



**FAA
Aviation Safety**

EMERGENCY AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/

DATE: August 6, 2015
AD #: 2015-16-51

This emergency airworthiness directive (EAD) 2015-16-51 is being sent to owners and operators of Bell Helicopter Textron Canada Limited (Bell) Model 429 helicopters.

Background

This EAD was prompted by several reports of worn tail rotor pitch link spherical bearings. This condition, if not corrected, could result in pitch link failure and subsequent loss of control of the helicopter.

Transport Canada, which is the aviation authority for Canada, has issued EAD No. CF-2015-16, dated July 2, 2015, to correct an unsafe condition for the Bell Model 429 helicopters. Transport Canada advises that in-service reports showed that the tail rotor pitch link spherical bearings have experienced early and accelerated wear. On three occasions, bearings were found worn beyond limits during pre-flight inspections, showing a radial and axial play that was easily detectable. In one case, the spherical bearing separated from the tail rotor pitch link, resulting in damage to the tail rotor blade pitch horn assembly. In another case, the spherical bearing had been inspected and found acceptable during a maintenance inspection; about "1 hour air time" later, it was found worn beyond limits during a pre-flight inspection.

FAA's Determination

This helicopter has been approved by the aviation authority of Canada and is approved for operation in the United States. Pursuant to our bilateral agreement with Canada, Transport Canada, its technical representative, has notified us of the unsafe condition described in its EAD. We are issuing this EAD because we evaluated all information provided by Transport Canada and determined the unsafe condition exists and is likely to exist or develop on other helicopters of the same type design.

Related Service Information

Bell has issued Alert Service Bulletin 429-15-16, dated February 18, 2015 (ASB). The ASB applies to Bell Model 429 helicopters, S/N 57001 and subsequent, which have accumulated more than 50 hours. The ASB specifies the following actions:

- Inspecting both inboard and outboard tail rotor pitch link assemblies for axial and radial play;
- If abnormal wear or bearing play is detected, removing the affected tail rotor pitch link and performing a dimensional check of both axial and radial play; and
- Replacing any tail rotor pitch link assembly 429-012-112-101 or -103 or pitch link bearing 429-312-107-103 that exceeds the allowable limits.

EAD Requirements

This EAD requires, before further flight, and thereafter at intervals not to exceed 50 hours time-in-service (TIS), inspecting each inboard and outboard tail rotor pitch link assembly for axial or radial bearing play. If there is axial or radial bearing play, removing the tail rotor pitch link and performing a dimensional inspection for wear are required. If there is wear that exceeds the allowable limits, replacing the tail rotor pitch link assembly is required.

Differences between this EAD and the Transport Canada EAD

The Transport Canada EAD requires the inspection of the inboard and outboard tail rotor pitch link assembly for wear or axial or radial bearing play to be done within 10 hours TIS, and this EAD requires the inspection before further flight.

Interim Action

We consider this EAD to be an interim action. If final action is later identified, we might consider further rulemaking then.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. "Subtitle VII, Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701, General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Adoption of the Emergency Airworthiness Directive (EAD)

We are issuing this EAD under 49 U.S.C. Sections 106(g), 40113, and 44701 according to the authority delegated to me by the Administrator.

2015-16-51 **Bell Helicopter Textron Canada Limited:** Directorate Identifier 2015-SW-23-AD.

(a) Applicability

This EAD applies to Model 429 helicopters that have 50 or more hours time-in-service (TIS), with a pitch link assembly part number 429-012-112-101 or -103 installed, certificated in any category.

(b) Unsafe Condition

This EAD defines the unsafe condition as a worn pitch link. This condition, if not detected and corrected, could result in pitch link failure and subsequent loss of control of the helicopter.

(c) Effective Date

This EAD is effective upon receipt.

(d) Compliance

You are responsible for performing each action required by this EAD within the specified compliance time unless it has already been accomplished prior to that time.

(e) Required Actions

Before further flight and thereafter at intervals not to exceed 50 hours TIS, inspect each inboard and outboard tail rotor pitch link assembly for axial or radial bearing play. If there is axial or radial bearing play, remove the tail rotor pitch link and perform a dimensional inspection for wear. If there is wear that exceeds the allowable limits, replace the tail rotor pitch link assembly.

(f) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this EAD. Send your proposal to: David Hatfield, Aviation Safety Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone (817) 222-5110; email 9-ASW-FTW-AMOC-Requests@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this EAD through an AMOC.

(g) Additional Information

(1) For further information contact: David Hatfield, Aviation Safety Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone (817) 222-5110; email david.hatfield@faa.gov.

(2) Bell Helicopter Alert Service Bulletin 429-15-16, dated February 18, 2015, which is not incorporated by reference, contains additional information about the subject of this EAD. For a copy of the ASB, contact: Bell Helicopter Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J1R4; telephone (450) 437-2862 or (800) 363-8023; fax (450) 433-0272; or at <http://www.bellcustomer.com/files/>.

(3) The subject of this EAD is addressed in Transport Canada AD No. CF-2015-16, dated July 2, 2015.

(h) Subject

Air Transport Association of America (ATA) Tracking Code: 6720 Tail Rotor Control System.

Issued in Fort Worth, Texas, on August 6, 2015.

Larry M. Kelly,
Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.