



**FAA
Aviation Safety**

EMERGENCY AIRWORTHINESS DIRECTIVE

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

DATE: July 20, 2018
AD #: 2018-15-51

This Emergency Airworthiness Directive (AD) 2018-15-51 is being sent to owners and operators of Bell Helicopter Textron Canada Limited (Bell) Model 429 helicopters.

Background

This emergency AD was prompted by two reports of tail rotor (T/R) gearbox assemblies loosely attached to the gearbox support. This emergency AD requires inspecting the T/R gearbox installation for looseness, visually inspecting the T/R gearbox retaining hardware and support attachment point areas, and torque inspecting the gearbox retaining nuts. The actions in this emergency AD are intended to prevent detachment of the T/R gearbox, loss of T/R control, and loss of control of the helicopter.

Transport Canada, which is the aviation authority for Canada, has issued Canadian Emergency AD No. CF-2018-18, dated July 11, 2018, to correct an unsafe condition for Bell Model 429 helicopters. Transport Canada advises of two reports of T/R gearbox assemblies loosely attached to the gearbox support. According to Transport Canada, this condition could lead to structural damage and possible loss of control of the helicopter.

FAA's Determination

This model 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 the Transport Canada AD. We are issuing this AD 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

We reviewed Bell Alert Service Bulletin 429-18-40, dated July 6, 2018, which specifies a one-time inspection of the T/R gearbox installation and a one-time visual and torque inspection of the six installation attachment points. This service information also specifies contacting Bell Product Support Engineering with the results of the T/R gearbox installation inspection, any findings of the visual inspection, and the results of the torque inspection.

Emergency AD Requirements

This emergency AD requires inspecting the T/R gearbox installation for looseness, visually inspecting the T/R gearbox retaining hardware and each support attachment point area, and torque inspecting each gearbox retaining nut. Depending on the inspection results, this emergency AD requires replacing or repairing the affected parts in accordance with FAA-approved procedures.

Differences Between This Emergency AD and the Transport Canada AD

The Transport Canada AD applies to helicopters with specific serial numbers, whereas this emergency AD applies to all Model 429 helicopters. The Transport Canada AD includes a calendar-based compliance time, whereas this emergency AD does not. The Transport Canada AD requires reporting certain information to Bell Product Support Engineering and this emergency AD does not. If there is looseness, this emergency AD requires performing the visual inspection and torque inspection before further flight, while the Transport Canada AD requires contacting Bell. Lastly, if the torque of a T/R gearbox retaining nut is below 160 in-lbs (19 Nm), this emergency AD requires removing the T/R gearbox and inspecting the mounting surfaces and retaining hardware, while the Transport Canada AD requires contacting Bell.

Interim Action

We consider this emergency AD 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 (AD)

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

2018-15-51 **Bell Helicopter Textron Canada Limited:** Product Identifier 2018-SW-055-AD.

(a) Applicability

This AD applies to Model 429 helicopters, certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as a loose tail rotor (T/R) gearbox support attachment point. This condition could result in detachment of the T/R gearbox, loss of T/R control, and loss of control of the helicopter.

(c) Effective Date

This AD is effective upon receipt.

(d) Compliance

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

(e) Required Actions

(1) Before further flight, inspect for looseness of the T/R gearbox installation to the T/R gearbox structural support by moving the T/R gearbox output shaft in an upward and downward direction. If the T/R gearbox installation is loose, before further flight, complete the actions required by paragraphs (e)(2)(i) and (ii) of this AD.

(2) Within 5 hours time-in-service, unless already completed as required by paragraph (e)(1) of this AD:

(i) Visually inspect the T/R gearbox retaining hardware and each support attachment point area for evidence of fretting, a crack, and incorrect installation. If there is any evidence of fretting, a crack, or incorrect installation, before further flight, repair in accordance with FAA-approved procedures.

(ii) Inspect each T/R gearbox retaining nut by applying 160 in-lbs (19 Nm) of torque. If the torque of a T/R gearbox retaining nut is below 160 in-lbs (19 Nm), before further flight:

(A) Remove the T/R gearbox and inspect each stud for proper staking, each stud thread for uniformity, each mounting surface for evidence of fretting and cracking, and each mounting hole for elongation. If a stud is not properly staked, a stud thread is not uniform, a mounting surface has evidence of fretting or cracking, or a mount hole is elongated, before further flight, replace the affected parts or repair in accordance with FAA-approved procedures.

(B) Replace each nut with nut part number NAS9926-5L and apply a torque of 160 in-lbs.

(f) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Safety Management Section, Rotorcraft Standards Branch, FAA, may approve AMOCs for this Emergency AD. Send your proposal to: Matt Fuller, Senior Aviation Safety Engineer, Safety Management Section, Rotorcraft Standards Branch, 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 Emergency AD through an AMOC.

(g) Additional Information

(1) For further information contact: Matt Fuller, Senior Aviation Safety Engineer, Safety Management Section, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; telephone (817) 222-5110; email matthew.fuller@faa.gov.

(2) For a copy of the service information referenced in this emergency AD, 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 AD is addressed in Transport Canada AD No. CF-2018-18, dated July 11, 2018.

(h) Subject

Joint Aircraft Service Component (JASC) Code: 6520, Tail Rotor Gearbox.

Issued in Fort Worth, Texas, on July 20, 2018.

Mitchell Soth,
Acting Director, Compliance & Airworthiness Division,
Aircraft Certification Service.