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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2009-0868; Directorate Identifier 2009-CE-047-AD; Amendment 39-16120; AD 2009-25-03]**

**RIN 2120-AA64**

**Airworthiness Directives; ZLT Zeppelin Luftschifftechnik GmbH & Co KG Model LZ N07-100 Airships**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

The manufacturer has advised of receiving a report that during start up on ground a RH propeller gear box (PGB) on the airship has failed resulting in free rotation of the propeller. Investigation performed by the manufacturer revealed that the bevel gear in the propeller gearbox had cracked near the hub area.

During an extensive metallurgical investigation of the cracked bevel gear some different manufacturing deviations outside of the specifications were detected. Deviations in the heat treatment, wall thickness of the bevel gear near the hub area, and score marks caused during the production process have been established as causal factors for this failure.

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective January 8, 2010.

On January 8, 2010, the Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Karl Schletzbaum, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4146; fax: (816) 329-4090; e-mail: karl.schletzbaum@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on September 21, 2009 (74 FR 48019). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

The manufacturer has advised of receiving a report that during start up on ground a RH propeller gear box (PGB) on the airship has failed resulting in free rotation of the propeller. Investigation performed by the manufacturer revealed that the bevel gear in the propeller gearbox had cracked near the hub area.

During an extensive metallurgical investigation of the cracked bevel gear some different manufacturing deviations outside of the specifications were detected. Deviations in the heat treatment, wall thickness of the bevel gear near the hub area, and score marks caused during the production process have been established as causal factors for this failure.

For the reasons described above, this new AD mandates the replacement of the affected bevel gears, and limits, as a temporary measure, their service-life to 1,000 Flight Hours (for non-refurbished PGBs) and to 1,600 Flight Hours (for refurbished PGBs).

You may obtain further information by examining the MCAI in the AD docket.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

### **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

### **Differences Between This AD and the MCAI or Service Information**

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow FAA policies. Any such differences are highlighted in a Note within the AD.

### **Costs of Compliance**

We estimate that this AD will affect 1 product of U.S. registry. We also estimate that it will take about 18 work-hours per product to comply with the basic requirements of this AD. The average

labor rate is \$80 per work-hour. Required parts will cost about \$66,488 per gear box replacement. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these costs. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here.

Based on these figures, we estimate the cost of this AD on U.S. operators to be \$67,928 per gear box replacement.

### **Authority for This Rulemaking**

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

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

### **Regulatory Findings**

We 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 this AD:

- (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) 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 regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD Docket.

### **Examining the AD Docket**

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

### **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 FAA amends 14 CFR part 39 as follows:

## **PART 39–AIRWORTHINESS DIRECTIVES**

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

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

### **§ 39.13 [Amended]**

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



**2009-25-03 ZLT Zeppelin Luftschifftechnik GmbH & Co KG:** Amendment 39-16120; Docket No. FAA-2009-0868; Directorate Identifier 2009-CE-047-AD.

**Effective Date**

(a) This airworthiness directive (AD) becomes effective January 8, 2010.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to Model LZ N07-100 airships, serial numbers 002, 003, and 004, that are certificated in any category and are equipped with the following propeller gear boxes:

<b>Part No.</b>	<b>Serial No.</b>	<b>Designation</b>
07 722 0001-200	103, 106, 109, 112, 401, 401.	AFT propeller gear box.
07 722 0002-200	101, 104, 107, 110, 201.	LH propeller gear box.
07 722 0003-200	102, 105, 108, 111, 301, 302.	RH propeller gear box.

**Subject**

(d) Air Transport Association of America (ATA) Code 65: Tail Rotor Drive.

**Reason**

(e) The mandatory continuing airworthiness information (MCAI) states:

The manufacturer has advised of receiving a report that during start up on ground a RH propeller gear box (PGB) on the airship has failed resulting in free rotation of the propeller. Investigation performed by the manufacturer revealed that the bevel gear in the propeller gearbox had cracked near the hub area.

During an extensive metallurgical investigation of the cracked bevel gear some different manufacturing deviations outside of the specifications were detected. Deviations in the heat treatment, wall thickness of the bevel gear near the hub area, and score marks caused during the production process have been established as causal factors for this failure.

For the reasons described above, this new AD mandates the replacement of the affected bevel gears, and limits, as a temporary measure, their service-life to 1 000 Flight Hours (for non-refurbished PGBs) and to 1 600 Flight Hours (for refurbished PGBs).

## **Actions and Compliance**

(f) Unless already done, do the following actions in accordance with ZLT Zeppelin Luftschifftechnik GmbH & Co KG Service Bulletin S07 830 0001, Issue B-00, dated June 29, 2009:

(1) As of January 8, 2010 (the effective date of this AD), before the accumulation of the applicable total hours time-in-service (TIS) as defined in the appendix of ZLT Zeppelin Luftschifftechnik GmbH & Co KG Service Bulletin S07 830 0001, Issue B-00, dated June 29, 2009, replace the bevel gears of the propeller gearbox.

(2) As of January 8, 2010 (the effective date of this AD), for airships with a propeller gear box identified in paragraph (c)(1) of this AD that have exceeded the applicable total hours TIS as defined in the appendix of ZLT Zeppelin Luftschifftechnik GmbH & Co KG Service Bulletin S07 830 0001, Issue B-00, dated June 29, 2009, replace the bevel gears of the propeller gearbox within the next 30 days after January 8, 2010 (the effective date of this AD).

(3) As of January 8, 2010 (the effective date of this AD), airships with a propeller gear box S/N 102, 107, 108, 109, or 112, contact the manufacturer at ZLT Zeppelin Luftschifftechnik GmbH & Co KG, 88046 Friedrichsfafen, Allmannsweilerstrasse 132, Germany; telephone: + 49 (0) 7541-5900-546; fax: + 40 (0) 7541-5900-516, to obtain a repair scheme within the next 30 days after January 8, 2010 (the effective date of this AD). Incorporate the repair scheme before further flight after receipt.

(4) After doing the replacements required in paragraphs (f)(1), (f)(2), and (f)(3) of this AD, replace the bevel gears of the propeller gearbox thereafter at intervals not to exceed 1,600 hours TIS on the propeller gearbox.

**Note 1:** The time between overhaul for gear boxes specified in the airship maintenance manual remains unchanged.

**Note 2:** Airships with a propeller gear box S/N 102, 107, 108, 109, or 112 have exceeded their life limit and are not eligible for bevel gear replacement. See paragraph (f)(3) of this AD.

## **FAA AD Differences**

**Note 3:** This AD differs from the MCAI and/or service information as follows: No differences.

## **Other FAA AD Provisions**

(g) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, Standards 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: Karl Schletzbaum, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4146; fax: (816) 329-4090; email: karl.schletzbaum@faa.gov. Before using any approved AMOC on any airship 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.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

## **Related Information**

(h) Refer to MCAI European Aviation Safety Agency (EASA) AD No. 2009-0182, dated August 20, 2009; and ZLT Zeppelin Luftschifftechnik GmbH & Co KG Service Bulletin S07 830 0001, Issue B-00, dated June 29, 2009, for related information.

## **Material Incorporated by Reference**

(i) You must use ZLT Zeppelin Luftschifftechnik GmbH & Co KG Service Bulletin S07 830 0001, Issue B-00, dated June 29, 2009, 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 this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact ZLT Zeppelin Luftschifftecnik GmbH & Co KG, 88046 Friedrichsfafen, Allmannsweilerstrasse 132, Germany; telephone: + 49 (0) 7541-5900-546; fax: + 40 (0) 7541-5900-516; Internet: <http://www.zeppelinflug.de/>.

(3) 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.

(4) 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 November 20, 2009.

Margaret Kline,

Acting Manager, Small Airplane Directorate, Aircraft Certification Service.

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