[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2024-0768; Project Identifier AD-2022-00504-R]

RIN 2120-AA64

Airworthiness Directives; Bell Textron Inc., Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Bell Textron Inc., Model 212, 412, 412CF, and 412EP helicopters. This proposed AD was prompted by reports of cracked tail boom attachment barrel nuts (barrel nuts). This proposed AD would require replacing all steel alloy barrel nuts with nickel alloy barrel nuts and, replacing or inspecting other tail boom attachment point hardware and depending on the results, replacing hardware, stabilizing torque, and applying torque stripes. This proposed AD would also require repetitively inspecting torque and, depending on the results, corrective action. This proposed AD would require repetitively replacing the upper left-hand (LH) tail boom attachment bolt (bolt) and repetitively inspecting the other tail boom attachment point bolts. Lastly, this proposed AD would prohibit installing steel alloy barrel nuts. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to regulations.gov. Follow the instructions for submitting comments.

• Fax: (202) 493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at regulations.gov under Docket No. FAA-2024-0768; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

• For service information identified in this NPRM, contact Bell Textron, Inc., P.O. Box 482, Fort Worth, TX 76101, United States; phone (450) 437-2862 or 1-800-363-8023; fax (450) 433-0272; email: productsupport@bellflight.com; website: bellflight.com/support/contact-support.

• You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Parkway, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

FOR FURTHER INFORMATION CONTACT: Jacob Fitch, Aviation Safety Engineer, FAA, 1801 S Airport Road, Wichita, KS 67209; telephone (817) 222-4130; email jacob.fitch@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2024-0768; Project Identifier AD-2022-00504-R" at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA

will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Jacob Fitch, Aviation Safety Engineer, FAA, 1801 S Airport Road, Wichita, KS 67209; telephone (817) 222-4130; email jacob.fitch@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA received reports of cracked barrel nuts involving Model 412EP helicopters. According to Bell Textron Inc., the root cause for cracking can vary from corrosion damage, high time in service, or hydrogen embrittlement. Barrel nut cracking can also cause loss of torque on the associated bolt and subsequent bolt cracking. Due to design similarities, Model 212, 412, and 412CF helicopters are also affected by the same unsafe condition. This condition, if not addressed, could result in increased fatigue loading and subsequent failure of the bolts, which could lead to separation of the tail boom from the helicopter and subsequent loss of control of the helicopter.

FAA's Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of these same type designs.

Related Service Information under 1 CFR Part 51

The FAA reviewed the following Bell alert service bulletins (ASBs), each Revision A, and each dated February 23, 2022. This service information specifies procedures for replacing the steel alloy barrel nuts with nickel alloy barrel nuts, inspecting and replacing the tail boom attachment hardware, stabilizing the tail boom attachment hardware torque, applying torque seals, and inspecting the torque.

- ASB 212-21-166 for Model 212 helicopters,
- ASB 412-21-187 for Model 412/412EP helicopters, and
- ASB 412CF-21-72 for Model 412CF helicopters.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Proposed AD Requirements in this NPRM

This proposed AD would require, for certain serial-numbered Bell Textron Inc., Model 212, 412CF, 412, and 412EP helicopters, removing the upper LH steel alloy barrel nut and bolt from service and replacing them with a new nickel alloy barrel nut, retainer, and bolt. For certain other serial-numbered Bell Textron Inc., Model 412 and 412EP helicopters, this proposed AD would require removing the upper LH steel alloy barrel nut from service, visually inspecting the removed upper LH steel alloy barrel nut and replacing it with a nickel alloy barrel nut and retainer, and either visually inspecting or replacing the upper LH bolt. For those serial-numbered Bell Textron Inc., Model 212, 412, 412CF, and 412EP helicopters, this proposed AD would also require removing the upper right-hand (RH), lower LH, and lower RH steel alloy barrel nuts, visually inspecting those removed steel alloy barrel nuts, and replacing them with new nickel alloy barrel nuts and retainers, and either visually inspecting or replacing the upper RH, lower LH, and lower RH bolts. Thereafter for those helicopters, as well as for one

additional serial-numbered Model 412/412EP helicopter, this proposed AD would require, inspecting the torque applied on each bolt to determine if the torque has stabilized and, depending on the results, replacing and inspecting certain tail boom attachment point hardware and repeating the torque inspections, or applying torque stripes.

For all applicable helicopters, this proposed AD would require repetitively inspecting the torque applied on each bolt within a longer-term compliance time interval and, depending on the results, replacing and inspecting certain tail boom attachment point hardware and repeating the torque inspections and stabilization, or applying torque stripes.

Additionally, for all applicable helicopters, this proposed AD would require repetitively replacing the upper LH bolt within a longer-term compliance time interval by requiring removal of it from service and replacing it with a new upper LH bolt. This proposed AD would also require, for all applicable helicopters, visually inspecting the other three bolts within a longer-term compliance time interval and, depending on the results, corrective action. Following accomplishment of those actions, this proposed AD would require inspecting the torque applied on each bolt to determine if the torque has stabilized and, depending on the results, replacing and inspecting certain tail boom attachment point hardware and repeating the torque inspections, or applying torque stripes.

Lastly, this proposed AD would prohibit installing steel alloy barrel nuts on any helicopter.

Differences Between this Proposed AD and the Service Information

The service information specifies checking torque, whereas this proposed AD would require inspecting torque because that action must be accomplished by persons authorized under 14 CFR 43.3.

When stabilizing the tail boom attachment hardware torque, the service information does not specify what to do if the torque on a bolt is below the minimum allowable torque limit, whereas this proposed AD would require replacing and inspecting certain tail boom attachment point hardware, stabilizing the torque of the replaced

hardware set, and applying a torque stripe.

This proposed AD would require replacing each upper LH bolt with a new (zero total hours time-in-service (TIS)) bolt within a 5,000 hours TIS or 5 year threshold, whereas the service information does not specify that action. This proposed AD would also require visually inspecting the upper RH, lower LH, and lower RH bolts within a 5,000 hours TIS or 5 year threshold, whereas the service information does not specify those actions.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 105 helicopters of U.S. registry. Labor rates are estimated at $85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this proposed AD.

For the initial requirements for certain helicopters, replacing the four steel alloy barrel nuts with new nickel alloy barrel nuts, inspecting or replacing up to four bolts, inspecting and stabilizing the torque, and applying torque stripes would take up to approximately 8.5 work-hours for an estimated labor cost of up to $723. The parts cost for the four new nickel alloy barrel nuts (including retainers) would be approximately $680. The parts cost for an upper LH bolt would be approximately $196 and the parts cost for the other bolts would be approximately $89 per bolt. The parts cost to apply torque stripes would be a nominal amount. The estimated cost for these actions would be up to approximately $1,866 per helicopter.

For all applicable helicopters, inspecting the torque applied on each bolt would take approximately 1 work-hour for an estimated cost of $85 per helicopter and $8,925 for the U.S. fleet, per inspection cycle.

For all applicable helicopters, replacing an upper LH bolt, stabilizing the torque, and applying a torque stripe would take up to approximately 5 work-hours. The parts cost for an upper LH bolt would be approximately $196 and the parts cost to apply a torque stripe would be a nominal amount. The estimated cost for these actions would be up to approximately $621 per helicopter and $65,205 for the U.S. fleet, per replacement cycle. Inspecting one of the other bolts, stabilizing the torque, and applying a torque stripe would take up to approximately 3.5 work-hours for an estimated cost of $298 per other

bolt and $31,290 for the U.S. fleet, per inspection cycle. If required, replacing a bolt following that inspection would take a minimal amount of additional time and the parts cost would be approximately $89.

If required as a result of failing a torque inspection, visually inspecting a barrel nut, replacing a bolt, stabilizing the torque, and applying a torque stripe would take up to approximately 5.5 work-hours per failed hardware set. The parts cost for an upper LH bolt would be approximately $196 and the parts cost for the other bolts would be approximately $89 per bolt. The parts cost to apply a torque stripe would be a nominal amount. The estimated cost for these actions would be $664 (upper LH bolt) or $557 (other bolts), per failed hardware set. If required, replacing a barrel nut following that inspection would take a minimal amount of additional time and the parts cost for a barrel nut (including retainer) would be approximately $173.

If required as a result of failing a torque stabilization, replacing a barrel nut, visually inspecting a bolt, stabilizing the torque, and applying a torque stripe would take up to approximately 5.5 work-hours and the parts cost for a barrel nut (including retainer) would be approximately $73. The estimated cost for these actions would be $541. If required, replacing the bolt following that inspection would take a minimal amount of additional time and the parts cost for an upper LH bolt would be approximately $196 and the parts cost for the other bolts would be approximately $89 per bolt.

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.

The FAA is 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.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Would not affect intrastate aviation in Alaska, and

(3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Bell Textron Inc.: Docket No. FAA-2024-0768; Project Identifier AD-2022-00504-R.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to the Bell Textron Inc., helicopters, certificated in any category, that are identified in paragraphs (c)(1) through (5) of this AD.

(1) Model 212 helicopters, serial numbers (S/N) 30501 through 30999 inclusive, 31101 through 31311 inclusive, 32101 through 32142 inclusive, and 35001 through 35103 inclusive;

(2) Model 412CF helicopters, S/N 46400 through 46499 inclusive;

(3) Model 412 and 412EP helicopters, S/N 33001 to 33213 inclusive, 34001 through 34036 inclusive, 36001 through 36687 inclusive, 36689 through 36999 inclusive, 37002 through 37018 inclusive, 37021 through 37051 inclusive, 38001, and 39101 through 39103 inclusive;

(4) Model 412 and 412EP helicopter, S/N 37052; and

(5) Model 412 and 412EP helicopters, S/N 36688, 37019, 37020, 37053 through 37999 inclusive, 38002 through 38999 inclusive, and 39104 through 39999 inclusive.

(d) Subject

Joint Aircraft System Component (JASC) Code: 5302, Rotorcraft Tail Boom.

(e) Unsafe Condition

This AD was prompted by reports of cracked tail boom attachment barrel nuts (barrel nuts). The FAA is issuing this AD to address fatigue cracking of barrel nuts, damage to the tail boom attachment bolts (bolts), and certain bolts remaining in service beyond fatigue limits. The unsafe condition, if not addressed, could result in increased fatigue loading and subsequent failure of the bolts, which could lead to separation of the tail boom from the helicopter and subsequent loss of control of the helicopter.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

(1) Within 300 hours time-in-service (TIS) or 90 days after the effective date of this AD, whichever occurs first, accomplish the actions required by paragraphs (g)(1)(i) through (iv) of this AD, as applicable. For purposes of this AD, the word “new” is defined as having zero total hours TIS.

(i) For all helicopters identified in paragraphs (c)(1) and (2) of this AD; and for helicopters identified in paragraph (c)(3) of this AD that have accumulated 5,000 or more total hours TIS or 5 or more years since new, or if the total hours TIS or age of the helicopter is unknown, remove the upper left-hand (LH) steel alloy barrel nut part number (P/N) NAS577B9A and upper LH bolt from service and replace them with a new nickel alloy barrel nut P/N NAS577C9A, new retainer P/N NAS578C9A, and a new bolt in accordance with the Accomplishment Instructions, part I, paragraphs 4 through 7, of Bell Alert Service Bulletin 212-21-166, Revision A, dated February 23, 2022 (ASB 212-21-166 Rev A), Bell Alert Service Bulletin 412CF-21-72, Revision A, dated February 23, 2022 (ASB 412CF-21-72 Rev A), or Bell Alert Service Bulletin 412-21-187, Revision A, dated February 23, 2022 (ASB 412-21-187 Rev A), as applicable to your helicopter model, except you are not required to discard parts.

(ii) For helicopters identified in paragraph (c)(3) of this AD that have accumulated less than 5,000 total hours TIS and less than 5 years since new, remove the upper LH steel alloy barrel nut P/N NAS577B9A, the upper LH bolt, countersunk washer, and plain washers, and visually inspect the removed upper LH steel alloy barrel nut for cracking. If there is any cracking in the upper LH steel alloy barrel nut, before further flight, remove the upper LH bolt from service. If the upper LH bolt was not removed from service as a result of the upper LH steel alloy barrel nut inspection, visually inspect the upper LH bolt for any corrosion, damaged threads, wear, and fatigue cracking. If upper LH bolt has any corrosion, a damaged thread, wear, or fatigue cracking, before further flight, remove the upper LH bolt from service. Regardless of the result of the upper LH steel alloy barrel nut inspection, remove the upper LH steel alloy barrel nut from service and replace it with a new nickel alloy barrel nut P/N NAS577C9A and new retainer P/N NAS578C9A. Install a new upper LH bolt or reinstall the existing upper LH bolt, as applicable, by following the Accomplishment Instructions, part I, paragraphs 6 and 7, of ASB 412-21-187 Rev A.

(iii) For helicopters identified in paragraphs (c)(1) through (3) of this AD, remove the upper right-hand (RH) steel alloy barrel nut P/N NAS577B8A, the upper RH bolt, countersunk washer, and plain washers, and visually inspect the removed upper RH steel

alloy barrel nut for cracking. If there is any cracking in the upper RH steel alloy barrel nut, before further flight, remove the upper RH bolt from service. If the upper RH bolt was not removed from service as a result of the upper RH steel alloy barrel nut inspection, visually inspect the upper RH bolt for any corrosion, damaged threads, wear, and fatigue cracking. If the upper RH bolt has any corrosion, a damaged thread, wear, or fatigue cracking, before further flight, remove the upper RH bolt from service. Regardless of the result of the upper RH steel alloy barrel nut inspection, remove the upper RH steel alloy barrel nut from service and replace it with a new nickel alloy barrel nut P/N NAS577C8A and new retainer P/N NAS578C8A. Install a new upper RH bolt or reinstall the existing upper RH bolt, as applicable, by following the Accomplishment Instructions, part I, paragraphs 11 and 12, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model.

(iv) For helicopters identified in paragraphs (c)(1) through (3) of this AD, remove one of the lower steel alloy barrel nuts P/N NAS577B6A, its lower bolt, countersunk washer, and plain washers, and visually inspect the removed lower steel alloy barrel nut for cracking. If there is any cracking in the lower steel alloy barrel nut, before further flight, remove the lower bolt from service. If the lower bolt was not removed from service as a result of the lower steel alloy barrel nut inspection, visually inspect the lower bolt for any corrosion, damaged threads, wear, and fatigue cracking. If the lower bolt has any corrosion, a damaged thread, wear, or fatigue cracking, before further flight, remove the lower bolt from service. Regardless of the result of the lower steel alloy barrel nut inspection, remove the lower steel alloy barrel nut from service and replace it with a new nickel alloy barrel nut P/N NAS577C6A and new retainer P/N NAS578C6A. Install a new lower bolt or reinstall the existing lower bolt, as applicable, by following the Accomplishment Instructions, part I, paragraphs 16 and 17, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model. Repeat the actions required by this paragraph for the other lower tail boom attachment point.

(2) For helicopters identified in paragraphs (c)(1) through (3) of this AD, after accumulating 1 hour TIS, but not to exceed 5 hours TIS after accomplishing the actions

required by paragraph (g)(1) of this AD, using the torque value information in the Accomplishment Instructions, part II, paragraph 1, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model, inspect the torque applied on each bolt. Thereafter, repeat the torque inspection of each bolt after accumulating 1 hour TIS, but not to exceed 5 hours TIS, to determine if the torque has stabilized. Do not exceed three torque inspections total for each bolt and accomplish the actions required by paragraphs (g)(2)(i) and (ii) of this AD.

Note 1 to the introductory text of paragraph (g)(2): This note applies to the introductory text of paragraph (g)(2), the introductory text of paragraph (g)(2)(i), paragraph (g)(2)(i)(B), and paragraph (g)(2)(ii) of this AD. The Accomplishment Instructions, part II, paragraph 1, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, and ASB 412CF-21-72 Rev A each refer to part I for allowable torque limits; part I of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, and ASB 412CF-21-72 Rev A specify the different torque limits for the different bolts.

(i) If the torque on a bolt is below the minimum allowable torque limit as a result of any instance of the torque inspection or if after three torque inspection attempts, the torque on any bolt has not stabilized, before further flight, accomplish the actions required by paragraphs (g)(2)(i)(A) and (B) of this AD.

(A) Remove the hardware set of one failed tail boom attachment point (barrel nut, retainer, bolt, countersunk washer, and plain washers). Remove the barrel nut and retainer from service as applicable to the affected tail boom attachment point. Visually inspect the removed bolt for any corrosion, damaged threads, wear, and fatigue cracking. If the bolt has any corrosion, a damaged thread, wear, or fatigue cracking, before further flight, remove the bolt from service.

(B) Install a new bolt or reinstall the existing bolt, as applicable, and a new nickel alloy barrel nut P/N NAS577C9A, NAS577C8A, or NAS577C6A, and new retainer P/N NAS578C9A, NAS578C8A, or NAS578C6A, with the P/N of the new nickel alloy barrel nut and the P/N of the new retainer being as applicable to the affected tail boom attachment point by following the Accomplishment Instructions, part I, paragraphs 6 and 7, paragraphs 11 and 12, or paragraphs 16 and 17, of ASB 212-21-166 Rev A, ASB 412-

21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model and with the paragraphs as applicable to that bolt. Repeat the actions required by paragraphs (g)(2)(i)(A) and (B) of this AD for each failed tail boom attachment point, one hardware set at a time. Then repeat the actions required by paragraph (g)(2) of this AD just for each newly installed or reinstalled bolt until the torque for all four tail boom attachment points stabilizes.

(ii) If the torque for all four tail boom attachment points has stabilized, before further flight, apply a torque stripe to all four bolts.

(3) For the helicopter identified in paragraph (c)(4) of this AD, within 5 hours TIS after the effective date of this AD, inspect the torque applied on each bolt in accordance with the Accomplishment Instructions, part II, paragraphs 1 and 2, of ASB 412-21-187 Rev A. Thereafter, repeat the torque inspection of each bolt after accumulating 1 hour TIS, but not to exceed 5 hours TIS, to determine if the torque has stabilized. Do not exceed three torque inspections total for each bolt and accomplish the actions required by paragraphs (g)(2)(i) and (ii) of this AD.

Note 2 to paragraph (g)(3): The Accomplishment Instructions, part II, paragraph 1, of ASB 412-21-187 Rev A refers to part I for allowable torque limits; part I of ASB 412-21-187 Rev A specifies the different torque limits for the different bolts.

(4) For helicopters identified in paragraphs (c)(1) through (4) of this AD, within 600 hours TIS or 12 months, whichever occurs first after applying torque stripes to all four bolts as required by paragraph (g)(2)(ii) of this AD, and thereafter within intervals not to exceed 600 hours TIS or 12 months, whichever occurs first; and for helicopters identified in paragraph (c)(5) of this AD, within 600 hours TIS or 12 months after the effective date of this AD, whichever occurs first, and thereafter within intervals not to exceed 600 hours TIS or 12 months, whichever occurs first, using the torque value information in the Accomplishment Instructions, part II, paragraph 1, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model, inspect the torque applied on each bolt. If the torque on any bolt is below the minimum allowable torque limit, accomplish the actions required by paragraphs (g)(4)(i) and (ii) of this AD.

(i) Before further flight, remove the hardware set of one failed tail boom attachment point (barrel nut, retainer, bolt, countersunk washer, and plain washers). Visually inspect the removed barrel nut for cracking, corrosion, and loss of tare torque. If the barrel nut has any cracking, corrosion, or has lost any tare toque, before further flight, remove the barrel nut and retainer from service and replace them with a new nickel alloy barrel nut P/N NAS577C9A, NAS577C8A, or NAS577C6A, and new retainer P/N NAS578C9A, NAS578C8A, or NAS578C6A, with the P/N of the new nickel alloy barrel nut and the P/N of the new retainer being as applicable to the affected tail boom attachment point. Regardless of the result of the barrel nut inspection, remove the bolt from service and replace it with a new bolt by following the Accomplishment Instructions, part I, paragraphs 6 and 7, paragraphs 11 and 12, or paragraphs 16 and 17, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model and with the paragraphs as applicable to that bolt. Repeat the actions required by this paragraph for each failed tail boom attachment point, one hardware set at a time.

(ii) After accumulating 1 hour TIS, but not to exceed 5 hours TIS after accomplishing the actions required by paragraph (g)(4)(i) of this AD, using the torque value information in the Accomplishment Instructions, part II, paragraph 1, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model, inspect the torque applied on each newly installed bolt. Thereafter, repeat the torque inspection of those bolts after accumulating 1 hour TIS, but not to exceed 5 hours TIS, to determine if the torque has stabilized. Do not exceed three torque inspections total for those bolts and accomplish the actions required by paragraphs (g)(2)(i) and (ii) of this AD.

Note 3 to paragraph (g)(4): The Accomplishment Instructions, part II, paragraph 1, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, and ASB 412CF-21-72 Rev A, each refer to part I for allowable torque limits; part I of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, and ASB 412CF-21-72 Rev A, specify the different torque limits for the different bolts.

(5) Within the compliance times specified in Table 1 to the introductory text of

paragraph (g)(5) of this AD, accomplish the actions required by paragraphs (g)(5)(i) through (iv) of this AD.

Table 1 to the Introductory Text of Paragraph (g)(5)

Helicopter Groups	Compliance Times
For helicopters identified in paragraphs (c)(1) and (2) of this AD, and helicopters identified in paragraph (c)(3) of this AD that accomplished paragraph (g)(1)(i) of this AD.	Within 5,000 hours TIS or 5 years after accomplishing the actions required by paragraph (g)(1) of this AD, whichever occurs first, and thereafter, within intervals not to exceed 5,000 hours TIS or 5 years, whichever occurs first.
For helicopters identified in paragraph (c)(3) of this AD that accomplished paragraph (g)(1)(ii) of this AD.	Before the helicopter accumulates 5,000 total hours TIS or 5 years since new, whichever occurs first, and thereafter, within intervals not to exceed 5,000 hours TIS or 5 years, whichever occurs first.
For helicopters identified in paragraphs (c)(4) and (5) of this AD.	Before the helicopter accumulates 5,000 total hours TIS or 5 years since new, whichever occurs first, or if the total hours TIS or age of the helicopter is unknown, before further flight, and thereafter, within intervals not to exceed 5,000 hours TIS or 5 years, whichever occurs first.

(i) Remove the upper LH bolt from service and replace it with a new upper LH bolt by following the Accomplishment Instructions, part I, paragraphs 6 and 7, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model. Then accomplish the actions required by paragraph (g)(5)(v) of this AD.

Note 4 to paragraph (g)(5)(i): This note applies to paragraphs (g)(5)(i) through (v) of this AD. The Accomplishment Instructions, part II, paragraph 1, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, and ASB 412CF-21-72 Rev A, each refer to part I for allowable torque limits; part I of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, and ASB 412CF-21-72 Rev A, specify the different torque limits for the different bolts.

(ii) With the upper RH bolt removed, visually inspect the upper RH bolt for any corrosion, damaged threads, wear, and fatigue cracking. If the upper RH bolt has any corrosion, a damaged thread, wear, or fatigue cracking, before further flight, remove the upper RH bolt from service. Install a new upper RH bolt or reinstall the existing upper RH bolt, as applicable, by following the Accomplishment Instructions, paragraphs 11 and 12 of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model. Then accomplish the actions required by paragraph (g)(5)(v) of this AD.

(iii) With the lower LH bolt removed, visually inspect the lower LH bolt for any corrosion, damaged threads, wear, and fatigue cracking. If the lower LH bolt has any corrosion, a damaged thread, wear, or fatigue cracking, before further flight, remove the lower LH bolt from service. Install a new lower LH bolt or reinstall the existing lower LH bolt, as applicable, by following the Accomplishment Instructions, paragraphs 16 and 17 of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model. Then accomplish the actions required by paragraph (g)(5)(v) of this AD.

(iv) With the lower RH bolt removed, visually inspect the lower RH bolt for any corrosion, damaged threads, wear, and fatigue cracking. If the lower RH bolt has any corrosion, a damaged thread, wear, or fatigue cracking, before further flight, remove the lower RH bolt from service. Install a new lower RH bolt or reinstall the existing lower

RH bolt, as applicable, by following the Accomplishment Instructions, paragraphs 16 and 17 of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model. Then accomplish the actions required by paragraph (g)(5)(v) of this AD.

(v) After accumulating 1 hour TIS, but not to exceed 5 hours TIS after accomplishing the actions required by paragraph (g)(5)(i), (ii), (iii), or (iv) of this AD, using the torque value information in the Accomplishment Instructions, part II, paragraph 1, of ASB 212-21-166 Rev A, ASB 412-21-187 Rev A, or ASB 412CF-21-72 Rev A, as applicable to your helicopter model, inspect the torque applied on each bolt. Thereafter, repeat the torque inspection of those bolts after accumulating 1 hour TIS, but not to exceed 5 hours TIS, to determine if the torque has stabilized. Do not exceed three torque inspections total for those bolts and accomplish the actions required by paragraphs (g)(2)(i) and (ii) of this AD.

(6) For helicopters identified in paragraph (c) of this AD, as of the effective date of this AD, do not install a steel alloy barrel nut P/N NAS577B9A, P/N NAS577B8A, or P/N NAS577B6A on any helicopter.

(h) Special Flight Permit

A one-time special flight permit may be issued in accordance with 14 CFR 21.197 and 21.199 in order to fly to a maintenance area to perform the required actions in this AD.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Central Certification Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to fwaco@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

For more information about this AD, contact Jacob Fitch, Aviation Safety Engineer, FAA, 1801 S Airport Road, Wichita, KS 67209; telephone (817) 222-4130; email jacob.fitch@faa.gov.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bell Alert Service Bulletin 212-21-166, Revision A, dated February 23, 2022.

(ii) Bell Alert Service Bulletin 412-21-187, Revision A, dated February 23, 2022.

(iii) Bell Alert Service Bulletin 412CF-21-72, Revision A, dated February 23, 2022.

(3) For service information identified in this AD, contact Bell Textron, Inc., P.O. Box 482, Fort Worth, TX 76101, United States; phone (450) 437-2862 or 1-800-363-8023; fax (450) 433-0272; email: productsupport@bellflight.com; or website: bellflight.com/support/contact-support.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Parkway, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this material that is at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations or email fr.inspection@nara.gov.

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Victor Wicklund,
Deputy Director, Compliance & Airworthiness Division,
Aircraft Certification Service.
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