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## AIRWORTHINESS DIRECTIVE

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On the commencement date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below repeals Airworthiness Directive (AD) AD/UH-1/20 Amdt 1 and issues the following AD under subregulation 39.001 (1) of CASR and subsection 33 (3) of the *Acts Interpretation Act 1901*. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct an unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

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### Bell Helicopter Textron UH-1 (All Variants) Series Helicopters

**AD/UH-1/20**                      **Tail Boom and Fin - Fretting and Cracking**                      **22/2019**  
**Amdt 2**

Applicability: All models of Bell Helicopter Textron Inc UH-1 (All Variants) Series Helicopters.

- Requirement:
1. Visually inspect the tail boom skin joint at tail boom Station 194 for fretting or cracking (inspect 10 inches forward and 10 inches aft of Station 194 as per Figures 1. and 2 below) .
  2. Visually inspect the vertical fin front spar cap at its intersection with the tail rotor gear box support fitting for cracks as per Figure 1.
  3. Conduct a radiographic inspection using a CASA approved procedure, or approved alternative procedure, of the tail boom skin at Station 194 splice joint. (inspect 10 inches forward and 10 inches aft of Station 194 as per Figures 1. and 2 below).
  4. Replace any cracked skin panels found while performing Requirement 1 or Requirement 3 inspections, with serviceable panels.
  5. Replace any cracked fin spar caps found while performing Requirement 2 inspection, with serviceable parts.

- Compliance:
1. and 2. a. Within 100 hours' time in service after the commencement date of this AD.  
b. At intervals no greater than 100 hours' time in service thereafter.
  3. a. Within 90 days of the commencement date of this AD.  
b. At intervals no greater than 500 hours' time in service thereafter.
  4. and 5. Before further flight.

This AD commences on 25 October 2019.

*Note 1: Federal Aviation Administration of the United States of America (FAA) Airworthiness Directive (AD) 83-03-03 Amdt 39-4556 (FAA AD) has been referenced as a source document for Figure 1.*

*Note 2: National Transportation Safety Board of the United States of America (NTSB) Safety Recommendation(s) A-82-52 has been referenced as a source document for Figure 2.*

## Bell Helicopter Textron UH-1 (All Variants) Series Helicopters

AD/UH-1/20 Amdt 2 (continued)

*Note 3: CASA may approve a radiographic inspection procedure designed by an NDT Level 3 from ASTM Standards and recommended by the National Aerospace Non-Destructive Testing Board for accomplishing Requirement 2 for this AD. CASA Airworthiness Bulletin (AWB) 02-060 Issue 01 "NDT Data - The Use of During the Course of Maintenance" guidance material refers.*

*Note 4: An alternate non-destructive inspection method, other than the radiographic inspection method detailed in the AD, can be used if approved by CASA in writing.*

Background: FAA AD 83-03-03 Amdt 39-4556 with an effective date of 14 March 1983 was issued to detect cracks and prevent possible failure of the tail boom and fin. The FAA had determined that tail boom skin cracks occurred in a model UH-1B which crashed. A metallurgical examination revealed cracks to be due to structural fatigue.

Since this condition is likely to exist or develop on other helicopters of the same design, the FAA AD was issued. The AD requires visual and radiographic inspections for fretting and cracking, and repair or replacement, as necessary, of the tail boom skin and the fin spar cap on Bell Helicopter Textron Inc Model UH-1 series helicopters.

CASA's predecessor conducted a review of FAA AD 83-03-03 Amdt 39-4556 on 9 March 1983. At the time of the review no Bell Helicopter Textron Inc UH-1 (All Variants) series helicopters were on the Australian civil aircraft register.

It has since come to CASA's attention that Bell Helicopter Textron Inc UH-1 series helicopters have now been placed on the Australian civil aircraft register and will require inspections to be accomplished in accordance with FAA AD 83-03-03 Amdt 39-4556. Consequently, CASA issued AD/UH-1/20 to mandate the requirements of the FAA AD.

Amendment 1 of this AD corrected a reference to FAA Advisory Circular 43-13B Change 1, which has been removed with the issue of Amendment 2.

Amendment 2 of this AD clarifies the intent of the original FAA AD 83-03-03 to reflect contemporary circumstances. It inserts references to the associated FAA AD and NTSB Safety Recommendations as source documents for Figures 1 and 2 respectively. Amendment 2 of this AD also provides guidance for proposing and approving of a radiological or alternative inspection procedures. It also extends the previous compliance time from 14 days to 90 days to allow sufficient time for the development of appropriate CASA approved NDT procedures and industry capacity to conduct the inspection activities.

**Bell Helicopter Textron UH-1 (All Variants) Series Helicopters**

AD/UH-1/20 Amdt 2 (continued)

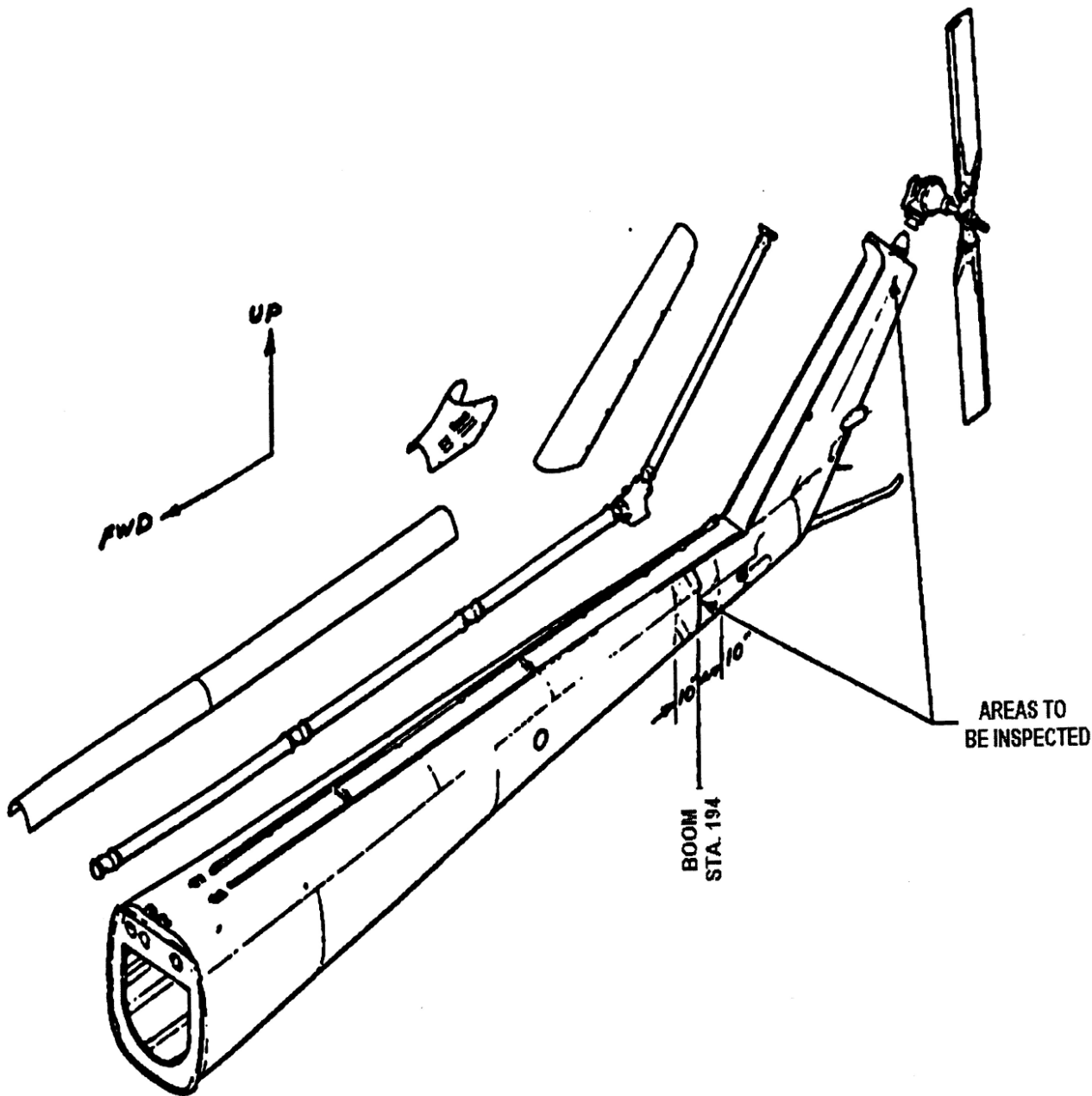
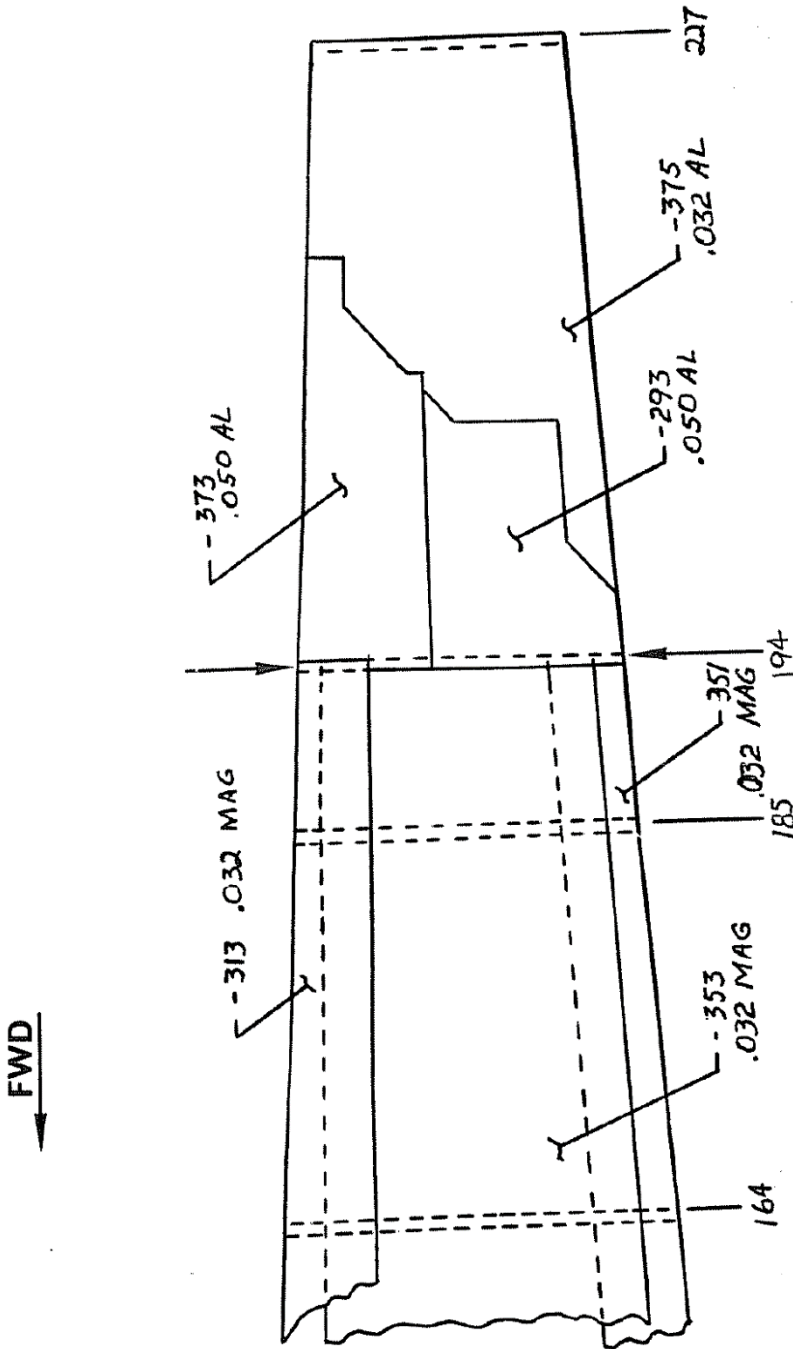


Figure 1.

Bell Helicopter Textron UH-1 (All Variants) Series Helicopters

AD/UH-1/20 Amdt 2 (continued)



Sketch of the skin panels on the left side of the tail boom of the UH-1B from station 164 to station 227. Part number, thickness and alloy of the various skin pieces are indicated. For example, "-353 .032 mag" indicates that this skin piece is P/N 204-030-800-369-353 and is a magnesium alloy sheet with an 0.032 inch thickness. Arrows indicate the station 194 fracture location.

Figure 2.

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25 October 2019