FAA
Aviation Safety

EMERGENCY AIRWORTHINESS DIRECTIVE

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DATE: March 3, 2017
AD #: 2017-05-51

This Emergency Airworthiness Directive (Emergency AD) 2017-05-51 is being sent to owners and operators of Bell Helicopter Textron Canada (Bell) Model 429 helicopters. This Emergency AD applies to those helicopters that have an Air Comm Corporation (Air Comm) air conditioning system part number (P/N) 429EC-200 or 429EC-202 installed.

Background

This Emergency AD is prompted by a report that the condenser blower motor (motor) detached from the condenser blower (blower). The motor is secured to the blower support (shroud) by three screw fasteners with thread locker applied. The report states that the detached motor was resting on the flight controls.

An initial investigation indicates that the motor mount fasteners may not have had the thread locker adhesive applied during production. However, the root cause is under investigation. The motor fell on the collective control tube, causing wear damage to the control tube. The motor's power wiring also was on the collective control tube near hydraulic and fuel lines.

This Emergency AD requires inspecting the motor and blower to determine if the motor is securely attached to the shroud. The actions in this Emergency AD are intended to prevent the motor from detaching, causing failure of the primary flight controls and subsequent loss of helicopter control.

FAA's Determination

We are issuing this Emergency AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of this same type design.

Related Service Information

We reviewed Air Comm Service Bulletin 429-201-1, Revision NC, dated February 17, 2017 (SB 429-201-1), which advises inspecting the motor for to determine whether it is attached to the blower assembly within 20 flight hours. If the motor is not attached to the blower assembly, SB 429-201-1 advises reporting the detachment to Air Comm and inspecting the surrounding area for damage. If any surrounding parts are damaged, SB 429-201-1 specifies replacing or repairing the damaged parts. SB 429-201-1 then specifies replacing the blower assembly if parts are available and deactivating the air conditioning system if parts are not available. SB 429-201-1 also provides instructions if any P/N MS27039-1-15 fasteners are missing or loose or if the motor is not secured firmly to the blower assembly. These instructions include rotating the fan blades by hand and verifying the clearance between the blades and the shroud. If the fan blades are scraping or rubbing against the shroud or if the blades cause visible damage to the shroud, SB 429-201-1 advises replacing the blower assembly if parts are available. If parts are not available, SB 429-201-1 advises

deactivating the air conditioning system. If the motor is secure, SB 429-201-1 provides instructions for replacing any missing fasteners and removing and reinstalling any existing fasteners with thread locker.

Emergency AD Requirements

This Emergency AD requires, before further flight and at intervals not to exceed 25 hours time-in-service (TIS), inspecting the air conditioner condenser blower for motor attachment and for missing or loose fasteners. If the motor is not attached or if a fastener is missing or loose, this Emergency AD requires deactivating the air conditioning system. If the motor is not attached, this Emergency AD also requires inspecting the collective flight control tube, the area under the forward transmission cowling, and each wiring harness, and depending on the findings, repairing or replacing the affected parts. Additionally, if the motor is not attached or if the motor is attached but any fasteners are missing, this Emergency AD requires inspecting for and removing any found detached hardware. Deactivating the air conditioning system constitutes terminating action for the repetitive inspections required by this Emergency AD. This Emergency AD also requires reporting certain information to the FAA within 10 days.

Differences Between this Emergency AD and the Service Information

SB 429-201-1 advises performing the initial inspection within 20 hours TIS. This Emergency AD requires the initial inspection before further flight. SB 429-201-1 advises reporting certain incidents to Air Comm, whereas this Emergency AD requires reporting certain information to the FAA. SB 429-201-1 does not specify inspecting for and removing missing hardware, whereas this Emergency AD requires inspecting for and removing missing hardware. If replacement parts are available, SB 429-201-1 advises replacing the blower, while this Emergency AD makes no allowance for replacing the blower except by alternate means of compliance. If fasteners are missing or loose but the motor is secure, SB 429-201-1 advises replacing missing fasteners and removing and reinstalling existing fasteners with thread locker and a torque stripe. This Emergency AD requires removing the blower assembly if fasteners are missing or loose but the motor is still secure. SB 429-201-1 does not require repetitive inspections, while this Emergency AD requires the inspection every 25 hours time-in-service until the air conditioning system is deactivated.

Interim Action

We consider this Emergency AD to be an interim action. The inspection report that is required by this Emergency AD will enable us to obtain better insight into the cause of the motor's detachment, and help us develop final action to address this unsafe condition. Once final action has been identified, we might consider further rulemaking.

Costs of Compliance

We estimate that this AD affects 78 helicopters of U.S. Registry and that labor costs average $85 per work-hour. Based on these estimates, we expect the following costs:

- Inspecting the motor attachment requires 1 work-hour and no parts for a total cost of $85 per helicopter, and $6,630 for the U.S. fleet, per inspection cycle.

- Removing the motor and deactivating the air conditioning requires 2 work-hours and no parts for a total cost of $170 per helicopter.

- Removing the blower assembly and deactivating the air conditioning requires 13 work-hours and no parts for a total cost of $1,105 per helicopter.

- Reporting the findings to the FAA requires 1 work-hour and no parts for a total cost of $85 per helicopter.

Paperwork Reduction Act

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this Emergency AD is 2120-0056. The paperwork cost associated with this Emergency AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting required by this Emergency AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at 800 Independence Ave., SW, Washington, DC 20591; ATTN: Information Collection Clearance Officer, AES-200.

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.

2017-05-51 **Bell Helicopter Textron Canada:** Directorate Identifier 2017-SW-008-AD.

(a) Applicability

This Emergency AD applies to Bell Helicopter Textron Canada (Bell) Model 429 helicopters with an Air Comm Corporation air conditioning system part number (P/N) 429EC-200 or 429EC-202 installed, certificated in any category.

Note 1 to paragraph (a) of this Emergency AD: air conditioning system P/N 429EC-200 and 429EC-202 are identifiable by a three-screw installation as depicted in Figure 1 of Air Comm Corporation Service Bulletin 429-201-1, Revision NC, dated February 17, 2017 (SB 429-201-1).

(b) Unsafe Condition

This Emergency AD defines the unsafe condition as a condenser blower motor (motor) detaching from the condenser blower support (shroud). This condition could lead to failure of the primary flight controls and subsequent loss of helicopter control.

(c) Effective Date

This Emergency AD is effective upon receipt.

(d) Compliance

You are responsible for performing each action required by this Emergency AD 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 25 hours time-in-service:

(1) Inspect the motor and condenser blower to determine whether the motor is attached to the shroud.

(i) If the motor is not attached, before further flight:

(A) Inspect the collective flight control tube for loss of protective primer, a scratch, any gouging, and a dent. If there is any loss of protective primer, a scratch, any gouging, or a dent, repair or replace the control tube.

(B) Inspect the area under the forward transmission cowling for loss of protective primer, a scratch, any gouging, and a dent. Inspect each wiring harness for any cuts, chafing, and exposed wires. If there is any loss of protective primer, a scratch, any gouging, a dent, or if any wiring harness has a cut, chafing, or an exposed wire, repair or replace the affected parts.

(C) Inspect the area under the forward transmission cowling for the three fasteners as depicted in Figure 1 of SB 429-201-1. Also inspect for the crimp-on external fan retaining ring (crimp ring) and the slotted fan drive spring (commonly known as a roll pin), which may have fallen loose with the motor. Remove any fasteners, the crimp ring, and the roll pin if found detached.

(D) Deactivate the air conditioning system by following the instructions in Procedure, paragraphs B.2.d.i. through B.2.d.v., of SB 429-201-1.

(ii) If the motor is attached to the shroud but a fastener is missing or loose, before further flight:

(A) Remove any detached fasteners found in the area under the forward transmission cowling.

(B) Deactivate the air conditioning system as follows:
(1) Pull and red collar the air conditioning COND circuit breaker.
(2) Pull and red collar the air-conditioning COMP circuit breaker.
(3) Remove the compressor drive belt.
(4) Remove the condenser blower assembly.

(2) Deactivating the air conditioning system as required by paragraph (e)(1) of this Emergency AD constitutes terminating action for the repetitive inspections required by paragraph (e)(1) of this Emergency AD.

(3) If the air conditioning system is deactivated as required by paragraph (e)(1) of this Emergency AD, within 10 days after completing the inspection, report the information requested in

Appendix 1 to this Emergency AD by mail to the Manager, Denver Aircraft Certification Office, FAA, Technical Operations Center, 26805 East 68th Avenue, Room 214, Denver CO 80249, ATTN: Matthew Bryant; by fax to (303) 342-1088; or by email to Matthew.Bryant@faa.gov.

(f) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Denver Aircraft Certification Office, FAA, may approve AMOCs for this Emergency AD. Send your proposal to: Matthew Bryant, Aerospace Engineer, Denver Aircraft Certification Office, FAA, Technical Operations Center, 26805 East 68th Avenue, Room 214, Denver CO 80249; fax (303) 342-1088; email Matthew.Bryant@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: Matthew Bryant, Aerospace Engineer, Denver Aircraft Certification Office, FAA, Technical Operations Center, 26805 East 68th Avenue, Room 214, Denver CO 80249; phone (303) 342-1092; fax (303) 342-1088; email Matthew Bryant@faa.gov.

(2) For a copy of the service information referenced in this Emergency AD, contact: Air Comm Corporation, 1575 West 124th Avenue, Westminster, CO 80234, telephone: (303) 440-4075 (during business hours) or (720) 233-8330 (after hours); email: service@aircommcorp.com, website: http://www.aircommcorp.com/contact.

(h) Subject

Joint Aircraft Service Component (JASC) Code: 2150, Cabin Cooling System.

Issued in Fort Worth, Texas, on March 3, 2017.

Lance T. Gant,

Manager, Rotorcraft Directorate,
Aircraft Certification Service.

Appendix 1 to Emergency AD 2017-05-51

Provide the following information by mail to the Manager, Denver Aircraft Certification Office, FAA, Technical Operations Center, 26805 East 68th Avenue, Room 214, Denver CO 80249, ATTN: Matthew Bryant; by fax to (303) 342-1088; or by email to Matthew.Bryant@faa.gov:

For inspection being accomplished (Initial or Repetitive), record inspection findings below and provide photos if possible.

AD 2017-05-51	Inspection Findings		
Aircraft S/N or N-Number		Aircraft hours time-in-service (TIS)	
Air Conditioner Installation S/N (Laser etched on compressor mount)		Aircraft TIS when air conditioning system was installed	
		Estimated percent air conditioner operating time	
Aircraft Location		Operator and maintenance facility contact information	
Condition		Findings	
Is this a single evaporator installation or a dual evaporator installation?			
Was the motor still attached?			
Were there any missing or loose fasteners?			
Were any of the loose fasteners found in the surrounding area?			
Did the found fasteners show evidence of thread locker being applied?			
Has the condenser blower (blower) been replaced following the initial installation of the air conditioning system?			
What was the reason for the blower replacement?			
Aircraft TIS when blower was replaced.			