



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0415; Directorate Identifier 2008-SW-065-AD]

RIN 2120-AA64

Airworthiness Directives; Bell Helicopter Textron, Incorporated Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede an existing airworthiness directive (AD) for Bell Helicopter Textron, Inc. (BHTI) Model 204B, 205A, 205A-1, 205B, and 212 helicopters. The existing AD currently requires conducting various inspections associated with the main rotor grip (grip). If a crack is found, that AD requires replacing the grip before further flight. If delamination of the buffer pad on the grip tang inner surface is found, that AD requires inspecting the grip surface for corrosion or other damage and repairing or replacing the grip if corrosion or other damage is found. That AD also requires determining and recording the hours time-in-service (TIS) and the engine start/stop cycles for each grip on a component history card or equivalent record. Additionally, that AD requires you to report certain inspection results to the FAA. Since we issued that AD, additional cracks in grips have been found. Analysis of these events has shown that a retirement life is needed for certain grips, and the AD applicability needs to be expanded to include additional grips similar in design, as well as to include the Model 210 helicopter, which was issued an FAA type certificate after the existing AD was issued.

The proposed actions are intended to prevent failure of a grip, separation of a main rotor blade, and subsequent loss of control of the helicopter.

DATES: We must receive comments on this proposed AD by [INSERT DATE 60 days AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- **Federal eRulemaking Docket:** Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.

- **Fax:** 202-493-2251.

- **Mail:** Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- **Hand Delivery:** Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket: You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed AD, contact BHTI, P.O. Box 482, Fort Worth, TX 76101, telephone (817) 280-3391, fax (817) 280-6466, or at <http://www.bellcustomer.com/files/>. You may review copies of service information at the

FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd.,
Room 663, Fort Worth, Texas 76137.

FOR FURTHER INFORMATION CONTACT: Michael Kohner, Aviation Safety
Engineer, Rotorcraft Certification Office, 2601 Meacham Blvd., Fort Worth, Texas
76137, telephone (817) 222-5170, fax (817) 222-5783, e-mail mike.kohner@faa.gov or
7-avs-asw-170@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Discussion

On December 31, 2002, we issued AD 2003-01-04, Amendment 39-13015 (68 FR 1955, January 15, 2003), for the BHTI Model 204B, 205A, 205A-1, 205B, and 212 helicopters. That AD requires the following actions:

- Within 10 hours TIS, determining and recording the hours TIS and the engine start/stop cycles for each grip on a component history card or equivalent record. On the single-engine model helicopters, one "engine start/stop cycle" occurs when the engine is started. On the Model 212 helicopter, one "engine start/stop cycle" occurs when either one or both engines are started. The intent is to add one "engine start/stop cycle" each time helicopter power starts the main rotor system turning.
- Within 10 hours TIS and thereafter at intervals not to exceed 25 hours TIS, visually inspecting the exposed surfaces of the upper and lower tangs of each grip for a crack, using a 10-power or higher magnifying glass.
- At specified intervals, depending on the hours TIS or the engine start/stop cycles, whichever occurs first, conducting initial and repetitive ultrasonic (UT) inspections of each grip in accordance with the Nondestructive Inspection Procedure, Log No. 00-340, Revision E, dated April 9, 2002.
- At intervals not to exceed 1,200 hours TIS or 24 months, whichever occurs first, inspecting each buffer pad on the tang inner surfaces for delamination and removing the buffer pad and inspecting the grip surface for corrosion and other damage if delamination is found.

- Within 2,400 hours TIS or at the next overhaul of the main rotor hub, whichever occurs first, and thereafter at intervals not to exceed 2,400 hours TIS, inspecting the surface of each affected grip for corrosion or other damage and conducting a fluorescent-penetrant inspection (FPI) of the grip for a crack.
- Before further flight, replacing any grip that has a crack, corrosion, or other damage with an airworthy grip, or repairing a grip with corrosion or other damage if the corrosion or other damage is within certain limits.
- Reporting certain inspection results and information to the FAA in accordance with Appendix 1 of the AD.

AD 2003-01-04 was prompted by three in-flight grip failures and two cracked grips discovered during a 1,200-hour TIS inspection and on a scheduled 2,400-hour TIS overhaul, which brought the total to 13 grips that had cracked in the lower tang. No anomalies or damage to the blade, blade bolt bore, or buffer pad tang surface were found in the two cracked grips found during the inspection and overhaul. Cracking on all of the grips has been attributed to mechanical damage from improper blade bolt bushing installation, improper rework of the buffer pad tang surface, or subsurface fatigue damage. All of the fatigue cracks occurred on grip part numbers (P/N) 204-011-121-009 and -121, installed on BHTI Model 212 helicopters. Grip P/Ns 204-011-121-005, -113, and -117, installed on BHTI Model 204B, 205A, 205A-1, and 205B helicopters, were also included because the grips are very similar in design and are subjected to the same forces and loads as the grips installed on BHTI Model 212 helicopters. We issued that AD to prevent failure of a grip, separation of a main rotor blade, and subsequent loss of control of the helicopter.

Actions Since Existing AD Was Issued

Since issuing the existing AD, small cracks in three grips, initiating in the blade bolt bore, have been detected during UT inspections. Additionally, one crack in another grip was discovered visually, another crack was found after an in-flight vibration developed, and one grip fractured during flight. This brings the total to 19 grips that have cracked in the lower tang. Based on these additional discoveries of cracked grips and subsequent analyses performed by the manufacturer, we have determined the following:

- The applicability of the AD needs to be expanded to include replacement grip P/N ASI-4011-121-9, produced under a part manufacturing approval (PMA) issued by the FAA, because the design approval for this grip was based on its design being identical to the original BHTI-manufactured grip, P/N 204-011-121-009;
- The applicability of the AD needs to be expanded to include any Model 204B, 205A, 205A-1, and 212 helicopters with grip P/N 204-011-121-009, -121, or ASI-4011-121-9 installed;
- The applicability of the AD needs to be expanded to include the Model 210 helicopter, which has a grip P/N 204-011-121-009 and -121, installed. This model was not included in AD 2003-01-04 because the FAA issued the BHTI Model 210 type certificate after AD 2003-01-04 was issued;
- A retirement life is needed for grip P/Ns 204-011-121-009, 204-011-121-121, and ASI-4011-121-9. These grips, installed on Model 205B, 210, and 212 helicopters, are currently unlimited in service life and are only required to be replaced when damaged or

corroded beyond repair. Early failures of these grips, which have not been attributed to mechanical damage, have indicated a need to establish retirement lives to avoid possible cracking in the future;

- The procedure for calculating the total hours TIS for any grip where the hours TIS cannot be determined from the helicopter records should be modified to more accurately account for the actual usage of the fleet and clarify the intent of the AD; and
- The reporting of inspection findings to the FAA is no longer needed.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other helicopters of these same type designs.

Related Service Information

We reviewed the following BHTI service information:

- Operations Safety Notices 204-85-6, 205-85-9, and 212-85-13, all dated November 14, 1985, which describe a grip with a crack in the lower tang that was returned by an operator;
- Alert Service Bulletin (ASB) No. 212-94-92, Revision A, dated March 13, 1995, which describes procedures for inspection and overhaul requirements of certain grips;
- ASB No. 204-02-58, dated November 26, 2002; ASB No. 205-02-88, dated November 26, 2002; and ASB No. 210-08-02, dated September 10, 2008. These ASBs specify a UT inspection of certain grips;
- ASB No. 205B-02-39, Revision B, dated November 22, 2002 and ASB No. 212-02-116, Revision A, dated October 30, 2002, which specify a UT inspection of certain

grips and include the Nondestructive Inspection Procedure, Log No. 00-340, Revision E, dated April 9, 2002; and

- Information Letter 204-08-23, 205-08-38, 205B-08-21, and 212-08-62, Revision A, dated July 23, 2008 (one letter issued with 4 identification numbers), which describes a new, improved replacement grip, P/N 204-011-121-125, that would not require the repetitive UT inspections and would have a retirement life of 25,000 hours TIS or a 500,000 Retirement Index Number (RIN), whichever comes first.

Proposed AD Requirements

This proposed AD would retain certain requirements of AD 2003-01-04, and would require additional actions. The proposed requirements are as follows:

- Within 10 hours TIS, determining and recording the hours TIS and the engine start/stop cycles for each grip on a component history card or equivalent record. For each month that the hours TIS cannot be determined, this proposed AD would assume 50 hours TIS.
- Within 10 hours TIS and thereafter at intervals not to exceed 25 hours TIS, visually inspecting the exposed surfaces of the upper and lower tangs of each grip for a crack, using a 10-power or higher magnifying glass.
- At specified intervals, depending on the hours TIS or the engine start/stop cycles, whichever occurs first, conducting initial and repetitive UT inspections of each grip, in accordance with the Nondestructive Inspection Procedure, Log No. 00-340, Revision E, dated April 9, 2002.
- At intervals not to exceed 1,200 hours TIS or 24 months, whichever occurs first, inspecting each buffer pad on the tang inner surfaces for delamination, and removing the

buffer pad and inspecting the grip surface for corrosion and other damage if delamination is found.

- Within 2,400 hours TIS or at the next overhaul of the main rotor hub, whichever occurs first, and thereafter at intervals not to exceed 2,400 hours TIS, inspecting the surface of each affected grip for corrosion or other damage and conducting an FPI of the grip for a crack.

- Before further flight, replacing any grip that has a crack, corrosion, or other damage with an airworthy grip, or repairing a grip with corrosion or other damage if the corrosion or other damage is within certain limits.

- Before further flight, removing any grip, P/N 204-011-121-009 or ASI-4011-121-9, that has 15,000 or more hours TIS;

- Before further flight, removing any grip, P/N 204-011-121-121, that has 25,000 or more hours TIS;

- Revising the Airworthiness Limitations sections of the applicable maintenance manuals or the Instructions for Continued Airworthiness by establishing a new retirement life of 15,000 hours TIS for grip, P/N 204-011-121-009 or ASI-4011-121-9, and 25,000 hours TIS for grip, P/N 204-011-121-121; and

- Recording the applicable hours TIS life limits for grips, P/N 204-011-121-009, ASI-4011-121-9, and 204-011-121 on the applicable component history card or equivalent record.

Differences Between the Proposed AD and the Service Information

This proposed AD requires life limits for grips, P/N 204-011-121-009, 204-011-121-121, and ASI-4011-121-9. The manufacturer's service bulletins do not specify a

service life for these grips. Also, this proposed AD applies to grip P/N ASI-4011-121-9, which is produced under a parts manufacturing approval, and the manufacturer's service bulletins do not address this particular grip.

Costs of Compliance

We estimate that this proposed AD would affect 700 helicopters of U.S. registry, and it would take approximately 7 work hours to create and maintain the records, 6.25 work hours to conduct the inspections, and 20 work hours to replace a set of grips at an average labor rate of \$85 per work hour. Required parts would cost approximately \$56,385 for a replacement set of grips. Based on these figures, we estimate the total cost impact of the proposed AD on U.S. operators to be \$6,596,875 for the entire fleet, assuming the grip set (2 grips) must be replaced on 100 helicopters.

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 helicopters identified in this rulemaking action.

Regulatory Findings

We 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, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

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 removing Amendment 39-13015 (68 FR 1955, January 15, 2003), and adding the following new airworthiness directive (AD):

BELL HELICOPTER TEXTRON, INC. (BHTI): Docket No. FAA-2012-0415;

Directorate Identifier 2008-SW-065-AD.

(a) Applicability.

This AD applies to the following model helicopters with the listed part-numbered main rotor grips installed, certificated in any category:

Table 1. Helicopter Model and Main Rotor Grip (Grip) Part Numbers Affected

Model	With the following grip part number (P/N)
204B	204-011-121-005 if the grip was ever installed on a Model 205B helicopter.
204B, 205A, and 205A-1	204-011-121-009, -117, -121 or ASI-4011-121-9.
205A and 205A-1	204-011-121-005 or -113 if the grip was ever installed on a Model 205B helicopter.
205B	204-011-121-005, -009, -113, -117, or -121.
210	204-011-121-009 or -121.
212	204-011-121-009, -121, or ASI-4011-121-9.

(b) Unsafe Condition.

This AD defines the unsafe condition as a crack in the main rotor grip (grip), which could result in failure of a grip, separation of a main rotor blade, and subsequent loss of control of the helicopter.

(c) Other Affected ADs.

This AD supersedes AD 2003-01-04, Amendment 39-13015 (68 FR 1955, January 15, 2003).

(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) Within 10 hours time-in-service (TIS), create a component history card or equivalent record and determine and record the total hours TIS for each grip. If the total hours TIS cannot be determined from the helicopter records, assume and record 50 hours TIS for each month for which the hours cannot be determined. Continue to count and record the hours TIS and begin to count and record the number of times the helicopter engine(s) are started (engine start/stop cycles).

(2) Within 10 hours TIS, and thereafter at intervals not to exceed 25 hours TIS, without removing the main rotor blades:

(i) Clean the exposed surfaces of the upper and lower tangs of each grip with denatured alcohol, and wipe dry.

(ii) Using a 10-power or higher magnifying glass, visually inspect the exposed surfaces of the upper and lower tangs of each grip for a crack. Pay particular attention to the lower surface of each lower grip tang from the main rotor blade bolt-bushing flange to the leading and trailing edge of each grip tang. See Figure 1 of this AD.

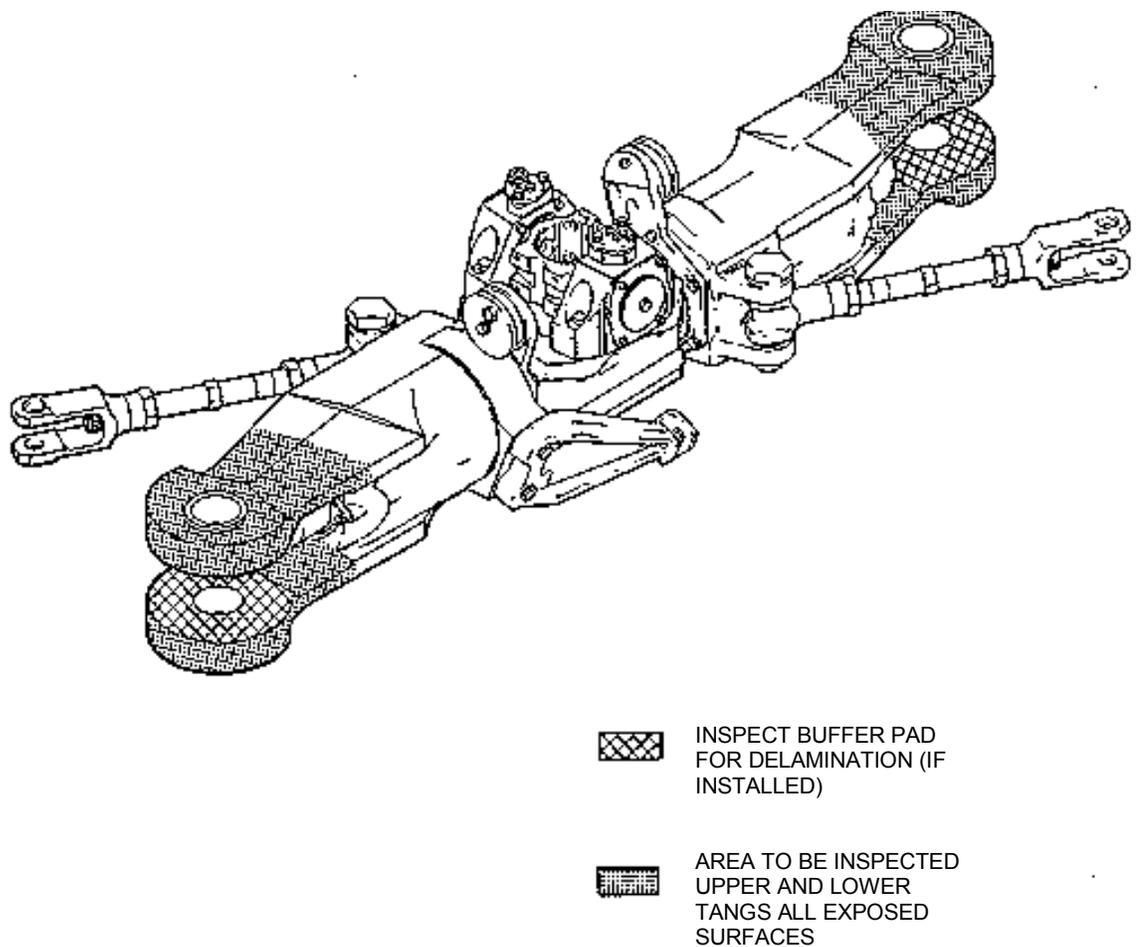


Figure 1. Inspection of Main Rotor Hub Grip Tangs

(3) At the intervals shown in Table 2 of this AD, ultrasonic (UT) inspect each grip in accordance with the BHTI Nondestructive Inspection Procedure, Log No. 00-340, Revision E, dated April 9, 2002.

Table 2. Ultrasonic Inspection Intervals

UT inspect grip, P/N:	Within 30 days, or the following hours TIS for the grip, whichever occurs later:	Thereafter, at intervals not to exceed the following hours TIS or engine start/stop cycles, whichever occurs first:	
		Hours TIS	Engine Start/Stop Cycles
204-011-121-009 or ASI-4011-121-9	4,000	400	1,600
204-011-121-121	500	150	600
204-011-121-005 or -113, if the grip was EVER installed on a Model 205B helicopter	4,000	400	1,600
204-011-121-117, if the grip was NEVER installed on a Model 205B helicopter	4,000	150	600
204-011-121-117, if the grip was EVER installed on a Model 205B helicopter	500	150	600

The UT inspection of the grip must be performed by a Non-Destructive Testing (NDT) UT Level I Special, Level II, or Level III inspector who is qualified under the guidelines established by MIL-STD-410E, ATA Specification 105, AIA-NAS-410, or an FAA-accepted equivalent for qualification standards of NDT Inspection/Evaluation Personnel.

Note 1: You can find the Nondestructive Inspection Procedure attached to BHTI Alert Service Bulletin (ASB) No. 205B-02-39, Revision B, dated November 22, 2002, or BHTI ASB No. 212 02-116, Revision A, dated October 30, 2002.

(4) At intervals not to exceed 1,200 hours TIS or 24 months, whichever occurs first:

- (i) Remove each main rotor blade, and
- (ii) Inspect each grip buffer pad on the inner surfaces of each grip tang for delamination (see Figure 1 of this AD). If there is any delamination, remove the buffer pad and inspect the grip surface for corrosion or other damage.

Note 2: This inspection interval coincides with the main rotor tension-torsion strap replacement times.

(5) Within 2,400 hours TIS, or at the next overhaul of the main rotor hub, whichever occurs first, and thereafter at intervals not to exceed 2,400 hours TIS:

- (i) Remove each main rotor blade.
- (ii) Remove each grip buffer pad (if installed) from the inner surfaces of each grip tang.
- (iii) Visually inspect the grip tang surfaces for corrosion or other damage.
- (iv) Fluorescent-penetrant inspect (FPI) the grip for a crack, paying particular attention to the upper and lower grip tangs. When inspecting any grip, P/N 204-011-121-005, -009, -113, or ASI-4011-121-9, pay particular attention to the leading and trailing edges of the grip barrel.

Note 3: FPI procedures are contained in BHTI Standard Practices Manual, BHT-ALL-SPM.

(6) Before further flight:

- (i) Replace any cracked grip with an airworthy grip.

(ii) Replace any grip with any corrosion or other damage with an airworthy grip, or repair the grip if the corrosion or other damage is within the maximum repair damage limitations found in the applicable Component and Repair Overhaul Manual.

(iii) Replace any grip, P/N 204-011-121-009 or ASI-4011-121-9, which has been in service for 15,000 or more hours TIS.

(iv) Replace any grip, P/N 204-011-121-121, which has been in service for 25,000 or more hours TIS.

(7) Revise the Airworthiness Limitations sections of the applicable maintenance manuals or the Instructions for Continued Airworthiness (ICAs) by establishing a new retirement life of 15,000 hours TIS for grip P/N 204-011-121-009 or ASI-4011-121-9, and 25,000 hours TIS for grip P/N 204-011-121-121, by making pen and ink changes or inserting a copy of this AD into the applicable maintenance manual or ICAs.

(8) Record a 15,000 hours TIS life limit for each grip P/N 204-011-121-009 or ASI-4011-121-9, and a 25,000 hours TIS life limit for each grip P/N 204-011-121-121, on the applicable component history card or equivalent record.

(f) Alternative Methods of Compliance (AMOCs).

(1) The Manager, Rotorcraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Michael Kohner, Aviation Safety Engineer, Rotorcraft Certification Office, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5170, fax (817) 222-5783, e-mail mike.kohner@faa.gov or 7-avs-asw-170@faa.gov.

(2) For operations conducted under a Part 119 operating certificate or under 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 AD through an AMOC.

(g) Additional Information.

(1) BHTI ASB No. 212-94-92, Revision A, dated March 13, 1995; BHTI ASB No. 212-02-116, Revision A, dated October 30, 2002; BHTI 205B-02-39, Revision B, dated November 22, 2002; BHTI ASB No. 204-02-58 and ASB No. 205-02-88, both dated November 26, 2002; BHTI ASB No. 210-08-02, dated September 10, 2008; BHTI Operations Safety Notice 204-85-6, 205-85-9, and 212-85-13, all dated November 14, 1985; and BHTI Information Letter, 204-08-23, 205-08-38, 205B-08-21, and 212-08-62, Revision A, dated July 23, 2008; none of which are incorporated by reference, contain additional information about the subject of this AD.

(2) For service information identified in this AD, contact BHTI, P.O. Box 482, Fort Worth, TX 76101, telephone (817) 280-3391, fax (817) 280-6466, or at <http://www.bellcustomer.com/files/>. You may review copies of this information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

(h) Subject.

Joint Aircraft Service Component (JASC) Code: 6220: Main Rotor Head.

Issued in Fort Worth, Texas, on April 11, 2012.

Lance T. Gant,

Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.

[FR Doc. 2012-9569 Filed 04/19/2012 at 8:45 am; Publication Date: 04/20/2012]