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

§ 39.13 [Amended]

2. Section 39.13 is amended by removing amendment 39–11904 (65 FR 56231, September 18, 2000), and by adding a new airworthiness directive (AD), amendment 39–12039, to read as follows:

2000–25–05 Empresa Brasileira de Aeronautica S.A. (Embraer): Amendment 39–12039. Docket 2000–NM–384–AD. Supersedes AD 2000–19–03, Amendment 39–11904.

Applicability: Model EMB–135 and EMB–145 series airplanes, as listed in Embraer Alert Service Bulletin S.B. 145–28–A014, dated August 25, 2000, and serial numbers 145301 through 145312, inclusive; certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance

Required as indicated, unless accomplished previously.

To prevent failure of the rivets attaching the Gamah coupling hinge to the fuel system tubing and consequent separation of the coupling, which could result in fuel leakage and consequent fire in or around the wing, accomplish the following:

Continuing Requirements of AD 2000–19–03—General Visual Inspection

(a) Perform a one-time general visual inspection of the hinge and locking fastener of the Gamah couplings of the fuel system tubing located in the wing dry bay to detect discrepancies (including coupling separation, and loose rivets on the coupling hinge or locking fastener attaching points), in accordance with Embraer Alert Service Bulletin S.B. 145–28–A014, dated August 25, 2000; at the times specified in paragraphs (a)(1) and (a)(2) of this AD, as applicable. If no discrepancies are detected, secure the Gamah couplings with locking wire in accordance with the alert service bulletin.

(1) For airplanes having serial numbers 145004 through 145103 inclusive; 145105 through 145121 inclusive; 145123 through 145139 inclusive; 145141 through 145153 inclusive; 145155 through 145176 inclusive: Within 400 flight hours after October 3, 2000 (the effective date of AD 2000–19–03, amendment 39–11904).

(2) For airplanes having serial numbers 145177 through 145189 inclusive; 145191 through 145230 inclusive; 145232 through 145251 inclusive; 145253 through 145255 inclusive; 145258 through 145262 inclusive; 145264 through 145293 inclusive; 145295, 145296, and 145298 through 145300 inclusive: Within 50 flight hours after October 3, 2000.

Follow-On Corrective Actions

(b) If any discrepancies (including coupling separation, and loose rivets on the coupling hinge or locking fastener attaching points) are detected after accomplishment of the inspection required by paragraph (a) of this AD: Before further flight, replace any affected Gamah couplings and secure the Gamah couplings with locking wire in accordance with Embraer Alert Service Bulletin S.B. 145–28–A014, dated August 25, 2000. Accomplishment of this paragraph terminates the requirements of this AD.

New Requirements of This AD—General Visual Inspection

(c) For airplanes having serial numbers 145301 through 145312, inclusive: Perform a one-time general visual inspection of the hinge and locking fastener of the Gamah couplings of the fuel system tubing located in the wing dry bay to detect discrepancies (including coupling separation, and loose rivets on the coupling hinge or locking fastener attaching points), in accordance with Embraer Alert Service Bulletin S.B. 145–28–A014, dated August 25, 2000, within 50 flight hours after the effective date of this AD.

(1) If no discrepancies are detected, secure the Gamah couplings with locking wire in accordance with the alert service bulletin.

(2) If any discrepancy is detected, before further flight, accomplish the requirements of paragraph (b) of this AD.

Alternative Methods of Compliance

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Atlanta ACO.

Special Flight Permits

(e) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(f) The actions shall be done in accordance with Embraer Alert Service Bulletin S.B. 145–28–A014, dated August 25, 2000. The incorporation by reference of that document was approved previously by the Director of the Federal Register as of October 3, 2000 (65 FR 56231, September 18, 2000). Copies may be obtained from Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343—CEP 12.225, Sao Jose dos Campos—SP, Brazil. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the FAA, Atlanta Aircraft Certification Office, One Crown Center, 1895 Phoenix Boulevard, suite 450, Atlanta, Georgia; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(g) This amendment becomes effective on December 28, 2000.

Issued in Renton, Washington, on December 5, 2000.

Donald L. Riggin,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 00–31449 Filed 12–12–00; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000–SW–28–AD; Amendment 39–12042; AD 2000–15–52]

RIN 2120–AA64

Airworthiness Directives; Bell Helicopter Textron, Inc. Model 204B, 205A, 205A–1, 205B, and 212 Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This document publishes in the **Federal Register** an amendment adopting superseding Airworthiness Directive (AD) 2000–15–52, which was sent previously to all known U.S. owners and operators of Bell Helicopter Textron, Inc. Model (BHTI) Model 204B, 205A, 205A–1, 205B, and 212 helicopters by individual letters. This AD reduces the retirement index number (RIN) life limit for the main rotor mast (mast); increases the RIN factor for masts and main rotor trunnions (trunnions); applies standard RIN factors for all external load lifts; and requires a one-time inspection of the snap ring groove area of the mast. This AD also establishes RIN factors for masts and trunnions that have been previously installed on military or restricted category helicopters and removes from service those masts that have been previously installed with a hub spring. This amendment is prompted by an occurrence of a cracked mast at a lower value than the established RIN life limit. The actions specified by this AD are intended to preclude the occurrence of fatigue

cracks in the damper clamp splined area of a mast. A crack in the damper clamp splined area could result in failure of a mast or trunnion, separation of the main rotor system, and subsequent loss of control of the helicopter.

DATES: Effective December 28, 2000, to all persons except those persons to whom it was made immediately effective by Emergency AD 2000–15–52, issued on July 25, 2000, which contained the requirements of this amendment.

Comments for inclusion in the Rules Docket must be received on or before February 12, 2001.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Regional Counsel, Southwest Region, Attention: Rules Docket No. 2000–SW–28–AD, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. You may also send comments electronically to the Rules Docket at the following address: *9-asw-adcomments@faa.gov.*

FOR FURTHER INFORMATION CONTACT: Michael Kohner, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Rotorcraft Certification Office, Fort Worth, Texas 76193–0170, telephone (817) 222–5447, fax (817) 222–5783.

SUPPLEMENTARY INFORMATION: On November 13, 1998, the FAA issued AD 98–24–15 (Amendment 39–10900 (63 FR 64612, November 23, 1998), Docket No. 97–SW–20–AD. That AD required establishing a RIN tracking system for mast and trunnion torque events; creating component history cards or equivalent records; converting accumulated factored flight hours to a baseline accumulated RIN count; establishing a system for tracking increases to the accumulated RIN; and establishing a maximum accumulated RIN for certain masts and trunnions. That action was prompted by an accident involving a BHTI Model 205A–1 helicopter in which a mast failure caused a separation of the main rotor from the helicopter. A subsequent metallurgical examination revealed that the mast had fractured as a result of fatigue. Analyses and fatigue testing conducted by the manufacturer and assessed by the FAA confirmed that the remaining lives of the mast and trunnion are more accurately assessed by monitoring the number of torque events and flight hours on the helicopter rather than by monitoring only flight hours.

The FAA superseded AD 98–24–15 by issuing Emergency AD 2000–08–52 (Docket No. 2000–SW–20) on April 21, 2000. AD 2000–08–52 required a one-time special inspection for certain serial-numbered masts to detect burrs or inadequate radii in the snap ring groove areas that can cause fatigue failure. That AD was issued as a result of an accident involving a BHTI Model 212 helicopter following in-flight separation of its main rotor system. The post-accident investigation revealed a fatigue failure in the damper clamp splined area of the mast, part number (P/N) 204–011–450–007. Also, operators reported at least five other failures in the damper clamp splined area of masts, P/N 204–011–450–001, –007, and –105, in either the upper or lower snap ring grooves. That AD also reduced the maximum allowable RIN life for each affected mast and changed the RIN counting procedure to require application of a standard RIN factor for all external load lifts regardless of altitude change and the type of load lifted. The RIN factor assessed for each torque event was increased for masts installed on BHTI Model 204B and 205B helicopters. The requirements of AD 98–24–15 pertaining to trunnions, P/N 204–011–105–001 and –103, were not changed by AD 2000–08–52.

After issuing AD 2000–08–52, the FAA received a report of another cracked mast. Metallurgical inspection revealed that the mast cracked as a result of fatigue in snap ring groove radii that were smaller than the 0.020 inch minimum allowable dimension. Detailed takeoff (1,249) and lift (16,339) event data for the entire life of the mast confirmed that the accumulated RIN count at the time the fatigue crack was detected was approximately 68,000 when calculated in accordance with the most recent RIN counting procedure as defined in AD 2000–08–52. The FAA concluded that several corrections to the RIN counting procedure are required based on a review of the fatigue data and previously issued AD's.

On July 25, 2000, the FAA issued Emergency AD 2000–15–52 for BHTI Model 204B, 205A, 205A–1, 205B, and 212 helicopters. That Emergency AD reduces the RIN life limit for the mast and trunnion; increases the RIN factor for the masts and trunnions; applies standard RIN factors for all external load lifts; and requires a one-time inspection of the snap ring groove area of the mast. That Emergency AD also establishes RIN factors for masts and trunnions that have been previously installed on military or restricted category helicopters and removes from service those masts that have been previously installed with a hub spring. That action was prompted by an occurrence of a cracked mast at a lower value than the established RIN life limit. This condition, if not corrected, could result in failure of a mast or trunnion, separation of the main rotor system, and subsequent loss of control of the helicopter.

Since the unsafe condition described is likely to exist or develop on other BHTI Model 204B, 205A, 205A–1, 205B, and 212 helicopters of the same type designs, the FAA issued Emergency AD 2000–15–52 to prevent failure of a mast or trunnion, separation of the main rotor system, and subsequent loss of control of the helicopter. The AD retains the following requirements from previously issued AD 2000–08–52:

- Reduces the allowable RIN life limit established in AD 98–24–15 for masts, P/N 204–011–450–001, –007, –105, –113, and –119;
- Increases the RIN factor assessed for each torque event for BHTI Model 204B and 205B helicopters;
- Applies a standard RIN factor for all external load lifts regardless of altitude change and type of load lifted; and
- Requires a one-time special inspection of certain S/N masts for inadequate radii and presence of burrs in the snap ring groove areas.

The Emergency AD differs from AD 2000–08–52 in that it:

- Requires, before further flight, that the accumulated RIN for all mast and trunnion history prior to the implementation of RIN counting (required by AD 98–24–15) be corrected for inadequate factors used to calculate factored hours TIS and to convert factored flight hours to accumulated RIN;
- Increases the RIN factor for each takeoff and external load lift for masts and trunnions installed on BHTI Model 204B, 205A, and 205A–1 helicopters to properly reflect the actual level of torque (horsepower rating) applied to the mast when it is installed in these helicopter models;
- Expands the requirement for a one-time special inspection to detect inadequate radii and burrs in the snap ring grooves to include masts with S/N's 00000 through 52720, 61433 through 61444, and 61457 through 61465, regardless of prefix;
- Establishes RIN factors for masts and trunnions that have been previously installed on military helicopters (BHTI-manufactured Model HH–1K, TH–1F, TH–1L, UH–1A, UH–1B, UH–1C, UH–1D, UH–1E, UH–1F, UH–1G, UH–1H, UH–1L, UH–1M, UH–1N, and UH–1P; and Southwest Florida Aviation SW204, SW204HP, SW205, and SW205A–1) and restricted category helicopters (Firefly Aviation Helicopter Services (previously Erickson Air Crane Co.); Garlick Helicopters, Inc.; Hawkins and Powers Aviation, Inc.; International

Helicopters, Inc.; Tamarack Helicopters, Inc. (previously Ranger Helicopter Services, Inc.); Robinson Air Crane, Inc.; Williams Helicopter Corporation (previously Scott Paper Co.); Smith Helicopters; Southern Helicopter, Inc.; Southwest Florida Aviation; Utah State University; Western International Aviation, Inc.; and U.S. Helicopter, Inc.).

• Requires the immediate removal from service of any mast that has been previously installed with a hub spring.

The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the structural integrity and controllability of the helicopter. Therefore, the actions previously stated are required at the specified time intervals, and this AD must be issued immediately.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual letters issued on July 25, 2000 to all known U.S. owners and operators of BHTI Model 204B, 205A, 205A–1, 205B, and 212 helicopters. These conditions still exist, and the AD is hereby published in the **Federal Register** as an amendment to section 39.13 of the Federal Aviation Regulations (14 CFR 39.13) to make it effective to all persons.

The FAA estimates that 147 helicopters of U.S. registry will be affected by this AD. It will take approximately 10 work hours per helicopter to remove and replace the mast, if necessary; 10 work hours to remove and replace the trunnion, if necessary; and 6 work hours to inspect the mast for proper radius or a burr. The approximate time necessary for calculating the accumulated RIN, revising the Airworthiness Limitations section of the maintenance manuals, and providing the information requested to the FAA is 15 work hours per helicopter. The average labor rate is $60 per work hour. Required parts will cost approximately $9,538 to replace a mast, if necessary, and $5,300 to replace a trunnion, if necessary. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be $1,675,506 ($11,398 per helicopter, assuming one inspection, one mast replacement, not trunnion replacement, and that the helicopter's accumulated RIN is calculated, the maintenance manuals are revised, and the requested information is submitted to the FAA).

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption **ADDRESSES**. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their mailed comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: ''Comments to Docket No. 2000–SW–28–AD.'' The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a ''significant regulatory action'' under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by removing Amendment 39–10900 (63 FR 64612, November 23, 1998) and by adding a new airworthiness directive to read as follows:

2000–15–52 Bell Helicopter Textron Inc.: Amendment 39–12042. Docket No. 2000–SW–28–AD. Supersedes Emergency AD 2000–08–52, Docket No. 2000–SW–20–AD, and AD 98–24–15, Amendment 39–10900, Docket No. 97–SW–20–AD.

Applicability: Model 204B, 205A, 205A–1, 205B, and 212 helicopters, with main rotor mast (mast), part number (P/N) 204–011–450–001, –007, –105, –113, or –119, or main rotor trunnion (trunnion), P/N 204–011–105–001 or –103, installed, certificated in any category.

Note 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (i) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance

Required as indicated, unless accomplished previously.

Note 2: This AD has new requirements which must be complied with even if AD's

98–24–15 and 2000–08–52 have already been accomplished. This AD requires the recalculation of accumulated mast and trunnion RIN and increases the RIN factors for masts and trunnions installed on certain helicopter models. This AD also expands the S/N applicability for the one-time special inspection of the mast.

To prevent failure of a mast or trunnion, separation of the main rotor system, and subsequent loss of control of the helicopter, accomplish the following:

(a) Before further flight, determine the accumulated Retirement Index Number (RIN) in accordance with the Instructions in Appendix 1 of this AD for the mast and Appendix 2 of this AD for the trunnion. If the helicopter model installation history or hours time-in-service (TIS) of the mast or trunnion is unknown, remove the mast or trunnion from service and replace it with an airworthy mast or trunnion. If the mast has been installed on certain military helicopters (BHTI-manufactured Model HH–1K, TH–1F, TH–1L, UH–1A, UH–1B, UH–1C, UH–1D, UH–1E, UH–1F, UH–1G, UH–1H, UH–1L, UH–1M, UH–1N, and UH–1P; and Southwest Florida Aviation SW204, SW204HP, SW205, or SW205A–1) or restricted category helicopters (Firefly Aviation Helicopter Services (previously Erickson Air Crane Co.); Garlick Helicopters, Inc.; Hawkins and Powers Aviation, Inc.; International Helicopters, Inc.; Tamarack Helicopters, Inc. (previously Ranger Helicopter Services, Inc.); Robinson Air Crane, Inc.; Williams Helicopter Corporation (previously Scott Paper Co.); Smith Helicopters; Southern Helicopter, Inc.; Southwest Florida Aviation; Utah State University; Western International Aviation, Inc.; and U.S. Helicopter, Inc.) and you cannot verify that hub springs have not been installed, remove the mast from service and replace it with an airworthy mast.

(b) Before further flight, replace any mast, P/N 204–011–450–113 or 119, that has accumulated 240,000 or more RIN with an airworthy mast. Before further flight, replace any mast, P/N 204–011–450–001, –007, or –105, that has accumulated 265,000 or more RIN with an airworthy mast.

(c) Before further flight, replace any trunnion, P/N 204–011–105–103, that has accumulated 240,000 or more RIN with an airworthy trunnion. Before further flight, replace any trunnion, P/N 204–011–105–001, that has accumulated 265,000 or more RIN with an airworthy trunnion.

(d) Before reaching 100,000 RIN, inspect the upper and lower snap ring grooves in the damper clamp splined area of any mast with serial number (S/N) 00000 through 52720, S/N 61433 through 61444, and S/N 61457 through S/N 61465 (regardless of prefix) for:

(1) A minimum radius of 0.020 inches around the entire circumference (see Figures 1 through 3), using a 100x or higher magnification. If any snap ring groove radius is less than 0.020 inches, replace the mast with an airworthy mast prior to exceeding 100,000 RIN.

(2) A burr, using a 200x or higher magnification. If a burr is found in any snap ring groove/spline intersection, replace the mast with an airworthy mast prior to exceeding 170,000 RIN.

BILLING CODE 4910–13–U

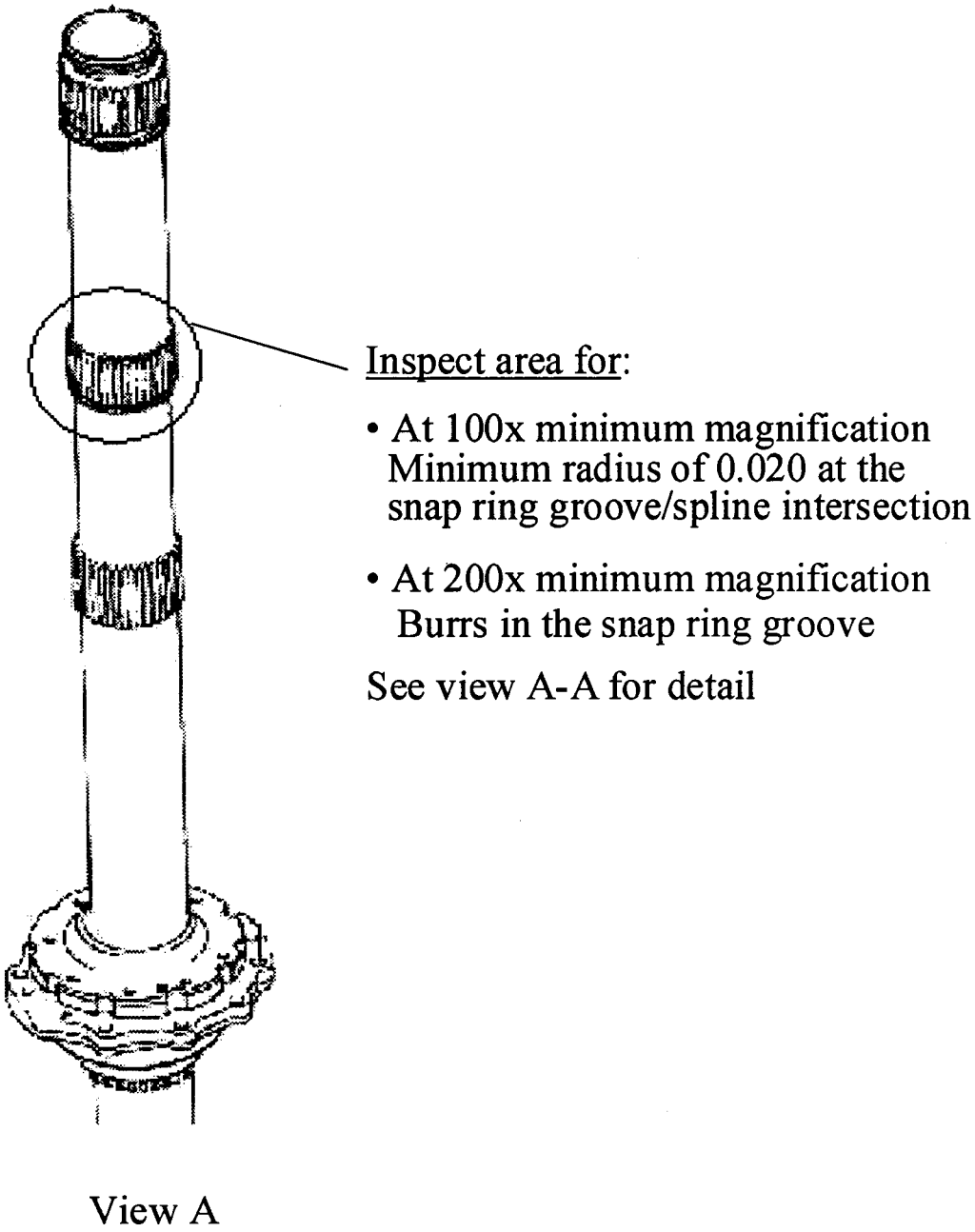

Inspect area for:
• At 100x minimum magnification
Minimum radius of 0.020 at the
snap ring groove/spline intersection
• At 200x minimum magnification
Burrs in the snap ring groove
See view A-A for detail
View A

Figure 1

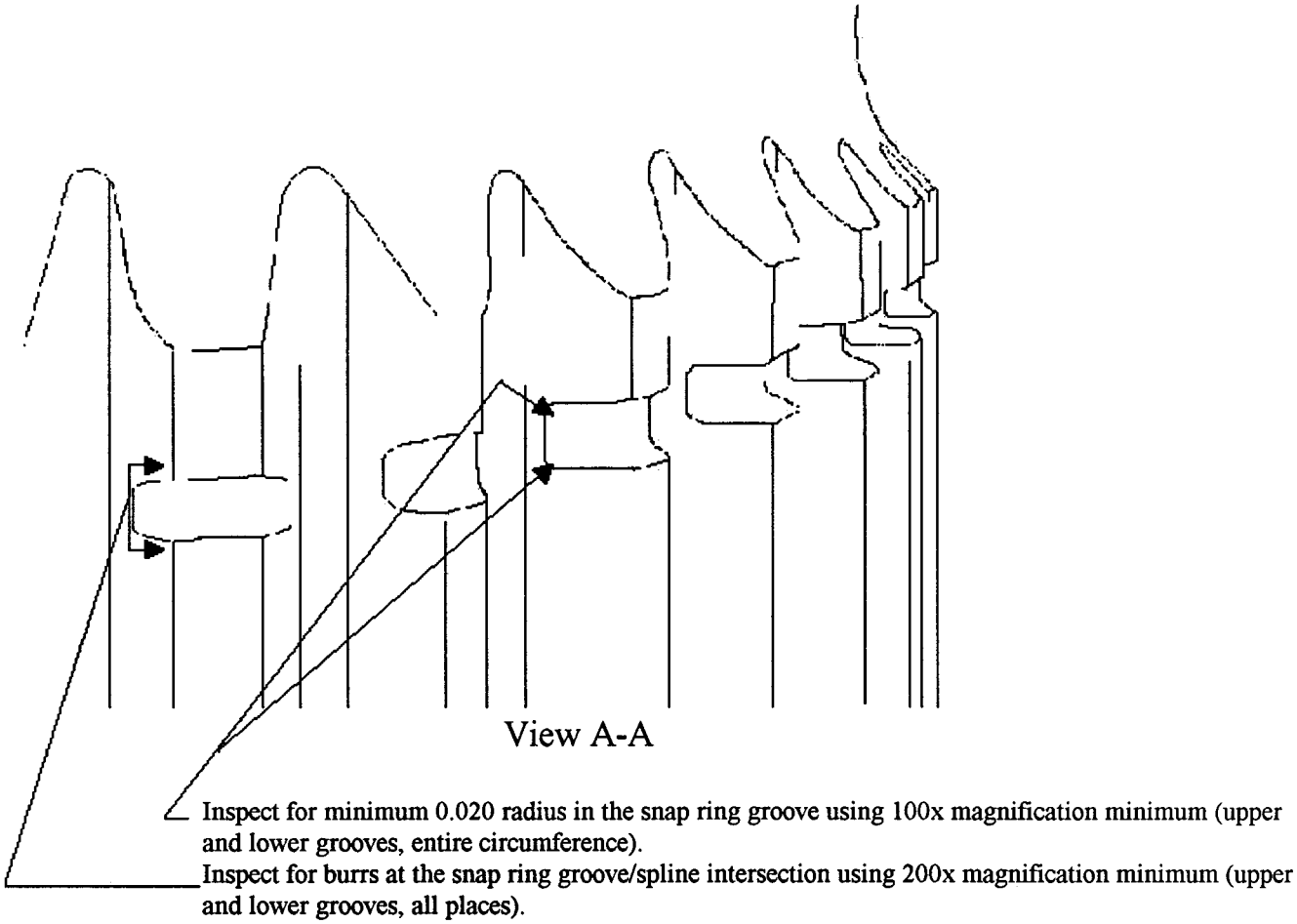
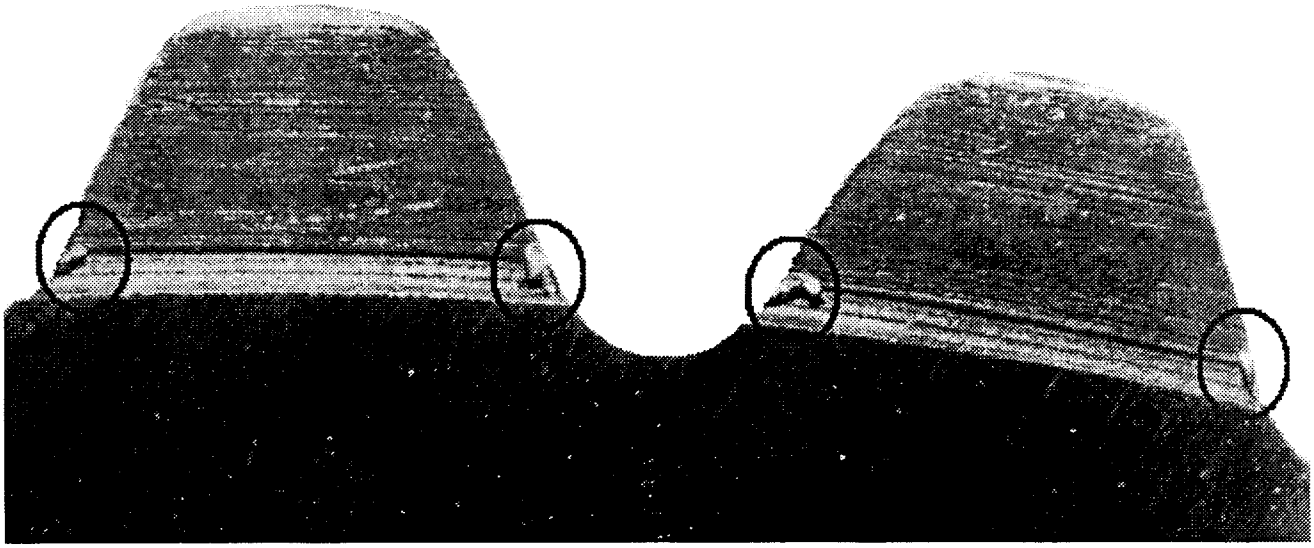


Figure 2
Snap Ring Groove/Spline Intersection



Cutaway View Looking Down from Inside Snap Ring Groove

Typical Burrs at Snap Ring Groove/Spline Intersection
Burrs are to be Inspected at 200x Minimum Magnification

Figure 3
Typical Burr at Snap Ring Groove

(e) Continue to calculate the accumulated RIN for the mast by multiplying all takeoff and external load lifts by the RIN factors defined in columns (D) and (G) of Table 1 of Appendix 1 of this AD.

(f) Continue to calculate the accumulated RIN for the trunnion by multiplying all takeoff and external load lifts by the RIN factors defined in columns (D) and (G) of Table 1 of Appendix 2 of this AD.

(g) Before further flight, revise the Airworthiness Limitations section of the maintenance manuals for the masts and trunnions in accordance with Figure 4.

MAST AND TRUNNION LIFE LIMITS

Mast part No.	Hours TIS life limit	RIN life limit	Trunnion part No.	Hours TIS life limit	RIN life limit
204–011–450–001	6,000	265,000	204–011–105–001	15,000	265,000
204–011–450–007	15,000	265,000	204–011–105–103	13,000	240,000
204–011–450–105	15,000	265,000			
204–011–450–113	13,000	240,000			
204–011–450–119	13,000	240,000			

(h) Within 10 days after completing the inspections required by this AD, provide the information contained on the AD inspection report, sample format, contained in Appendix 3 of this AD and send it to the Manager, Rotorcraft Certification Office, Federal Aviation Administration, Fort Worth, Texas, 76193–0170, USA. Reporting requirements have been approved by the Office of Management and Budget and assigned OMB control number 2120–0056.

(i) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Rotorcraft Certification Office, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Rotorcraft Certification Office.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Manager, Rotorcraft Certification Office.

(j) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR

21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(k) This amendment becomes effective on December 28, 2000, to all persons except those persons to whom it was made immediately effective by Emergency AD 2000–15–52, issued July 25, 2000, which contained the requirements of this amendment.

APPENDIX 1

Instructions for Calculating Mast RIN

Definition of Retirement Index Number:

The overall **fatigue life** of a main rotor mast is a function of the number of cycles of torque, lift, and bending loads applied to it during the various modes of operation. The mast experiences both high cycle fatigue and low cycle fatigue during operation.

The **high cycle fatigue life** of the mast is a function of high frequency but relatively low level cyclic loads, which are primarily induced by rotor r.p.m. The high cycle fatigue life limit for the mast is defined in terms of hours TIS because rotor r.p.m. is basically a constant value.

The **low cycle fatigue life** of the mast is a function of the number of less frequent but relatively high level cyclic loads experienced primarily during takeoffs and external load lifts. The low cycle fatigue life limit for the mast is expressed in terms of the accumulated Retirement Index Number (RIN).

The **accumulated RIN** is defined as the total number of load cycles experienced (since new) by the mast multiplied by a **RIN factor** to account for the difference in torque levels applied to the same mast when installed in different helicopter models. The level of torque applied to the mast is directly proportional to the transmission output horsepower. The manufacturer's established mast **RIN life limit** is based on the measured number of cycles to failure of masts (in laboratory tests) at various levels of constant torque, lift, and bending loads which are representative of the expected operating environment.

Calculation of Retirement Index Number:

There are two methods for calculating the accumulated RIN, depending on the available service history information for the mast. In some cases, one method will be used for a portion of the mast service history, and the other method will be used for another portion of the mast service history. Both methods require knowledge of all the helicopter models in which the mast was installed.

Calculation of RIN when Number of Takeoffs and External Load Lifts is **Known** (Reference Table 1):

If the total number of takeoffs and the total number of external load lifts for the mast are known, the accumulated RIN must be calculated by multiplying each takeoff and each external load lift by a RIN factor determined to be appropriate for the torque (horsepower) of the helicopter model in which the mast is installed.

Table 1 of Appendix 1 is a worksheet for calculating the accumulated mast RIN when the number of takeoffs and external load lifts is known.

The RIN factor for each external load lift is twice that specified for each takeoff. This is because two torque events are experienced during a typical external load lift.

Using Table 1, calculate accumulated RIN as follows:

1. Enter the total number of takeoffs for the particular mast model/helicopter model combination in column (C).
2. Multiply the value entered in column (C) by the RIN factor listed in column (D), and enter the result in column (E). This is the total accumulated RIN due to takeoffs.
3. Enter the total number of external load lifts for the particular mast model/helicopter model combination in column (F).
4. Multiply the value entered in column (F) by the RIN factor listed in column (G), and enter the result in column (H). This is the accumulated RIN due to external load lifts.
5. Add the values from column (E) and column (H) and enter the result in column (I). This is the total accumulated RIN to date for the mast for the particular mast model/helicopter model combination.
6. Add the accumulated RIN subtotals for the various mast model/helicopter combinations in column (I) and enter the result in the space provided. This is the total accumulated RIN for the mast.

Calculation of RIN when Exact Number of Takeoffs and External Load Lifts is **Unknown** (Reference Tables 2 and 3):

If either the exact total number of takeoffs or the exact total number of external load lifts for the mast model/helicopter model combination is unknown, then the accumulated RIN must be calculated by multiplying the (unfactored) hours TIS by a RIN conversion factor based on the torque (horsepower) of the helicopter model in which it was installed. The resultant factored hours TIS is then multiplied by a RIN conversion factor retained from AD 98-24-15 to establish a baseline accumulated RIN count. The FAA has determined that the factors used to establish the factored hours in earlier ASB's as well as the RIN conversion factors specified in AD 98-24-15 are inadequate. Consequently, this AD (2000-15-52) requires that the baseline accumulated RIN count be further multiplied by an additional RIN adjustment factor.

Tables 2 and 3 of Appendix 1 are worksheets for calculating the accumulated mast RIN when the exact number of takeoffs and external load lifts is unknown. Using Tables 2 and 3, calculate accumulated mast RIN as follows:

1. Enter the (unfactored) hours TIS for the particular mast model/helicopter model combination in column (C) of Table 2.
2. Using service history for the mast, select the appropriate Frequency of Event Hour Factor from column (E) of Table 2 based on the total number of takeoffs + external load lifts per hour shown in column (D) of Table 2.

3. Multiply the value for (unfactored) hours TIS entered in column (C) by the appropriate value in column (E) for Frequency of Event Hour Factor as determined in step 2 above. Enter the result in column (F) of Table 2. This is the total FACTORED hours TIS for the particular mast model/helicopter model combination.
4. Enter the value for FACTORED hours TIS from column (F) of Table 2 into column (C) of Table 3.
5. Using Table 3, multiply the value for FACTORED hours TIS in column (C) by the appropriate RIN conversion factor listed in column (D), by the appropriate RIN adjustment factor in column (E) of Table 3, and enter the result in column (F) of Table 3. This is the accumulated RIN to date for the particular mast model/helicopter model combination.
6. Add the accumulated RIN subtotals for the various mast model/helicopter model combinations in column (F) of Table 3 and enter the result in the space provided. This is the total accumulated RIN for the mast.

Sample Mast RIN Calculation

Given the following known service history for the mast:

Mast Model –007 was first installed on a BHTI Model 204B helicopter for 1000 hours TIS and experienced an unknown number of takeoffs and external load lifts. The mast was then removed and subsequently installed on a BHTI Model 205A helicopter for 1500 hours TIS. It is known that the helicopter was used primarily for passenger carrying for the first 1000 hours of operation on this model. The exact number of takeoffs and external load lifts is unknown, but it is known that the helicopter averaged less than 20 takeoffs per hour, with no external load lifts. It was subsequently used for heavy lift operation for the remaining 500 hours of operation on this model, averaging between 20 and 44 external load lifts during this period of time. The mast was then removed and installed on a BHTI Model 212 helicopter for a total of 1500 hours TIS with accurate records indicating that it experienced 1000 takeoffs and 2000 external load lifts.

Calculate the total accumulated RIN to date since new for the mast as follows:

<u>Accumulated RIN while installed in BHTI Model 204B:</u>

Calculate factored flight hours from Table 2 as follows:

Factored Flight Hours = (unfactored flight hours) x (frequency of event hour factor)
= (column C) x (column E)
= (1000) x (3)
= 3000

Then using Table 3, calculate the accumulated RIN as follows:

= (factored hours TIS) x (RIN conversion factor) x (RIN adjustment factor)
= (column C) x (column D) x (column E)
= (3000) x (20) x (1)

= 60,000 RIN

<u>Accumulated RIN while installed in BHTI Model 205A:</u>

Calculate factored flight hours from Table 2 as follows:

Factored Flight Hours = (unfactored flight hours) x (frequency of event hour factor)
(for first 1000 hrs.) = (column C) x (column E)
= (1000) x (1)
= 1000

Factored Flight Hours =		(unfactored flight hours) x (frequency of event hour factor)
(for next 500 hrs)	=	(column C) x (column E)
	=	(500) x (2)
	=	1000

Then using Table 3, calculate the accumulated RIN as follows:

= (factored hours TIS) x (RIN conversion factor) x (RIN adjustment factor)
= (column C) x (column D) x (column E)
= (1000) x (20) x (10) + (1000) x (20) x (10)
= 200,000 + 200,000
= 200,000 + 200,000
= 400,000 RIN

Accumulated RIN while installed in BHTI Model 212:

Calculate the accumulated RIN from Table 1 and the given number of takeoff and lifts as follows:

Accumulated RIN = (number of takeoffs x RIN factor per takeoff) + (number of lifts x RIN Factor per lift)

= (column C) x (Column D) + (Column F) x (Column G)
= (1,000) x (5) + (2,000) x (10)
= 25,000 RIN

Therefore, the total accumulated RIN to date for the mast is the sum of the subtotals from Tables 1 and 3 for the period of time the mast was installed on the BHTI Model 204B, 205A, and 212 helicopters:

Total accumulated mast RIN	=	60,000 + 400,000 + 25,000
	=	**485,000**

Please note that the recalculated total accumulated RIN for this sample mast would have exceeded the 265,000 allowable RIN life. This mast would therefore be removed from service.

The values for the sample problem are shown in bold italics in Tables 1 – 3 for illustration purposes.

Mast RIN Calculation Based on Takeoffs and External Load Lifts

Mast A/C Model Installation	Mast P/N 204-011-450	Number Of Takeoffs	RIN Factor Per Takeoff	Total Takeoff RIN	Number of External Load Lifts	RIN Factor Per External Load Lift	Total Lift RIN	Accumulated RIN
(A)	(B)	(C)	(D)	(E) =(C) x (D)	(F)	(G)	(H) =(F) x (G)	(I) =(E) + (H)
204B (≤1100 T.O. hp SLS)	204-011-450-001		10			20		
204B (≤1100 T.O. hp SLS)	204-011-450-007		2			4		
204B (≤1100 T.O. hp SLS)	204-011-450-105		2			4		
204B (>1100 T.O. hp SLS)	All		Contact FAA*			Contact FAA*		Contact FAA*
205A/A-1 (≤1250 T.O. hp SLS)	204-011-450-007		5			10		
205A/A-1 (≤1250 T.O. hp SLS)	204-011-450-105		5			10		
205A/A-1 (>1250 T.O. hp SLS)	All		Contact FAA*			Contact FAA*		Contact FAA*
205B (≤1290 T.O. hp SLS)	204-011-450-007		6			12		
205B (≤1290 T.O. hp SLS)	204-011-450-105		6			12		
205B (>1290 T.O. hp SLS)	All		Contact FAA*			Contact FAA*		Contact FAA*
212 (≤1290 T.O. hp SLS)	204-011-450-007	*1000*	5	*5000*	*2000*	10	*20,000*	*25,000*
212 (≤1290 T.O. hp SLS)	204-011-450-105		5			10		
212 (>1290 T.O. hp SLS)	-007 or –105		Contact FAA*			Contact FAA*		Contact FAA*
212 (≤1350 T.O. hp SLS)	204-011-450-113		6			12		
212 (≤1350 T.O. hp SLS)	204-011-450-119		6			12		
Restricted Category or Military TIS with (≤700 T.O. hp SLS)	204-011-450-001		1.25			2.5		
	204-011-450-007		0.25			0.5		
	204-011-450-105		0.25			0.5		
Restricted Category or Military TIS with (≤1000 T.O. hp SLS)	204-011-450-001		7.5			15		
	204-011-450-007		1.5			3		
	204-011-450-105		1.5			3		
Restricted Category or Military TIS with (≤1100 T.O. hp SLS)	204-011-450-001		15			30		
	204-011-450-007		3			6		
	204-011-450-105		3			6		
Restricted Category or Military TIS with (≤1290 T.O. hp SLS)	204-011-450-001		Not Approved			Not Approved		Not Approved
	204-011-450-007		6			12		
	204-011-450-105		6			12		
Restricted Category or Military TIS with (>1290 T.O. hp SLS)	204-011-450-001		Contact FAA*			Contact FAA*		Contact FAA*
	204-011-450-007							
	204-011-450-105							
Total RIN=								*25,000*

*Contact FAA at (817) 222 – 5159

Appendix 1 - Table 1

Calculation of Mast Factored Hours Time-in-Service

Mast A/C Model Installation	Mast P/N 204-011-450	Unfactored Hours TIS on Model	Frequency Of Events Per Hour	Frequency of Event Hour Factor	FACTORED Hours TIS On Model
(A)	(B)	(C)	(D)	(E)	(F) = (C) x (E)
204B	204-011-450-001, -007,		1.0-20.00	1.00	
	or -105		20.01-44.00	2.00	
			44.01-69.00	3.00	
			Greater than 69.00	Contact FAA*	
		1,000	Unknown	3.00	***3,000***
205A/A-1	204-011-450-007,-105,	***1,000***	1.0-20.00	1.00	***1,000***
	-113, or -119	***500***	20.01-44.00	2.00	***1,000***
			44.01-69.00	3.00	
			Greater than 69.00	Contact FAA*	
			Unknown	3.00	
205B	204-011-450-007,-105		1.0-5.00	1.00	
			5.01-8.00	1.50	
			8.01-12.00	2.00	
			12.01-18.00	3.00	
			18.01-32.00	5.00	
			32.01-48.00	7.00	
			48.01-62.00	9.00	
			Greater than 62.00	Contact FAA*	
			Unknown	9.00	
212	204-011-450-007,-105,		1.0-5.00	1.00	
	-113, or -119		5.01-8.00	1.50	
			8.01-12.00	2.00	
			12.01-18.00	3.00	
			18.01-32.00	5.00	
			32.01-48.00	7.00	
			48.01-62.00	9.00	
			Greater than 62.00	Contact FAA*	
			Unknown	9.00	

*Contact FAA at (817) 222 – 5159 Appendix 1 - Table 2 (1st page of 2)

Calculation of Mast Factored Hours Time-in-Service

Mast A/C Model Installation	Mast P/N 204-011-450 (without a hub spring)	Unfactored Hours TIS on Model	Frequency Of Events Per Hour	Frequency of Event Hour Factor	FACTORED Hours TIS On Model
(A)	(B)	(C)	(D)	(E)	(F) = (C) x (E)
Restricted Category TIS (≤700 hp)	204-011-450-007		1.0-37.00	1.00	
	or –105		37.01-46.00	1.25	
			46.01-55.00	1.50	
			55.01-63.00	1.75	
			Greater than 63.00	Contact FAA*	
			Unknown	1.75	
Restricted Category TIS (≤1000 hp)	204-011-450-007		1.0-7.00	1.00	
	or -105		7.01-13.00	2.00	
			13.01-18.00	3.00	
			18.01-30.00	5.00	
			30.01-41.0	7.00	
			41.01-52.00	9.00	
			52.01-63.00	11.00	
			Greater than 63.00	Contact FAA*	
			Unknown	11.00	
Restricted Category TIS (≤1100 hp)	204-011-450-007		1.0-5.00	1.00	
	or -105		5.01-7.00	2.00	
			7.01-10.00	3.00	
			10.01-16.00	5.00	
			16.01-24.0	7.50	
			24.01-31.00	10.00	
			31.01-46.00	15.00	
			46.01-61.00	20.00	
			Greater than 61.00	Contact FAA*	
			Unknown	20.00	
Restricted Category TIS (≤1290 hp)	204-011-450-007		1.0-5.00	2.10	
	or -105		5.01-7.00	4.00	
			7.01-10.00	6.00	
			10.01-15.00	9.00	
			15.01-19.00	12.00	
			19.01-25.00	16.00	
			25.01-31.00	20.00	
			31.01-46.00	30.00	
			46.01-60.00	40.00	
			Greater than 60.00	Contact FAA*	
			Unknown	40.00	
Military TIS	204-011-450-001,				
(≤700 hp SLS)	-007, or -105		All	1.00	
(≤1000 hp SLS)			All	3.00	
(≤1100 hp SLS)			All	6.00	
(≤1290 hp SLS)			All	12.00	

*Contact FAA at (817) 222 – 5159

Appendix 1 - Table 2 (continued - 2nd page of 2)

Mast RIN Calculation Based on Hours Time-in-Service

Mast A/C Model Installation	Mast P/N 204-011-450	FACTORED Hours TIS On Model	RIN FACTOR Per AD 98-24-15	RIN Adjustment Per AD 2000-15-52	Accumulated RIN
(A)	(B)	(C) (From Table 2 of Appendix I)	(D)	(E)	(F) =(C) x (D) x (E)
204B (≤1100 T.O. hp SLS)	204-011-450-001		50	1	
204B (≤1100 T.O. hp SLS)	204-011-450-007	*3000*	20	1	*60,000*
204B (≤1100 T.O. hp SLS)	204-011-450-105		20	1	
204B (>1100 T.O. hp SLS)	All	Contact FAA*	Contact FAA*	Contact FAA*	Contact FAA*
205A/A-1 (≤1250 T.O. hp SLS)	204-011-450-007	*2000*	20	10	*400,000*
205A/A-1 (≤1250 T.O. hp SLS)	204-011-450-105		20	10	
205A/A-1 (>1250 T.O. hp SLS)	All	Contact FAA*	Contact FAA*	Contact FAA*	Contact FAA*
205B (≤1290 T.O. hp SLS)	204-011-450-007		20	1	
205B (≤1290 T.O. hp SLS)	204-011-450-105		20	1	
205B (>1290 T.O. hp SLS)	All	Contact FAA*	Contact FAA*	Contact FAA*	Contact FAA*
212 (≤1290 T.O. hp SLS)	204-011-450-007		20	1	
212 (≤1290 T.O. hp SLS)	204-011-450-105		20	1	
212 (>1290 T.O. hp SLS)	-007 or –105		Contact FAA*	Contact FAA*	Contact FAA*
212 (≤1350 T.O. hp SLS)	204-011-450-113		21.2	1.2	
212 (≤1350 T.O. hp SLS)	204-011-450-119		21.2	1.2	
212 (>1350 T.O. hp SLS)	-113 or –119	Contact FAA*	Contact FAA*	Contact FAA*	Contact FAA*
Restricted Category or Military TIS with (≤1290 T.O. hp SLS)	204-011-450-001		50	1	
	204-011-450-007		20	1	
	204-011-450-105		20	1	
Restricted Category or Military TIS with (>1290 T.O. hp SLS)	204-011-450-001	Contact FAA*	Contact FAA*	Contact FAA*	Contact FAA*
	204-011-450-007				
	204-011-450-105				
Total RIN=					*460,000*

*Contact FAA at (817) 222 – 5159

Appendix 1 - Table 3

APPENDIX 2

Instructions for Calculation of Trunnion RIN

Definition of Retirement Index Number:

The overall **fatigue life** of a main rotor trunnion is a function of the number of cycles of torque, lift, and bending loads applied to it during the various modes of operation. The trunnion experiences both high cycle fatigue and low cycle fatigue during operation.

The **high cycle fatigue life** of the trunnion is a function of high frequency but relatively low level cyclic loads, which are primarily induced by rotor r.p.m. The high cycle fatigue life limit for the trunnion is defined in terms of hours TIS because rotor r.p.m. is basically a constant value.

The **low cycle fatigue life** of the trunnion is a function of the number of less frequent but relatively high level cyclic loads experienced primarily during takeoffs and external load lift operations. The low cycle fatigue life limit for the trunnion is expressed in terms of the accumulated Retirement Index Number (RIN).

The **accumulated RIN** is defined as the total number of load cycles experienced (since new) by the trunnion multiplied by a **RIN factor** to account for the difference in torque levels applied to the same trunnion when installed in different helicopter models. The level of torque applied to the trunnion is directly proportional to the transmission output horsepower. The manufacturer's established trunnion **RIN life limit** is based on the measured number of cycles to failure of trunnions (in laboratory tests) at various levels of constant torque, lift, and bending loads, which are representative of the expected operating environment.

Calculation of Retirement Index Number:

There are two methods for calculating the accumulated RIN, depending on the available service history information for the trunnion. In some cases, one method will be used for a portion of the trunnion service history, and the other method will be used for another portion of the trunnion service history. Both methods require knowledge of all the helicopter models in which the trunnion was installed.

Calculation of RIN when Number of Takeoffs and External Load Lifts is **Known** Reference Table 1):

If the total number of takeoffs and the total number of external load lifts for the trunnion are known, the accumulated RIN must be calculated by multiplying each takeoff and each external load lift by a RIN factor determined to be appropriate for the torque (horsepower) of the helicopter model in which the trunnion is installed.

Table 1 of Appendix 2 is a worksheet for calculating the accumulated trunnion RIN when the number of takeoffs and external load lifts is known.

The RIN factor for each external load lift is twice that specified for each takeoff. This is because two torque events are experienced during a typical external load lift.

Using Table 1, calculate accumulated RIN as follows:

1. Enter the total number of takeoffs for the particular trunnion model/helicopter model combination in column (C).
2. Multiply the value entered in column (C) by the RIN factor listed in column (D), and enter the result in column (E). This is the total accumulated RIN due to takeoffs.
3. Enter the total number of external load lifts for the particular trunnion model/helicopter model combination in column (F).
4. Multiply the value entered in column (F) by the RIN factor listed in column (G), and enter the result in column (H). This is the accumulated RIN due to external load lifts.
5. Add the values from column (E) and column (H) and enter the result in column (I). This is the total accumulated RIN to date for the trunnion for the particular trunnion model/helicopter model combination.
6. Add the accumulated RIN subtotals for the various trunnion model/helicopter combinations in column (I) and enter the result in the space provided. This is the total accumulated RIN for the trunnion.

Calculation of RIN when Exact Number of Takeoffs and External Load Lifts is **Unknown** (Reference Tables 2 and 3):

If either the exact total number of takeoffs or the exact total number of external load lifts for the trunnion model/helicopter model combination is unknown, then the accumulated RIN must be calculated by multiplying the (unfactored) hours TIS by a RIN conversion factor based on the torque (horsepower) of the helicopter model in which it was installed. The resultant factored hours TIS is then multiplied by a RIN conversion factor retained from AD 98-24-15 to establish a baseline accumulated RIN count. The FAA has determined that the factors used to establish the factored hours in earlier ASB's as well as the RIN conversion factors specified in AD 98-24-15 are inadequate. Consequently, this AD (2000-15-52) requires that the baseline accumulated RIN count be further multiplied by an additional RIN adjustment factor.

Tables 2 and 3 of Appendix 2 are worksheets for calculating the accumulated trunnion RIN when the exact number of takeoffs and external load lifts is unknown. Using Tables 2 and 3, calculate accumulated trunnion RIN as follows:

1. Enter the (unfactored) hours TIS for the particular trunnion model/helicopter model combination in column (C) of Table 2.
2. Using service history for the trunnion, select the appropriate Frequency of Event Hour Factor from column (E) of Table 2 based on the total number of takeoffs + external load lifts per hour shown in column (D) of Table 2.

3. Multiply the value for (unfactored) hours TIS entered in column (C) by the appropriate value in column (E) for Frequency of Event Hour Factor as determined in step 2 above. Enter the result in column (F) of Table 2. This is the total FACTORED hours TIS for the particular trunnion model/helicopter model combination.
4. Enter the value for FACTORED hours TIS from column (F) of Table 2 into column (C) of Table 3.
5. Using Table 3, multiply the value for FACTORED hours TIS in column (C) by the appropriate RIN conversion factor listed in column (D), by the appropriate RIN adjustment factor in column (E) of Table 3, and enter the result in column (F) of Table 3. This is the accumulated RIN to date for the particular trunnion model / helicopter model combination.
6. Add the accumulated RIN subtotals for the various trunnion model / helicopter model combinations in column (F) of Table 3 and enter the result in the space provided. This is the total accumulated RIN for the trunnion.

Sample Trunnion RIN Calculation

Given the following known service history for the trunnion:

Trunnion Model –001 was first installed on a BHTI Model 204B helicopter for 1000 hours TIS, and experienced an unknown number of takeoffs and external load lifts. The trunnion was then removed and subsequently installed on a BHTI Model 205A helicopter for 1500 hours TIS. It is known that the helicopter was used primarily for passenger carrying for the first 1000 hours of operation on this model. The exact number of takeoffs and external load lifts is unknown, but it is known that the helicopter averaged less than 20 takeoffs per hour, with no external load lifts. It was subsequently used for heavy lift operation for the remaining 500 hours of operation on this model, averaging between 20 and 44 external load lifts during this period of time. The trunnion was then removed and installed on a model 212 helicopter for a total of 1500 hours TIS with accurate records indicating that it experienced 1000 takeoffs and 2000 external load lifts.

Calculate the total accumulated RIN to date since new for the trunnion as follows:

Accumulated RIN while installed in BHTI Model 204B:

Calculate factored flight hours from Table 2 as follows:

Factored Flight Hours = (unfactored flight hours) x (frequency of event hour factor)
= (column C) x (column E)
= (1000) x (3)
= 3000

Then using Table 3, calculate the accumulated RIN as follows:

= (factored hours TIS) x (RIN conversion factor) x (RIN adjustment factor)
= (column C) x (column D) x (column E)
= (3000) x (20) x (1)

= 60,000 RIN

Accumulated RIN while installed in BHTI Model 205A:

Calculate factored flight hours from Table 2 as follows:

Factored Flight Hours = (unfactored flight hours) x (frequency of event hour factor)
(for first 1000 hrs.) = (column C) x (column E)
= (1000) x (1)
= 1000

Factored Flight Hours = (unfactored flight hours) x (frequency of event hour factor)
(for next 500 hrs) = (column C) x (column E)
= (500) x (2)
= 1000

Then using Table 3, calculate the accumulated RIN as follows:

= (factored hours TIS) x (RIN conversion factor) x (RIN adjustment factor)
= (column C) x (column D) x (column E)
= (1000) x (20) x (10) + (1000) x (20) x (10)
= 200,000 + 200,000
= 200,000 + 200,000
= 400,000 RIN

Accumulated RIN while installed in BHTI Model 212:

Calculate the accumulated RIN from Table 1 and the given number of takeoff and lifts as follows:

Accumulated RIN = (number of takeoffs x RIN factor per takeoff) + (number of lifts x RIN Factor per lift)

= (column C) x (Column D) + (Column F) x (Column G)

= (1,000) x (5)+ (2,000) x (10)

= 25,000 RIN

Therefore, the total accumulated RIN to date for the trunnion is the sum of the subtotals for the period of time the trunnion was installed on the BHTI Model 204B, 205A, and 212 helicopters:

Total accumulated trunnion RIN = 60,000 + 400,000 + 25,000
= **485,000**

Please note that the recalculated total accumulated RIN for this sample trunnion would have exceeded the 265,000 allowable RIN life. This trunnion would therefore be removed from service.

The values for the sample problem are shown in bold italics in Tables 1 – 3 for illustration purposes.

Trunnion RIN Calculation Based on Takeoffs and External Load Lifts

Trunnion A/C Model Installation	Trunnion P/N	Number Of Takeoffs	RIN Factor Per Takeoff	Total Takeoff RIN	Number Of External Load Lifts	RIN Factor Per External Load Lift	Total Lift RIN	Accumulated RIN
(A)	(B)	(C)	(D)	(E) = (C) x (D)	(F)	(G)	(H) = (F) x (G)	(I) = (E) + (H)
204B (≤1100 T.O. hp SLS)	204-011-105-001		2			4		
204B (>1100 T.O. hp SLS)	204-011-105-001		Contact FAA*			Contact FAA*		Contact FAA*
205A/A-1 (≤1250 T.O. hp SLS)	204-011-105-001		5			10		-
205A/A-1 (>1250 T.O. hp SLS)	204-011-105-001		Contact FAA*			Contact FAA*		Contact FAA*
205B (≤1290 T.O. hp SLS)	204-011-105-001		6			12		
205B (>1290 T.O. hp SLS)	204-011-105-001		Contact FAA*			Contact FAA*		Contact FAA*
212 (≤1290 T.O. hp SLS)	204-011-105-001	*1000*	5	5000	*2000*	10	*20,000*	*25,000*
212 (>1290 T.O. hp SLS)	204-011-105-001		Contact FAA*			Contact FAA*		Contact FAA*
212 (≤1350 T.O. hp SLS)	204-011-105-103		6			12		
212 (>1350 T.O. hp SLS)	204-011-105-103		Contact FAA*			Contact FAA*		Contact FAA*
Restricted Category Or Military TIS with:	204-011-105-001							
(≤700 T.O. hp SLS)			0.25			0.5		
(≤1000 T.O. hp SLS)			1.5			3		
(≤1100 T.O. hp SLS)			3			6		
(≤1290 T.O. hp SLS)			6			12		
(>1290 T.O. hp SLS)			Contact FAA*			Contact FAA*		Contact FAA*
Total RIN=								*25,000*

*Contact FAA at (817) 222 – 5159

Appendix 2 - Table 1

Calculation of Trunnion Factored Hours Time-in-Service

Trunnion A/C Model Installation	Trunnion P/N	Unfactored Hours TIS on Model	Frequency Of Events Per Hour	Frequency of Event Hour Factor	FACTORED Hours TIS On Model
(A)	(B)	(C)	(D)	(E)	(F)
					= (C) x (E)
204B	204-011-105-001		1.0-20.00	1.00	
			20.01-44.00	2.00	
			44.01-69.00	3.00	
			Greater than 69.00	Contact FAA	
		1000	Unknown	3.00	***3000***
205A/A-1	204-011-105-001	***1000***	1.0-20.00	1.00	***1000***
		500	20.01-44.00	2.00	***1000***
			44.01-69.00	3.00	
			Greater than 69.00	Contact FAA	
			Unknown	3.00	
205B	204-011-105-001		1.0-5.00	1.00	
			5.01-8.00	1.50	
			8.01-12.00	2.00	
			12.01-18.00	3.00	
			18.01-32.00	5.00	
			32.01-48.00	7.00	
			48.01-62.00	9.00	
			Greater than 62.00	Contact FAA	
			Unknown	9.00	
212	204-011-105-001		1.0-5.00	1.00	
	or, -103		5.01-8.00	1.50	
			8.01-12.00	2.00	
			12.01-18.00	3.00	
			18.01-32.00	5.00	
			32.01-48.00	7.00	
			48.01-62.00 Greater than 62.00	9.00 Contact FAA	
			Unknown	9.00	

*Contact FAA at (817) 222 – 5159

Appendix 2 - Table 2 (1st page of 2)

Calculation of Trunnion Factored Hours Time-in-Service

Trunnion A/C Model Installation	Trunnion P/N 204-011-105-001 (without a hub spring)	Unfactored Hours TIS on Model	Frequency of Events Per Hour	Frequency of Event Hour Factor	FACTORED Hours TIS On Model
(A)	(B)	(C)	(D)	(E)	(F) = (C) x (E)
Restricted Category TIS (≤700 hp)	204-011-105-001		1.0-37.00	1.00	
			37.01-46.00	1.25	
			46.01-55.00	1.50	
			55.01-63.00	1.75	
			Greater than 63.00	Contact FAA*	
			Unknown	1.75	
Restricted Category TIS (≤1000 hp)	204-011-105-001		1.0-7.00	1.00	
			7.01-13.00	2.00	
			13.01-18.00	3.00	
			18.01-30.00	5.00	
			30.01-41.0	7.00	
			41.01-52.00	9.00	
			52.01-64.00	11.00	
			Greater than 64.00	Contact FAA*	
			Unknown	11.00	
Restricted Category TIS (≤1100 hp)	204-011-105-001		1.0-5.00	1.00	
			5.01-8.00	2.00	
			8.01-10.00	3.00	
			10.01-16.00	5.00	
			16.01-24.0	7.50	
			24.01-31.00	10.00	
			31.01-46.00	15.00	
			46.01-61.00	20.00	
			Greater than 61.00	Contact FAA*	
			Unknown	20.00	
Restricted Category TIS (≤1290 hp)	204-011-105-001		1.0-5.00	2.10	
			5.01-7.00	4.00	
			7.01-10.00	6.00	
			10.01-15.00	9.00	
			15.01-19.00	12.00	
			19.01-25.00	16.00	
			25.01-31.00	20.00	
			31.01-46.00	30.00	
			46.01-60.00	40.00	
			Greater than 60.00	Contact FAA*	
			Unknown	40.00	
Military TIS with:	204-011-105-001				
(≤700 hp SLS)			All	1.00	
(≤1000 hp SLS)			All	3.00	
(≤1100 hp SLS)			All	6.00	
(≤1290 hp SLS)			All	12.00	

*Contact FAA at (817) 222 – 5159

Appendix 2 - Table 2 (continued – 2nd page of 2)

Trunnion RIN Calculation Based on Hours Time-in-Service

Trunnion A/C Model Installation	Trunnion P/N	FACTORED Hours TIS On Model	RIN Factor Per AD 98-24-15	RIN Adjustment Per AD 2000-15-52	Accumulated RIN
(A)	(B)	(C) (From Table 2 of Appendix 2)	(D)	(E)	(F) = (C) x (D) x (E)
204B (≤1100 T.O. hp SLS)	204-011-105-001	*3000*	20	1	*60,000*
204B (>1100 T.O. hp SLS)	204-011-105-001		Contact FAA*	Contact FAA*	Contact FAA*
205A/A-1 (≤1250 T.O. hp SLS)	204-011-105-001	*2000*	20	10	*400,000*
205A/A-1 (>1250 T.O. hp SLS)	204-011-105-001		Contact FAA*	Contact FAA*	Contact FAA*
205B (≤1290 T.O. hp SLS)	204-011-105-001		20	1	
205B (>1290 T.O. hp SLS)	204-011-105-001		Contact FAA*	Contact FAA*	Contact FAA*
212 (≤1290 T.O. hp SLS)	204-011-105-001		20	1	
212 (>1290 T.O. hp SLS)	204-011-105-001		Contact FAA*	Contact FAA*	Contact FAA*
212 (≤1350 T.O. hp SLS)	204-011-105-103		21.2	1.2	
212 (>1350 T.O. hp SLS)	204-011-105-103		Contact FAA*	Contact FAA*	Contact FAA*
Restricted Category or Military TIS with (≤1290 T.O. hp SLS)	204-011-105-001		20	1	
Restricted Category or Military TIS with (>1290 T.O. hp SLS)	204-011-105-001		Contact FAA*	Contact FAA*	Contact FAA*
Total RIN=					*460,000*

*Contact FAA at (817) 222 – 5159

Appendix 2 - Table 3

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Appendix 3—Ad Compliance Inspection Report

P/N 204–011–450–001/–007/–105/–113/–119 Main Rotor Mast

Provide the following information and mail or fax it to: Manager, Rotorcraft Certification Office, Federal Aviation Administration, Fort Worth, Texas, 76193–0170, USA Fax: 817–222–5783

Operator Name:
Aircraft Registration No:
Helicopter Model:
Helicopter S/N:
Mast P/N:
Mast S/N:
Mast RIN:
Mast Total TIS:

Inspection Results

Were any radii during inspection of this mast determined to be less than 0.020 inches? If yes, what was the dimension measured?

Was a burr found in the inspected snap ring grooves?

Were cracks noted during the inspection?

Who performed this inspection?

Provide any other comments?

Issued in Fort Worth, Texas, on December 5, 2000.

Henry A. Armstrong,

Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. 00–31628 Filed 12–12–00; 8:45 am]

BILLING CODE 4910–13–U

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 71

[Airspace Docket No. 00–ASO–42]

Amendment of Class E5 Airspace; Columbus, GA

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action makes a technical amendment to the Class E5 airspace at Columbus, GA. The Lawson VOR has been upgraded to a VOR/DME. Therefore, the airspace legal description must be amended to reflect this change.

EFFECTIVE DATE: 0901 UTC, March 22, 2001.

FOR FURTHER INFORMATION CONTACT: Wade T. Carpenter, Jr., Manager, Airspace Branch, Air Traffic Division, Federal Aviation Administration, P.O. Box 20636, Atlanta, Georgia 30320; telephone (404) 305–5586.

SUPPLEMENTARY INFORMATION:

History

The Lawson VOR was upgraded to a VOR/DME. As a result the airspace legal description must be amended. This rule will become effective on the date specified in the **EFFECTIVE DATE** section. Since this action has no impact on users of the airspace in the vicinity of the Columbus Metropolitan Airport, Columbus, GA, notice and public procedure under 5 U.S.C. 553(b) are unnecessary. Class E airspace designations for airspace areas extending upward from 700 feet or more above the surface of the earth are published in paragraph 6005 of FAA Order 7400.9H, dated September 1, 2000, and effective September 16, 2000, which is incorporated by reference in 14 CFR 71.1. The Class E airspace designation listed in this document will be published subsequently in the Order.

The Rule

This amendment to Part 71 of the Federal Aviation Regulations (14 CFR Part 71) amends Class E5 airspace at Columbus, GA.

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore, (1) is not a ''significant regulatory action'' under Executive Order 12866; (2) is not a ''significant rule'' under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. Since this is a routine matter that will only affect air traffic procedures and air navigation, it is certified that this rule will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 71

Airspace, Incorporation by reference, Navigation (air).

Adoption of the Amendment

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR Part 71 as follows:

PART 71—DESIGNATION OF CLASS A, CLASS B, CLASS C, CLASS D AND CLASS E AIRSPACE AREAS; AIRWAYS; ROUTES; AND REPORTING POINTS

1. The authority citation for 14 CFR Part 71 continues to read as follows:

Authority: 49 U.S.C. 106(g); 40103, 40113, 40120; EO 10854, 24 FR 9565, 3 CFR 1959–1963 Comp., p. 389; 14 CFR 11.69.

§ 71.1 [Amended]

2. The incorporation by reference in 14 CFR 71.1 of Federal Aviation Administration Order 7400.9H, Airspace Designations and Reporting Points, dated September 1, 2000, and effective September 16, 2000, is amended as follows:

Paragraph 6005 Class E Airspace Areas Extending Upward From 700 feet or More Above the Surface of the Earth.

* * * * *

ASO GA E5 Columbus, GA [Revised]

Columbus Metropolitan Airport, GA
(Lat. 32°30′59″ N, long. 84°56′20″ W)
Lawson AAF
(Lat. 32°20′17″ N, long. 84°59′32″ W)
Lawson VOR/DME
(Lat. 32°19′57″ N, long. 84°59′36″ W)

That airspace extending upward from 700 feet above the surface within a 10-mile radius of Columbus Metropolitan Airport and within a 7.6-mile radius of Lawson AAF and within 2.5 miles each side of Lawson VOR/DME 340° radial, extending from the 7.6-radius to 15 miles north of the VOR/DME, excluding that airspace within Restricted Area 3002 when it is active.

* * * * *

Issued in College Park, Georgia, on November 29, 2000.

Wade T. Carpenter,

Acting Manager, Air Traffic Division, Southern Region.

[FR Doc. 00–31707 Filed 12–12–00; 8:45 am]

BILLING CODE 4910–13–M

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 71

[Airspace Docket No. 00–ASO–43]

Amendment of Class D and Class E5 Airspace; Vero Beach, FL

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action makes a technical amendment to the Class D and Class E5 airspace at Vero Beach, FL. The geographic position coordinates for the Vero Beach Municipal Airport have been updated. Therefore, the airspace legal descriptions must be amended to reflect this change.

EFFECTIVE DATE: 0901 UTC, March 22, 2001.

FOR FURTHER INFORMATION CONTACT: Wade T. Carpenter, Jr., Manager, Airspace Branch, Air Traffic Division, Federal Aviation Administration, P.O. Box 20636, Atlanta, Georgia 30320; telephone (404) 305–5586.