators with information pertaining to a recurring inspection of specific serial numbered tailboom assemblies and reworking the affected tailboom assemblies by installing doublers.

E. FAA Approval:

The technical design aspects of this Bulletin are FAA Approved.

F. Manpower:

Part 1: 0.5 man-hours. **Part 2:** 30-50 man-hours.

G. Time of Compliance

Perform the requirements of this Bulletin according to the indicated schedule:

Part 1:

- Inspection - Perform before the next flight and every 25 flight hours until Part 2 of this Bulletin is accomplished.

Part 2:

- Rework - Perform before the next 400 flight hours or no later than one year after the issued date of this Bulletin, whichever occurs first.

H. Interchangeability:

None

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I. Material/Part Availability:

Contact MDHI Warranty and Repair Dept.

| REPLACEMENT PARTS/SUPPLIES | | | |
|-----------------------------------------------------------------------|------------|----------|----------------------------------------------------------------------------------------------------------------------------|
| Nomenclature | Part No. | Qty. | Source |
| Doubler (500N) | QR016880-1 | 2 | MDHI |
| Doubler (600N) | QR016883-1 | 2 | MDHI |
| Sandpaper, 180 and 120 grit | | AR | Commercial |
| Methyl-ethyl-keytone (MEK) TT-M-261 or Acetone O-A-51 | | AR | Commercial Commercial |
| Gloves, Latex or Cotton | | AR | Commercial |
| Berol silver pencil or equivalent | | 1 | Commercial |
| Adhesive, epoxy MDM 16-1068, C7 | EA9309.3 | AR | Loctite Aerospace 2850 Willow Pass Rd., P.O. Box 312 Bay Point, CA 94565-0031 (925) 458-8000 (800) 424-9300 |
| Tape, Flashbreaker MDM 20-1267/1520, /1521, /1522, /1650, /1693 | | AR | Airtech International, Inc. 5700 Skylab Road Huntington Beach, CA 92647 (714) 899-8100 |
| Scrim Cloth, 0.3 oz/sq yd MDM 20-1267/1013 | | AR | Commercial |
| Release Film | A4000 RED | AR | Airtech International, Inc. 5700 Skylab Road Huntington Beach, CA 92647 (714) 899-8100 |
| Dry Fiberglass Breather material | N10 | AR AR | Commercial Airtech International, Inc. 5700 Skylab Road Huntington Beach, CA 92647 (714) 899-8100 |
| Vacuum Bagging Materials | | AR | Commercial |

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| REPLACEMENT PARTS/SUPPLIES (Cont.) | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nomenclature | Part No. | Qty. | Source |
| Vacuum Pump (Capable of supplying 20-29 in. HG (63-91 kPa)) | | 1 | Commercial |
| Fairing Compound and/or Fairing Compound MDM-16-1068, CL6 | Evercoat Glaze Coat #417 EA960F | AR AR | Fibre Glass-Evercoat 6600 Cornell Rd Cincinnati, OH 45242-2000 (513) 489-7600 Loctite Aerospace 2850 Willow Pass Rd., P.O. Box 312 Bay Point, CA 94565-0031 (925) 458-8000 (800) 424-9300 |
| Epoxy Primer MIL-P-23377 or 350 HS Primer 535K020 / 930K097 | | AR | Commercial PRC-Desoto International, Inc 5454 San Fernando Rd Glendale, CA 91203 (818) 240-2060 |
| Topcoat MDM 15-1100, TII or TIII: Deft Type II, Class 2 Akzo Nobel Type II, Class 3 PRC Desoto Type II (420 EHS) | | AR | Deft Inc 17451 Von Karman Avenue Irvine, CA 92614-6295 (800) 544-3338 (949) 474-0400 Akzo Nobel Aerospace Coatings East Water Street Waukegan, IL 60085 (847) 625-3340 PRC-Desoto International, Inc 5454 San Fernando Rd Glendale, CA 91203 (818) 240-2060 |

J. Warranty Policy:

MDHI will provide parts and a technician to perform the rework. Contact your local MDHI Field Service Representative or the Field Service Department for scheduling.

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K. Tooling:

| TOOLS AND EQUIPMENT | |
|----------------------------------------------------------------------------|--------|
| Nomenclature | Source |
| Template (500N), P/N 500N3536-PAT1 (consists of upper and lower templates) | MDHI |
| Template (600N), P/N 600N3510-PAT1 (consists of upper and lower templates) | MDHI |
| Caul (500N), P/N 500N3536-ATP1 | MDHI |
| Caul (600N), P/N 600N3510-ATP1 | MDHI |

L. Weight and Balance:

| MODIFICATION | WEIGHT Pounds (kg) | LONGITUDINAL ARM Inches (cm) | LATERAL ARM Inches (cm) |
|---------------------------------|-----------------------|---------------------------------|----------------------------|
| Tailboom Assembly Rework (500N) | 1.07 (0.48) | 222.7 (565.7) | 2.70 (6.9) |
| Tailboom Assembly Rework (600N) | 1.40 (0.63) | 236.7 (601.2) | 2.70 (6.9) |

M. Electrical Load Data:

N/A

N. Other Publications Affected:

N/A

O. Points of Contact

For further assistance, contact your local MDHI Field Service Representative or contact the Field Service Department at MDHI, Mesa, Arizona.

Telephone 1-800-388-3378 or (480) 346-6387.

DATAFAX: (480) 346-6813.

2. ACCOMPLISHMENT INSTRUCTIONS

(Ref. Figure 1)

A. Part 1: Inspection of Tailboom Assembly

- (1). Visually inspect indicated areas for cracks in paint.
- (2). If cracks in paint are found, contact MDHI Field Service Department for further instructions.
- (3). Repeat this inspection every 25 flight hours until Part 2 of this Bulletin is accomplished.

B. Part 2: Rework of Tailboom Assembly

- (1). If installed, remove tailboom from helicopter (Ref CSP-HMI-2, Section 53-40-30, Tailboom Removal) and place in cradle or sawhorses in secure manner.

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- (2). Place upper and lower templates on tailboom and secure in place with tape. Mark doubler locations through template eyebrows for forward and aft locations.
- (3). Remove templates from tailboom.
- (4). Mask off repair area to prevent damage surrounding area.



Use care to prevent damage to plies by over sanding.

- (5). Remove paint or primer in repair area (if applicable) by sanding with 120 grit or finer sandpaper. When paint and primer is removed, sand rework area using 180 grit or finer sandpaper.
- (6). Solvent wipe repair area using clean cloth dampened with Methyl-ethyl-keytone (MEK) or Acetone until there is no visible residue on cloth.
- (7). Let air dry for 15 minutes minimum.
- (8). Remove peel ply from doublers.
- (9). Abrade doublers peel ply surface with 180 grit sandpaper.
- (10). Solvent wipe doublers using clean cloth dampened with Methyl-ethyl-keytone (MEK) or Acetone until there is no visible residue on cloth.
- (11). Let air dry for 15 minutes minimum.
- (12). While wearing clean latex or cotton gloves, locate doubler to tailboom surface using 1 inch flashbreaker tape. Mask an area 0.25 inch (6.4 mm) beyond doubler to prevent squeeze out from adhering to surface.
- (13). Perform final solvent wipe down on tailboom and doubler.
- (14). Let air dry for 15 minutes minimum.
- (15). Mix two batches of 100 gm each of epoxy adhesive per manufacturer's instructions. Save small sample for Durometer test.
- (16). Apply epoxy adhesive to surfaces of mapped out area of tailboom and to doublers.
 - (a). Use a squeegee to apply adhesive.
 - (b). Use 4 inch foam roller to spread adhesive evenly across both surfaces.
- (17). Center scrim cloth over adhesive on tailboom surface. Lightly press scrim cloth into adhesive.
- (18). Position and align doubler on tailboom using previously marked forward and aft centerlines.
- (19). Tape doubler into position radially and longitudinally with 1 inch flashbreaker tape.
- (20). Center perforated release over doubler and tape in place.
- (21). Position caul over doubler using previously marked forward and aft centerlines.
- (22). Tape caul into position radially and longitudinally with 1 inch flashbreaker tape.

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Ensure there is adequate release tape or release film on caul to prevent adhesion to doubler.

- (23). Place breather material (dry fiberglass or Airtech N10) over caul. Position breather material so it overlaps scrim cloth on all edges and tape into place.

NOTE: Ensure that breather path to repair area and vacuum source is not pinched off.

- (24). Position bagging film over sealant tape. Ensure adequate space is available to install two vacuum ports outside repair area.

- (25). Slowly apply vacuum to repair area and roll over caul with rubber roller.

- (a). Start rolling from center outward, forward and aft.
- (b). Start rolling again from center and roll side to side to edges of caul.
- (c). Keep repair area under vacuum of 20 to 29 inch HG (63-91 kPa) for 16 hours minimum.

- (26). After cure remove vacuum source and vacuum bagging materials.

- (27). Inspect area for doubler position, and voids (tap test).

- (a). Void areas of 0.75 in. (19.1 mm) with separation of 1.0 in. (25.4 mm) are acceptable. Total void area cannot exceed 10% of total bonded area.
- (b). No voids open to edge are permitted.
- (c). Fill edge voids with epoxy adhesive as required.

- (28). Clean up excess resin squeeze-out with sandpaper, as required.

- (29). Fill and fair with fairing compound, as required.

- (30). Solvent wipe repair area using clean cloth dampened with Methyl-ethyl-keytone (MEK) or Acetone until there is no visible residue on cloth.

- (31). If required, prime repaired tailboom with epoxy primer per manufacturer's instructions.

- (32). If required, apply topcoat to repaired tailboom per manufacturer's instructions.

- (33). If required, install tailboom (Ref CSP-HMI-2, Section 53-40-30, Tailboom Installation).

3. IDENTIFICATION

N/A

4. DISPOSITION OF PARTS REMOVED

N/A

5. COMPLIANCE RECORD

Record Compliance with this Service Bulletin in the Compliance Record section of the helicopter Log Book.

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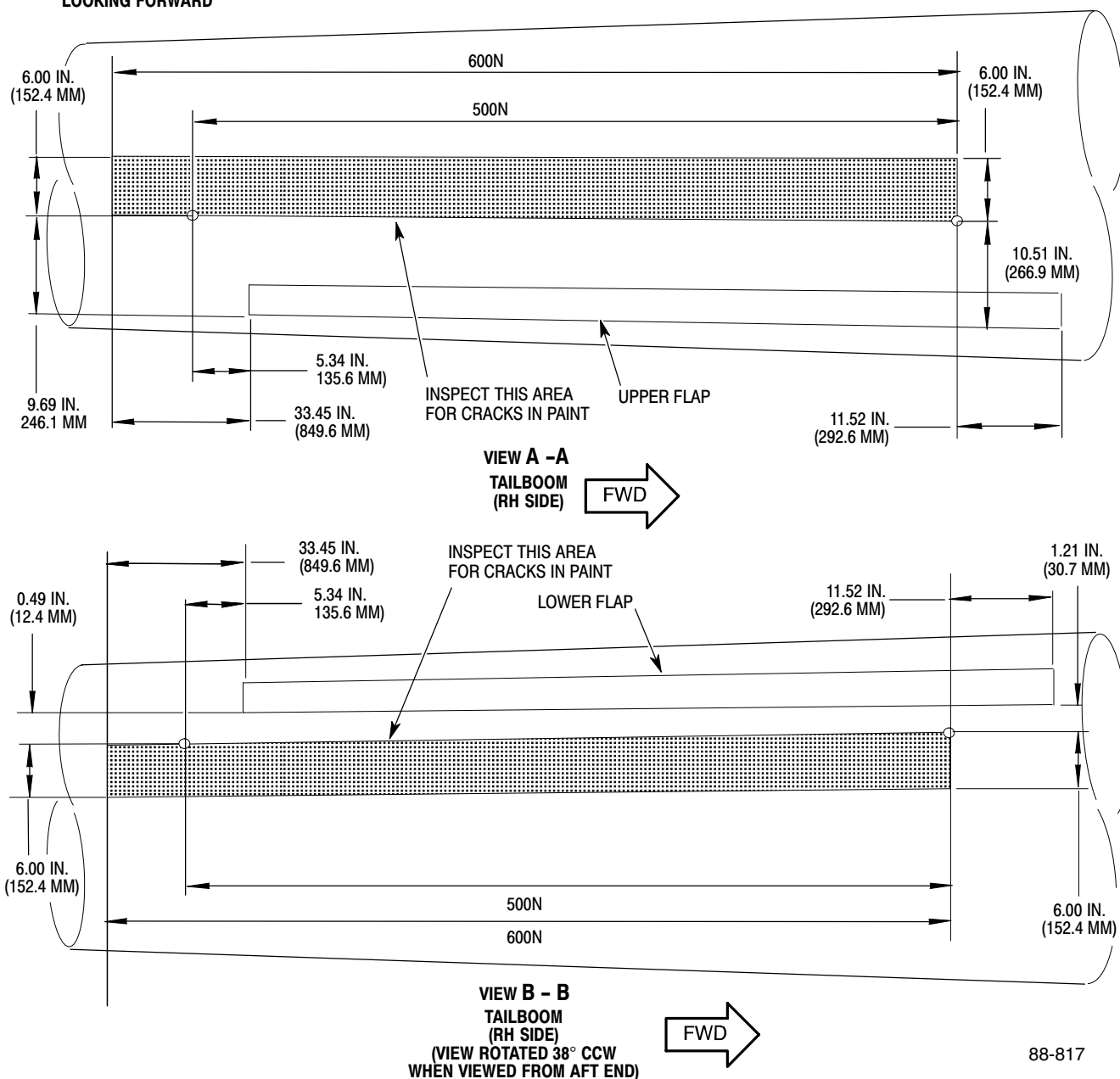
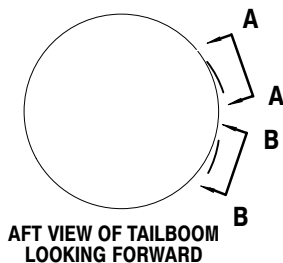


Figure 1. Tailboom Assembly Inspection

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