

reliability of the control itself, but rather determine the effects, including environmental effects addressed in § 23.1309(e), on the airplane systems and engine control system when installing the control on the airplane. When appropriate, engine certification data may be used when showing compliance with this requirement; however, the effects of the installation on this data must be addressed.

For these evaluations, the loss of FADEC control will be analyzed utilizing the threat levels associated with a catastrophic failure.

Issued in Kansas City, Missouri on May 20, 2009.

**Kim Smith,**

*Manager, Small Airplane Directorate, Aircraft Certification Service.*

[FR Doc. E9-12417 Filed 5-27-09; 8:45 am]

BILLING CODE 4910-13-P

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2009-0119; Directorate Identifier 2008-CE-068-AD; Amendment 39-15916; AD 2009-11-06]

RIN 2120-AA64

**Airworthiness Directives; M7 Aerospace LP Models SA226-AT, SA226-T, SA226-TC, SA227-AC (C-26A), SA227-AT, SA227-BC (C-26A), SA227-CC, and SA227-DC (C-26B) Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) to supersede AD 2008-12-16, which applies to certain M7 Aerospace LP SA226 and SA227 series airplanes. AD 2008-12-16 currently requires you to inspect wires and tube assemblies for chafing, arcing, or insufficient clearance between components. If chafing, arcing, or insufficient clearance between components is found, AD 2008-12-16 requires you to clear, repair, and/or replace all chafed wires, components, and tube assemblies. AD 2008-12-16 also requires you to cover the four-gauge wires leaving the battery box with firesleeving and secure them with a clamp. Since we issued AD 2008-12-16,

M7 Aerospace LP has notified us that Model SA227-BC (C-26A) was inadvertently left out of the Applicability section of the AD, and they updated some of the service information due to parts availability. Operators have also identified issues with model applicability that needed clarification. Consequently, this AD retains the actions of AD 2008-12-16, adds Model SA227-BC (C-26A) to the Applicability section, and regroups the models for clarification. We are issuing this AD to detect and correct chafing of electrical wires, components, and tube assemblies. This condition could result in arcing of exposed wires with consequent burning of a hole in a hydraulic line or the bleed air line. This failure could lead to a hydraulic fluid leak and a possible fire in the engine nacelle compartment.

**DATES:** This AD becomes effective on July 2, 2009.

On July 2, 2009, the Director of the Federal Register approved the incorporation by reference of certain publications listed in Table 2 of this AD.

As of July 23, 2008 (73 FR 34615, June 18, 2008), the Director of the Federal Register approved the incorporation by reference of certain publications listed in Table 3 of this AD.

**ADDRESSES:** For service information identified in this AD, contact M7 Aerospace Repair Station, 10823 NE Entrance Road, San Antonio, Texas 78216; telephone: (210) 824-9421; fax: (210) 804-7766; Internet: <http://www.m7aerospace.com>.

To view the AD docket, go to U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, or on the Internet at <http://www.regulations.gov>. The docket number is FAA-2009-0119; Directorate Identifier 2008-CE-068-AD.

**FOR FURTHER INFORMATION CONTACT:** Werner Koch, Aerospace Engineer, ASW-150, Fort Worth Airplane Certification Office, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone: (817) 222-5133; fax: (817) 222-5960.

#### SUPPLEMENTARY INFORMATION:

##### Discussion

On February 6, 2009, we issued a proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that would apply to

certain M7 Aerospace LP SA226 and SA227 series airplanes. This proposal was published in the **Federal Register** as a notice of proposed rulemaking (NPRM) on February 12, 2009 (74 FR 7006). The NPRM proposed to supersede AD 2008-12-16 with a new AD that would retain the actions of AD 2008-12-16, add the Model SA227-BC (C-26A) to the Applicability section, and regroup the models for clarification.

#### Comments

We provided the public the opportunity to participate in developing this AD. The following presents the comment received on the proposal and FAA's response:

#### Comment Issue: Inspection Applicability

George L. Smith commented that it was unclear if paragraph (e)(3) of the AD applied to airplanes with batteries mounted in the nose of the airplane or if the AD only applied to airplanes with the battery located in the wing leading edge.

As specified in the Applicability section, this AD applies to all serial numbers regardless of where the battery is located. Therefore the actions required in paragraph (e)(3) of this AD apply to all airplanes listed in the Applicability section regardless of where the battery is located. For added clarity we are adding the applicable serial numbers to the paragraph.

We are changing the final rule AD by adding the applicable serial numbers to each action based on this comment.

#### Conclusion

We have carefully reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed except for the change previously discussed and minor editorial corrections. We have determined that these minor corrections:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

#### Costs of Compliance

We estimate that this AD affects 268 airplanes in the U.S. registry.

*We estimate the following costs to do the inspection:*

| Labor cost                                 | Parts cost           | Total cost per airplane | Total cost on U.S. operators |
|--|----------------------|-------------------------|------------------------------|
| 4 work-hours × \$80 per hour = \$320 ..... | Not Applicable ..... | \$320                   | \$85,760                     |

We estimate the following costs to do any necessary modifications for certain Models SA226-AT, SA226-T, SA226-TC, SA227-AC, and SA227-AT

airplanes referenced in M7 Aerospace SA226 Series Service Bulletin 226-24-019, revised: November 21, 2008; or M7 Aerospace SA227 Series Service

Bulletin 227-24-001, revised: November 21, 2008. We estimate 88 airplanes may need this modification:

| Labor cost                                    | Parts cost | Total cost per airplane | Total cost on U.S. operators |
|---|------------|-------------------------|------------------------------|
| 13 work-hours × \$80 per hour = \$1,040 ..... | \$7        | \$1,047                 | \$92,136                     |

We estimate the following costs to do any necessary repairs for certain Models SA226-AT, SA226-TC, SA227-AC, and SA227-AT referenced in M7 Aerospace

SA226 Series Service Bulletin 226-24-020, revised: August 4, 2008; or M7 Aerospace SA227 Series Service Bulletin 227-24-002, revised:

November 21, 2008. We have no way of determining the number of airplanes that may need this repair:

| Labor cost                                    | Parts cost | Total cost per airplane |
|---|------------|-------------------------|
| 50 work-hours × \$80 per hour = \$4,000 ..... | \$3,000    | \$7,000                 |

### Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this AD.

### Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD 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.

For the reasons discussed above, I certify that this AD:

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); and

3. 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 a summary of the costs to comply with this AD (and other information as included in the Regulatory Evaluation) and placed it in the AD Docket. You may get a copy of this summary by sending a request to us at the address listed under **ADDRESSES**. Include "Docket No. FAA-2009-0119; Directorate Identifier 2008-CE-068-AD" in your request.

### List of Subjects in 14 CFR Part 39

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

### Adoption of the Amendment

■ Accordingly, under 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. The FAA amends § 39.13 by removing Airworthiness Directive (AD)

2008-12-16, Amendment 39-15560 (73 FR 34615, June 18, 2008), and adding the following new AD:

**2009-11-06 M7 Aerospace LP:** Amendment 39-15916; Docket No. FAA-2009-0119; Directorate Identifier 2008-CE-068-AD.

### Effective Date

(a) This AD becomes effective on July 2, 2009.

### Affected ADs

(b) This AD supersedes AD 2008-12-16, Amendment 39-15560.

### Applicability

(c) This AD applies to Models SA226-AT, SA226-T, SA226-TC, SA227-AC (C-26A), SA227-AT, SA227-BC (C-26A), SA227-CC, and SA227-DC (C-26B) airplanes, all serial numbers, that are certificated in any category.

### Unsafe Condition

(d) This AD results from five reports of chafing between the bleed air tube assembly and the electrical starter cables on M7 Aerospace LP SA226 and SA227 series airplanes with one incident resulting in a fire. We are issuing this AD to detect and correct chafing of electrical wires and components, hydraulic tube assemblies, and bleed air tube assemblies. This condition could result in arcing of the exposed wires with consequent burning of a hole in a hydraulic line or the bleed air line. This failure could lead to a possible hydraulic fluid leak and fire in the engine nacelle compartment.

### Compliance

(e) To address this problem, you must do the following, unless already done:

TABLE 1—ACTIONS, COMPLIANCE, AND PROCEDURES

| Actions   | Compliance   | Procedures  |
|---|--|---|
| <p>(1) For the following model and serial number (S/N) airplanes, inspect the main battery leads running forward from the battery compartment for deterioration, cover the four-gauge wires leaving the battery box with firesleeving, and secure them with a clamp:</p> <ul style="list-style-type: none"> <li>(i) SA226-AT, S/N AT-001 through AT-419;</li> <li>(ii) SA226-T, S/N T-201 through T-248;</li> <li>(iii) SA226-TC, S/N TC-201 through TC-419;</li> <li>(iv) SA227-AC (C-26A), S/N AC-420 through AC-539, AC-541, AC-543, AC-544, AC-547 through AC-551; and</li> <li>(v) SA227-AT, S/N AT-423 through AT-551.</li> </ul> | <p>Within 250 hours time-in-service (TIS) after July 23, 2008 (the effective date of AD 2008-12-16).</p>   | <p>Use the following service information as applicable:</p> <ul style="list-style-type: none"> <li>(A) For Models SA226-AT, SA226-T, and SA226-TC airplanes: Follow M7 Aerospace SA226 Series Service Bulletin No. 226-24-019, revised: November 21, 2008; or Fairchild Aircraft Corporation SA226 Series Service Bulletin No. SB 24-019, revised: May 17, 1983; or</li> <li>(B) For Models SA227-AC (C-26A) and SA227-AT airplanes: Follow M7 Aerospace SA227 Series Service Bulletin No. 227-24-001, revised: November 21, 2008; or Fairchild Aircraft Corporation SA227 Series Service Bulletin No. SB24-001, revised: May 17, 1983.</li> </ul>  |
| <p>(2) For the following model and S/N airplanes, reroute the hydraulic tube assemblies in the right wing leading edge, reroute the battery cables and 22-gauge wire bundle, and install a new access panel forward of the battery box:</p> <ul style="list-style-type: none"> <li>(i) SA226-AT, S/N AT-001 through AT-074;</li> <li>(ii) SA226-TC, S/N TC-201 through TC-419;</li> <li>(iii) SA227-AC (C-26A), S/N AC-420 through AC-539, AC-541, AC-543, AC-544, AC-547 through AC-550; and</li> <li>(iv) SA227-AT, S/N AT-423 through AT-551.</li> </ul>   | <p>Before further flight after the modification required in paragraph (e)(1) of this AD and you were not able to obtain a minimum 0.50-inch clearance between the bleed air line and the tubing on the battery cables.</p> | <p>Use the following service information as applicable:</p> <ul style="list-style-type: none"> <li>(A) For Models SA226-AT, and SA226-TC airplanes: Follow M7 Aerospace SA226 Series Service Bulletin No. 226-24-020, revised: August 4, 2008; or Fairchild Aircraft Corporation SA226 Series Service Bulletin No. SB 24-020, revised: February 15, 1984; or</li> <li>(B) For Models SA227-AC (C-26A) and SA227-AT airplanes: Follow M7 Aerospace SA227 Series Service Bulletin No. 227-24-002, revised: November 21, 2008; or Fairchild Aircraft Corporation SA227 Series Service Bulletin No. SB24-002, revised: February 15, 1984.</li> </ul>  |
| <p>(3) For model SA226-AT, SA226-T, SA226-TC, SA227-AC (C-26A), SA227-AT, SA227-CC, and SA227-DC (C-26B) airplanes, all S/N: Inspect electrical wires and components, hydraulic tube assemblies, and bleed air tube assemblies at the left hand and right hand (LH/RH) inboard wing leading edge/battery box areas, LH/RH wing stations 51.167 to 81.174, and at all feed-through locations into the LH/RH inboard keelson for any evidence of chafing or arcing.</p>   | <p>Within 250 hours TIS after July 23, 2008 (the effective date of AD 2008-12-16). Repetitively thereafter inspect at intervals not to exceed 12 months.</p>   | <p>Use the following service information as applicable:</p> <ul style="list-style-type: none"> <li>(i) For Models SA226-AT, SA226-T, and SA226-TC airplanes: Follow M7 Aerospace SA226 Series Service Bulletin No. 226-24-036, revised November 21, 2008; or M7 Aerospace SA226 Series Service Bulletin No. 226-24-036, issued: September 19, 2007;</li> <li>(ii) For Models SA227-AC (C-26A) and SA227-AT, airplanes: Follow M7 Aerospace SA227 Series Service Bulletin No. 227-24-019, revised: November 21, 2008; or M7 Aerospace SA227 Series Service Bulletin No. 227-24-019, issued: September 19, 2007; or</li> <li>(iii) For Models SA227-CC and SA227-DC (C-26B) airplanes: Follow SA227 Series Commuter Category Service Bulletin No. CC7-24-010, revised November 21, 2008; or SA227 Series Commuter Category Service Bulletin No. CC7-24-010, issued September 19, 2007.</li> </ul> |
| <p>(4) For model SA227-BC (C-26A) airplanes, all S/N: Inspect the main battery leads running forward from the battery compartment for any evidence of insulation deterioration.</p>   | <p>Within 250 hours TIS after July 2, 2009 (the effective date of this AD).</p>  | <p>Follow M7 Aerospace SA227 Series Service Bulletin No. 227-24-001, revised: November 21, 2008.</p>  |
| <p>(5) For model SA227-BC (C-26A) airplanes, all S/N: Inspect electrical wires and components, hydraulic tube assemblies, and bleed air tube assemblies at LH/RH inboard wing leading edge/battery box areas, LH/RH wing stations 51.167 to 81.174, and at all feed-through locations into the LH/RH inboard keelson for any evidence of insulation deterioration, chafing, or arcing.</p>  | <p>Within 250 hours TIS after July 2, 2009 (the effective date of this AD). Repetitively thereafter inspect at intervals not to exceed 12 months.</p>  | <p>Follow M7 Aerospace SA227 Series Service Bulletin No. 227-24-019, revised: November 21, 2008.</p>  |

TABLE 1—ACTIONS, COMPLIANCE, AND PROCEDURES—Continued

| Actions  | Compliance  | Procedures  |
|--|---|---|
| (6) For all model and S/N airplanes: Clear, repair, and/or replace all electrical wires and components, hydraulic tube assemblies, and bleed air tube assemblies, in the inspection area and feed-through locations that show any sign of insulation deterioration, chafing, or arcing, as required. | Before further flight after any inspection required in paragraphs (e)(1), (e)(3), (e)(4), and (e)(5) of this AD where any evidence of insulation deterioration, chafing, or arcing was found. | Use the service information from paragraphs (e)(1), (e)(3), (e)(4), and (e)(5) of this AD, as applicable. |

**Note:** Although not a requirement of this AD, you may incorporate Swearingen Aviation Corporation SA226 Series Service Bulletin No. 57-010, revised: December 5, 1975, on those airplanes that have not installed the access panel. Installation of the access panel will simplify the incorporation of the service bulletins referenced in this AD and future inspections of the areas of concern.

#### Alternative Methods of Compliance (AMOCs)

(f) The Manager, Fort Worth Airplane Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Werner Koch, Aerospace Engineer, ASW-150, Fort Worth Airplane Certification Office, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone: (817) 222-5133; fax: (817) 222-5960. Before using any approved AMOC on any airplane to which the AMOC applies, notify your

appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO

#### Material Incorporated by Reference

(g) You must use the service information specified in Table 2 or Table 3 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in Table 2 of this AD under 5 U.S.C. 552(a) and 1 CFR part 51.

TABLE 2—MATERIAL INCORPORATED BY REFERENCE

| Service Bulletin No.  | Date                        |
|---|-----------------------------|
| (i) M7 Aerospace SA226 Series Service Bulletin No. 226-24-019 .....                     | Revised: November 21, 2008. |
| (ii) M7 Aerospace SA226 Series Service Bulletin No. 226-24-020 .....                    | Revised: August 4, 2008.    |
| (iii) M7 Aerospace SA226 Series Service Bulletin No. 226-24-036 .....                   | Revised: November 21, 2008. |
| (iv) M7 Aerospace SA227 Series Service Bulletin No. 227-24-001 .....                    | Revised: November 21, 2008. |
| (v) M7 Aerospace SA227 Series Service Bulletin No. 227-24-002 .....                     | Revised: November 21, 2008. |
| (vi) M7 Aerospace SA227 Series Service Bulletin No. 227-24-019 .....                    | Revised: November 21, 2008. |
| (vii) M7 Aerospace SA227 Series Commuter Category Service Bulletin No. CC7-24-010 ..... | Revised: November 21, 2008. |

(2) On July 23, 2008 (73 FR 34615, June 18, 2008), the Director of the Federal Register approved the incorporation by reference of the service information listed in Table 3 of this AD.

TABLE 3—PREVIOUS MATERIAL INCORPORATED BY REFERENCE

| Service Bulletin No.  | Date                        |
|---|-----------------------------|
| (i) Fairchild Aircraft Corporation SA226 Series Service Bulletin No. SB 24-019 .....    | Revised: May 17, 1983.      |
| (ii) Fairchild Aircraft Corporation SA226 Series Service Bulletin No. SB 24-020 .....   | Revised: February 15, 1984. |
| (iii) M7 Aerospace SA226 Series Service Bulletin No. 226-24-036 .....                   | Issued: September 19, 2007. |
| (iv) Fairchild Aircraft Corporation SA227 Series Service Bulletin No. SB24-001 .....    | Revised: May 17, 1983.      |
| (v) Fairchild Aircraft Corporation SA227 Series Service Bulletin No. SB24-002 .....     | Revised: February 15, 1984. |
| (vi) M7 Aerospace SA227 Series Service Bulletin No. 227-24-019 .....                    | Issued: September 19, 2007. |
| (vii) M7 Aerospace SA227 Series Commuter Category Service Bulletin No. CC7-24-010 ..... | Issued: September 19, 2007. |

(3) For service information identified in this AD, contact M7 Aerospace Repair Station, 10823 NE Entrance Road, San Antonio, Texas 78216; telephone: (210) 824-9421; fax: (210) 804-7766; Internet: <http://www.m7aerospace.com>.

(4) You may review copies of the service information incorporated by reference for this AD at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the Central Region, call (816) 329-3768.

(5) You may also review copies of the service information incorporated by reference for this AD at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Kansas City, Missouri, on May 18, 2009.

**Kim Smith,**

Manager, Small Airplane Directorate, Aircraft Certification Service.

[FR Doc. E9-11989 Filed 5-27-09; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2009-0482; Directorate Identifier 2008-SW-54-AD; Amendment 39-15920; AD 2009-11-10]

**RIN 2120-AA64**

#### Airworthiness Directives; Eurocopter Deutschland GmbH Model EC135 Helicopters

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for Eurocopter Deutschland GmbH (Eurocopter) Model EC135 helicopters. This AD results from a report of abnormal main rotor blade vibrations on a Eurocopter Model EC135 helicopter. This AD also results from mandatory continuing airworthiness information (MCAI) issued by the European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community. The MCAI states that an operator reported unusual vibrations during the start phase of the main rotor blade on one helicopter. The vibrations stopped after the application of torque. Subsequent maintenance personnel found that six of the eight

attachment screws of the lower hub-shaft bearing support were loose. This condition was discovered in two additional helicopters. Loose screws in the bearing support, if not detected and corrected, could result in abnormal main rotor blade vibrations and subsequent damage to the main transmission.

**DATES:** This AD becomes effective on June 12, 2009.

The incorporation by reference of certain publications is approved by the Director of the Federal Register as of June 12, 2009.

We must receive comments on this AD by July 27, 2009.

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

- **Federal eRulemaking Portal:** Go to <http://www.regulations.gov>. Follow the instructions for submitting your comments electronically.
- **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:** U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

You may get the service information identified in this AD from American Eurocopter Corporation, 2701 Forum Drive, Grand Prairie, TX 75053-4005, telephone (972) 641-3460, fax (972) 641-3527, or at <http://www.eurocopter.com>.

**Examining the 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 AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is stated in the **ADDRESSES** section of this AD. Comments will be available in the AD docket shortly after receipt.

#### FOR FURTHER INFORMATION CONTACT:

Chinh Vuong, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Safety Management Group, Fort Worth, Texas 76193-0111, telephone (817) 222-5116, fax (817) 222-5961.

#### SUPPLEMENTARY INFORMATION:

##### Discussion

We recently received a report of abnormal main rotor blade vibration on

a Eurocopter Model EC135 helicopter. This main rotor blade vibration occurred after initial aircraft start, while operating at flat pitch, between 8.5 and 25 percent torque and 98.6 percent NR/N2 speed, and dissipated once the FADEC switches were advanced to FLIGHT. The main rotor transmission chip light also illuminated with minimal debris found on the chip detectors. During troubleshooting, six of the eight main transmission lower hub-shaft bearing support bolts were found lying in the bottom of the main transmission case, atop of the lower transmission access panel. Only two of the eight bolts remained installed, loose in their positions, and the outer race of the roller bearing was rotated out of position (cocked). Approximately three weeks after that first incident, we received a report that loose bolts were discovered on two additional newer helicopters that had not been inspected at the time the loose bolts were discovered on the first helicopter. Subsequent investigations revealed that screws were not properly torqued and vibrations had caused the screws to back-out. Loosened screws in the bearing support, if not detected and corrected, could result in abnormal main rotor blade vibrations and subsequent damage to the main transmission.

EASA has issued EASA Emergency AD 2008-0175-E, dated September 16, 2008, to correct an unsafe condition for the Eurocopter Model EC135 helicopters. The MCAI explains that "The lower hub-shaft bearing consists of a ball bearing and a roller bearing. The outer race of the roller bearing is fixed to the housing with screws. Should all attachment screws become loose, the outer race of the roller bearing might separate, which would constitute an unsafe condition. In such case, however, the axial guidance of the rotor hub-shaft would still be ensured." The MCAI requires inspecting the main transmission attachment hardware and installing locking washers. You may obtain further information by examining the MCAI and any related service information in the AD docket.

#### Related Service Information

Eurocopter has issued Alert Service Bulletin EC135-63A-013, Revision 2, dated September 12, 2008 (ASB). The ASB specifies checking the screws at the lower hub-shaft bearing for correct attachment and securing attachment hardware by means of locking washers. The actions described in the MCAI are intended to correct the same unsafe condition as that identified in the service information.