



SB369H-243R3 SB369D-195R3  
SB369E-088R3 SB369F-075R3  
SB500N-015R3 SB600N-007R2

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\* Supersedes Service Bulletins SB369H-243R2, SB369D-195R2, SB369E-088R2, SB369F-075R2 SB500N-015R2 and SB600N-007R1, dated 26 March 1998. **Reason for Revision:** To further define a torque event for the replacement of affected main rotor blades and to be specific which models use the 369A1100-507 main rotor blade.

## MAIN ROTOR BLADE ROOT END INSPECTION AND TERMINATION ACTION FOR SUSPECT MAIN ROTOR BLADES

### WARNING

Failure to comply with the requirements of this Bulletin (Notice) may result in separation of a main rotor blade from the helicopter during operation.

### 1. PLANNING INFORMATION:

#### A. Aircraft Affected:

All MD Helicopters, Inc. (MDHI) 369, 500N and 600N series helicopters equipped with any of the main rotor blades listed below.

#### B. Assembly/Components Affected by this Bulletin:

Affected Main Rotor Blade Part Numbers and Serial Numbers listed below;  
P/N 369A1100-507 with S/N: D139 thru D203, D209 thru D223,  
P/N 369D21100-517 with S/N: H664, H665, H667, H669, H671, H672, H674, H676, H679, H680, H683 thru H724, H726 thru H999 and J000 thru J039, J041 thru J055,  
P/N 369D21102-517 with S/N: 1976 thru 2100, 2106 thru 2115.

#### C. Reason:

Due to a recent main rotor blade separation, MDHI is requiring all operators with any of the above noted serial numbered main rotor blades to perform an inspection for cracking of the lower surface of the blade, root fitting and doubler at the inboard end of the blade. Specifically, the inspection contained in this Bulletin, concentrates on the outermost two root fitting attachment bolts and the outermost end of the lower root fitting and adjacent doubler area. **The inspections required by this Bulletin are to be accomplished in conjunction with main rotor blade inspections already required as referenced in paragraph H. below.**

In addition to main rotor blade inspections, this Service Bulletin now defines a terminating action for the suspect main rotor blades. MDHI is introducing flight hour factoring as a means of addressing low cycle fatigue associated with the affected serial number main rotor blades referenced in this Bulletin. MDHI data indicate that those affected blades are sensitive to "torque events (TE)" and therefore are being assigned a number of TE that corresponds with the maximum allowable fatigue damage that the blades can withstand. Those operators equipped with those affected main rotor blades must log the number of TE throughout the service life of those blades. When those affected blades have reached the maximum number operation hours or maximum number of TE, those blades must be removed from service.

The definition of "Torque Event" and some recommended methods of logging the TE are included in this Bulletin. In addition to this Service Bulletin, MDHI will issue corresponding revisions to applicable sections of the Handbook of Maintenance Instructions and Type Certificate Data Sheets for those affected model aircraft.

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## D. Description:

This Bulletin contains a visual inspection of the main rotor blade root end for chordwise cracks in the doubler; also, paint/sealant cracking between the lower root end fitting and the doubler. This Bulletin is to be performed with the main rotor blade installed and raised off of the droop stop.

Additionally, this Bulletin now contains a terminating action for those suspect main rotor blades. The terminating action is based on the total number of (TE) or time in service (Ref. Section F. below).

## E. Time of Compliance:

This Bulletin shall be accomplished prior to next flight. Also, perform the inspection on main rotor blades with 600 or more hours of operation and at each subsequent 25 hours of helicopter operation.

Suspect main rotor blades shall be removed from service after reaching those life limits listed below or torque events defined below, whichever occurs first.

## F. Definition and Example of a Torque Event:

A torque event (TE) is defined as "the transition from forward flight to a hover" (see examples below).

Examples:

- 1) Taxi, takeoff and a flight which terminates into a hover and landing will record one (1) TE.
- 2) A flight which includes multiple transitions to a hover, such as external load operations, will record one (1) TE for each transition to a hover.

Main Rotor Blade Life Limits with Suspect Doublers				
Part Number	Model	Current Life	Bulletin Life of 588 Suspect Blades	Torque Events (TE)
369A1100-507	369A (Army OH-6A), 369H, 369HM, 369HS, 369HE	2,440 Hr.	1,750 Hr.	10,600
369D21100-517	369D/E	3,530 Hr.	2,500 Hr.	15,000
369D21102-517	369F/FF/500N	3,430 Hr.	2,500 Hr.	15,000

For blades that presently do not have TE logged, the following criteria applies:

- (1). If the number of TE are known, then the operator shall log that number in the appropriate sections of the helicopter Log Book.
- (2). The previous operator(s) may be contacted to get an accurate number of TE from previous usage(s).
- (3). For non-cargo hook operators, if the number of TE is unknown, then six (6) TE/HR shall be used.

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- (4). If the number of TE is unknown, then 20 TE/hour shall be used.

Known/determined TE shall be recorded on a separate/blank rotorcraft log book form as required above. As additional TE are experienced, this information shall be updated in the helicopter log. If there are any questions on the above contact MDHI Product Support.

## **G. FAA Approval:**

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

## **H. Reference Inspections:**

- (1). FAA Airworthiness Directive 98-03-15, referencing Service Bulletins SB369H-243R1, SB369D-195R1, SB369E-088R1, SB369F-075R1, SB500N-015R1, and SB600N-007 dated 23 January 1998.
- (2). FAA Airworthiness Directive 95-03-13, referencing Service Information Notices (Bulletins) HN-211.4, DN-51.6, EN-42.4 and FN-31.4, dated 27 January 1993 or later, for 100 hour inspection of main rotor blade root fitting and lead-lag links.
- (3). FAA Airworthiness Directive 96-10-09, referencing Service Information Notices (Bulletins) HN-239, DN-188, EN-81, FN-67 and NN-008, dated 27 October 1995 or later, for 100 hour inspection of main rotor blade lower root end fitting and doublers.
- (4). Pilot Flight Manual daily preflight check of main rotor blade root end fitting for chordwise cracks.

## **I. Warranty Policy:**

Contact MDHI Warranty and Repair Dept. for warranty consideration.

## **J. Disposition of Parts Removed:**

Contact a MDHI Warranty and Repair Dept. for disposition of unserviceable blades.

## **K. Points of Contact:**

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the "At Your Service" 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.

## **2. ACCOMPLISHMENT INSTRUCTIONS:**

Refer to Figures 1 and 2.

- (1). Inspect all 600N helicopters to verify what part number/dash number main rotor blades are installed. If any of the above listed 369D21102-517 (Ref. Paragraph 1. B.) main rotor blades are installed, those blades shall be removed and returned to MDHS. Removed blades shall be replaced with part number/dash number main rotor blades not listed in 1.B. **NOTE:** 369D21102-517 main rotor blades not listed in 1.B. are not subject to the inspection requirements of this Bulletin.
- (2). Inspect all 369 and 500N helicopters to verify what part number/dash number main rotor blades are installed. If any of the above listed (Ref. Paragraph 1.B.) main rotor blades are installed, those blades must be inspected per the following requirements of this Bulletin at the above defined intervals (Ref. 1.E.)

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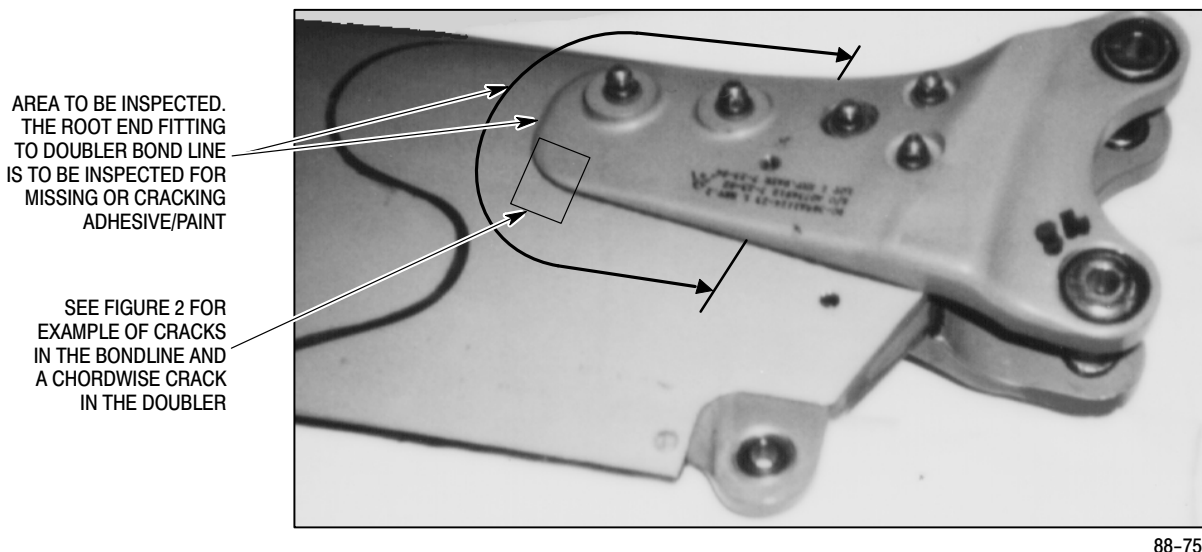
The following inspections must be accomplished using a 10X magnifying glass.

- (3). With the main rotor blade lifted off of the droop stop, observe the area shown in Figure 1 for any indications of chordwise cracking emanating from the root fitting edge on the blade lower surface doubler and skin or cracks on the doubler adjacent to the root end fitting. Cracking can travel toward both the leading and trailing edges of the blade.  
**NOTE:** Based on field reports, chordwise cracking, if present, is most likely to be found in line with the two outermost bolts and the outermost end of the lower root fitting. 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 4.
- (4). With the main rotor blade lifted off the droop stop, inspect the lower surface 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 in the root end fitting to doubler bond line, proceed to Service Information Notices HN-239, DN-188, EN-81, FN-67 and NN-008 and perform the required inspections contained in that Bulletin.



Cracked main rotor blade root end or lead-lag links may produce a sudden change or increase in helicopter vibration. If operators experience a sudden onset of unusual or excessive vibration, a precautionary landing must be made. No further flights shall be attempted until the cause of the vibration has been identified and corrected.

- (5). Record compliance to this Service Information Notice in the Compliance Record section of the helicopter Log Book. The current Log Book Rotorcraft Log must have Attachments 1 & 2 inserted and the necessary TE information must be included.
- (6). Complete the attached compliance form and return (fax/send to MDHI).

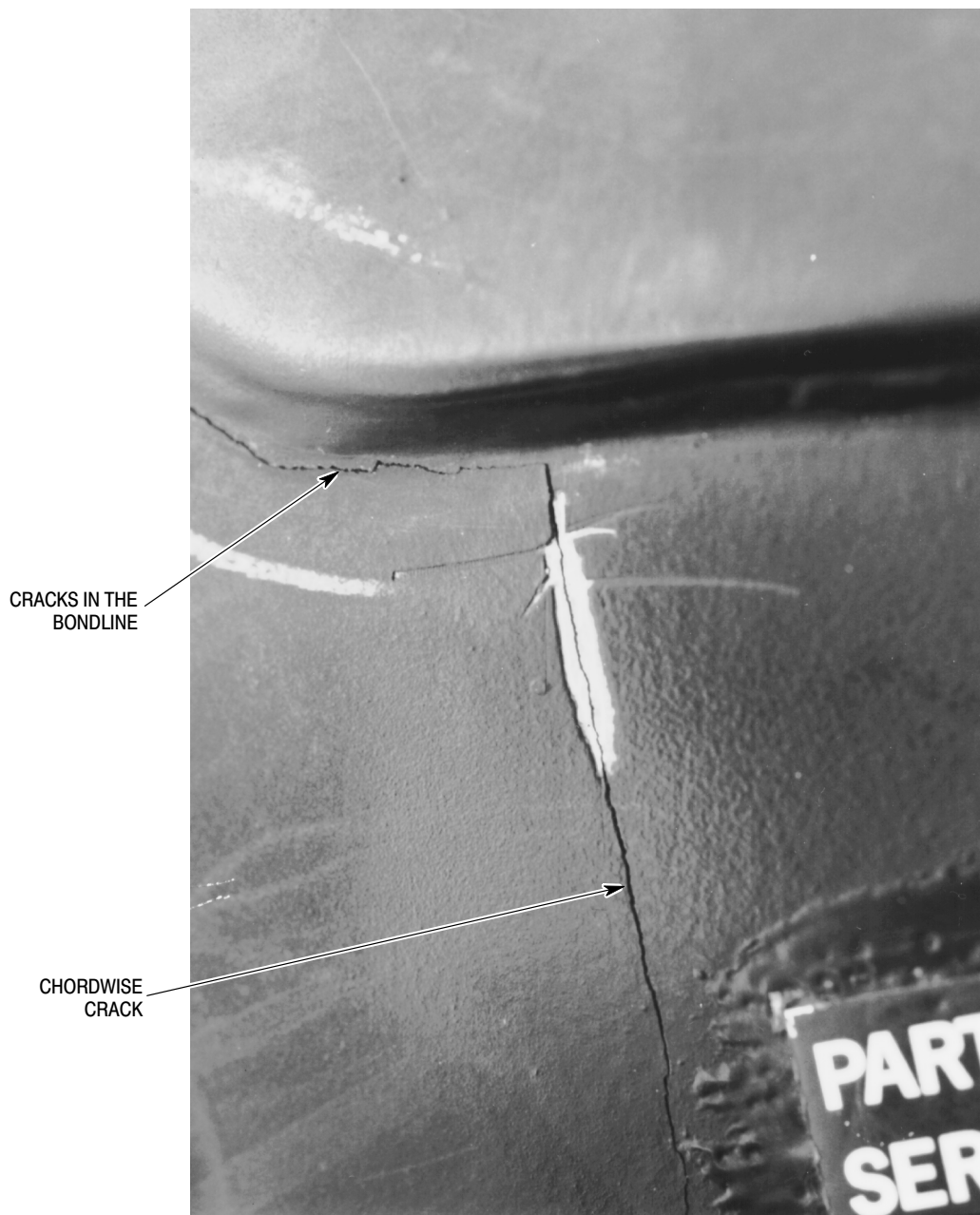


**Figure 1. Main Rotor Blade Lower Surface Root Fitting and Doubler Inspection.**

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**Figure 2. Example of Main Rotor Blade Lower Surface Root End Cracking.**



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## Compliance Recording Form:

Aircraft Serial Number:

Main Rotor Blade Part No.:

Main Rotor Blade Serial No.:

Total Hours on Blade:

Owner/Operator:

TE Established on this Blade:

Date of Compliance:

Address:

Telephone/FAX No.:

FAX this form to 602-891-6782

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