

Continuing Airworthiness Notice – 02-001



MDHI 369 Series Helicopters - Tail Rotor Fork Bolt Installation

16 February 2017

Issued by the Civil Aviation Authority of New Zealand in the interests of aviation safety. A Continuing Airworthiness Notice (CAN) is intended to alert, educate, and make recommendations to the aviation community. A CAN contains non-regulatory information and guidance that does not meet the criteria for an Airworthiness Directive (AD). The inspections and practices described in this CAN must still be carried out in accordance with the applicable NZCAR Parts 21, 43 and 91.

CAN numbering is by ATA Chapter followed by a sequential number for the next CAN in that ATA Chapter.

Applicability:

All MD helicopters Inc. (MDHI) 369D, 369E, 369FF, 369HE and 369HS.

Purpose:

This Continuing Airworthiness Notice (CAN) is issued to alert operators and maintainers of a recent failure of a tail rotor fork bolt P/N 369A1602-3 on a Hughes 369D helicopter. The bolt should be installed using the elongation method to ensure proper clamp-up of the tail rotor hub and fork, and if during installation of a tail rotor fork bolt the elongation exceeds 0.011 inches (0.279mm), then the bolt must be replaced.

Background:

This CAN is prompted by a report received by the CAA of a Hughes 369D pilot experiencing a sudden onset of severe high frequency vibration in-flight. The pilot suspected a tail rotor problem, immediately reduced the throttle and commenced an autorotation, which resulted in a successful run-on landing.

The pilot inspected the tail rotor system and found the tail rotor fork bolt sheared in the area of the thread, with the nut and one conical bearing missing. The remaining part of the bolt and the opposite conical bearing were found in place.

(Occurrence #17/538 refers).

Recommendation:

The CAA recommends the following:

- Tail rotor fork bolts with P/N 369A1602-3 are replaced 'on condition' and are not life limited. If a tail rotor fork bolt is reused, then the bolt must be inspected for any defects before re-installation. The level of inspection, the method and practices are left to the discretion of the Licensed Aircraft Engineer who certifies the aircraft for release-to-service.
- To ensure proper clamp-up of the tail rotor hub and fork, bolt P/N 369A1602-3 should be installed using the elongation method only (MDHI SB HN-229/DN-176/EN-67/FN-54 dated 21 November 1990 refers).
- During installation or re-installation of a tail rotor fork bolt, if the bolt elongation exceeds 0.011 inches (0.279mm), then the bolt must be replaced (MDHI SB HN-229/DN-176/EN-67/FN-54 dated 21 November 1990 refers).
- The aircraft Component Overhaul Manual CSP-COM-5 provides the installation instructions for the reassembly of the tail rotor hub and fork assembly, and the conical bearings shimming requirement (Chapter 64-20-10, page 701 in CSP-COM-5 refers).

The CAA has no further recommendation at this time. This CAN is considered an interim measure and further action may follow.

Enquiries regarding this Continuing Airworthiness Notice should be sent to:

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