SERVICE BULLETIN

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MAIN ROTOR BLADE ROOT END INSPECTION

WARNING **Failure to comply with the requirement of this Notice may result in separation of the main rotor blade from the helicopter during operation.**

1. PLANNING INFORMATION:

A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) 369 and 500N series helicopters.

B. Assembly/Components Affected by this Notice:

All 369A1100- BSC thru 369A1100-507, 369A1100-601, 369A1100-603, 369D21100-BSC thru 369D21100-517 and 369D21102-BSC thru 369D21102-517 main rotor blades.

C. Reason:

Due to reports that MDHI has received from sling load operators in the field, MDHI is requiring all operators to inspect all main rotor blades for cracking and bonding separation between the lower surface root fitting and the doubler at the inboard end. Specifically, the inspections contained in this Notice, concentrate on the most outboard root fitting attachment bolt. The inspections required by this Notice are to be accomplished in conjunction with main rotor blade inspections already required as referenced in paragraph D. below.

D. Reference Inspections:

(1). Handbook of Maintenance Instructions daily inspection of all main rotor blades for cracks.

(2). Pilot Flight Manual daily preflight check of main rotor blade root end fitting for chordwise cracks.

(3). Handbook of Maintenance Instructions 100 hour inspection using a 5X to 10X magnifying glass inspecting root fittings for cracks.

(4). FAA Airworthiness Directive 95-03-13 100 hour inspection of main rotor blade root fitting lug and doublers adjacent to root fitting.

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E. Description:

PART I - ONE-TIME INSPECTION:
PART I of this Notice contains a one-time visual inspection of the main rotor blade root end for chordwise cracks and paint/sealant cracking between the lower root end fitting and the doubler. **PART I** is to be performed with the main rotor blade installed and raised off of the droop stop.

PART II - REPETITIVE 100-HOUR INSPECTION:
PART II of this Notice is a repetitive 100 hour inspection of main rotor blades for chordwise cracks and separation between the lower root end fitting and doubler. **PART II** of this Notice is to be performed with the main rotor blades removed.

F. FAA Approval:

The design engineering aspects of this Notice have been shown to comply with the applicable Federal Aviation Regulations, and are FAA Approved.

G. Time of Compliance:

PART I of this Notice shall be accomplished within the next 10 hours of helicopter operation. **Note:** the requirements of **PART I** only have to be accomplished once.

PART II of this Notice shall be accomplished at the next scheduled 100 hour inspection and at each subsequent 100 hours of helicopter operation.

H. Warranty Policy:

N/A.

2. ACCOMPLISHMENT INSTRUCTIONS:

A. PART I - ONE-TIME INSPECTION

(1). With the main rotor blade lifted off of the droop stop, observe the area shown in Figure 1 for any indications of chordwise cracking emitting from the root fitting edge on the blade doubler and skin. Cracking can travel toward both the leading and trailing edges of the blade. **NOTE:** Based on field reports, chordwise cracking is most likely to be found in line with the outermost bolt. If any chordwise cracking is noted, the blade is unserviceable. Operators should contact their local Field Service Representative for disposition of unserviceable blades. If no cracking is noted, proceed to Step A.(2).

(2). With the main rotor blade lifted off the droop stop, inspect for missing or cracked adhesive/paint at the root end to doubler bonding line in the area shown in Figure 1. If there is any missing or cracked adhesive/paint in the root end fitting to doubler bond line, proceed to Step B. If no cracking is evident, further operation is allowed.

B. PART II - REPETITIVE INSPECTION

(1). Remove main rotor blade.

(2). Using a 10X magnifying glass, inspect the area shown in Figure 1 for any indications of chordwise cracking emitting from the root fitting edge on the blade doubler and skin. Cracking can travel toward both the leading and trailing edges of the blade. **NOTE:** Based on field reports, chordwise cracking is most likely to be found in line with the outermost bolt. If any chordwise cracking is noted, the blade is unserviceable. Operators should contact their local Field Service Representative for disposition of unserviceable blade. If no cracking is noted, proceed to Step B.(3).

(3). Inspect blade for missing or cracked adhesive/paint at the root end fitting to doubler bonding line in the area shown in Figure 1. If there is any missing or cracked adhesive/paint, proceed to step B.(4). If no cracking is evident, skip step B.(4). thru B.(6).

CAUTION DO NOT use any feeler gauges, knives, plastic wedges, etc., when performing the following step.

(4). Loosen but **DO NOT remove** the root end fitting outboard bolt and nut.

(5). Using a .004 inch thick piece of Mylar/viewfoil (stapled to this Notice), attempt to insert the corner of the Mylar in between the lower root fitting and the doubler surface in the area shown in Figure 1. If Mylar can be inserted, contact a MDHS Field Service Representative for disposition of the blade. If the Mylar can be inserted .10 inch or greater, remove the blade from service. **NOTE**: Measurement of insertion is from the edge of the root fitting. If the Mylar cannot be inserted, the blade is serviceable, proceed to step B.(6).

CAUTION Correct torque application to the outboard root fitting attach bolt is important to maintaining continued blade serviceability.

(6). Ensure that a minimum run-on drag torque of 3.5 inch pounds can be achieved when re-torquing the outboard nut. If the minimum drag torque cannot be achieved, the self-locking nut must be replaced with a serviceable nut. Apply a torque of 60-65 inch pounds to the outboard nut.

3. DISPOSITION OF PARTS REMOVED:

Contact a MDHI Field Service Representative for disposition of unserviceable blades.

4. COMPLIANCE RECORD:

Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book.

5. POINTS OF CONTACT:

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the Business Development and Customer Support handbook for address and telephone numbers) or contact the Commercial Field Service Department at MDHI, Mesa Arizona. Telephone: 1-800-388-3378 or (602) 891-6342. DATAFAX: (602)891-6782.

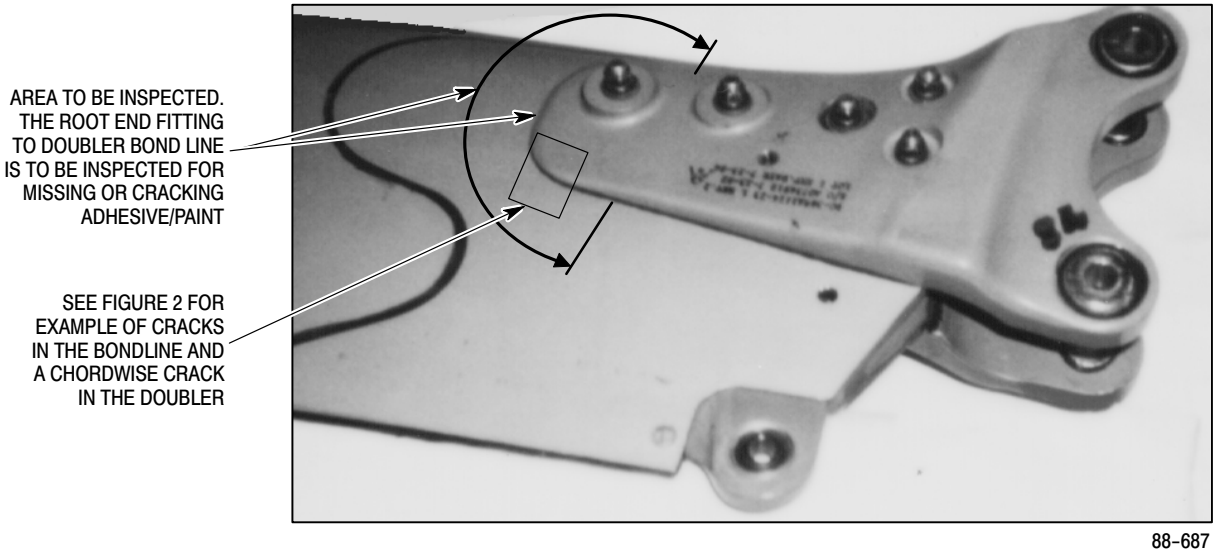

Figure 1. Main Rotor Blade Root Fitting Inspection.

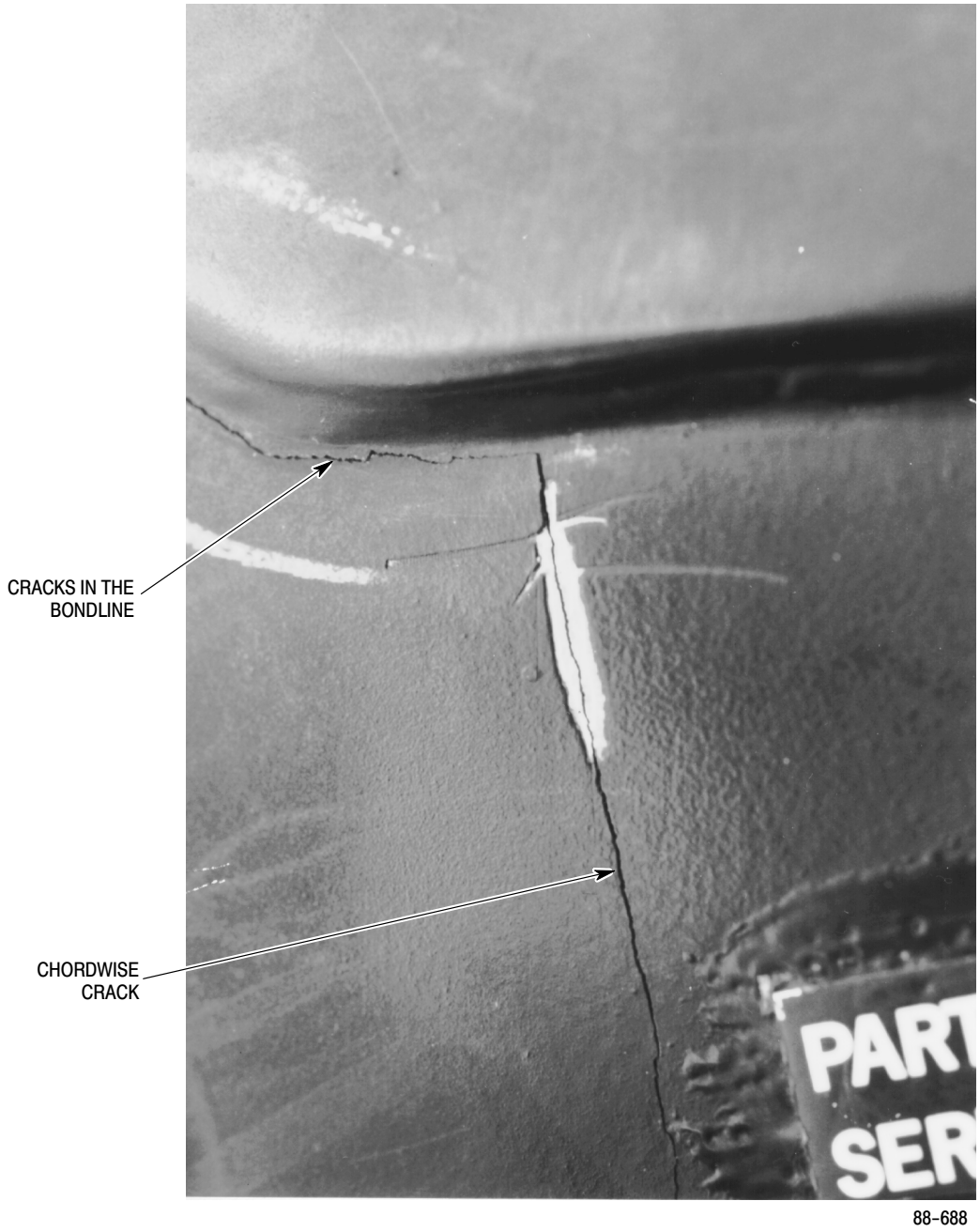

Figure 2. Example of Main Rotor Blade Root End Cracking.