

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2010-0093; Directorate Identifier 97-ANE-06-AD; Amendment 39-16198; AD 2010-04-05]**

**RIN 2120-AA64**

#### **Airworthiness Directives; McCauley Propeller Systems 1A103/TCM Series Propellers**

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

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

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**SUMMARY:** The FAA is superseding an existing airworthiness directive (AD) for McCauley Propeller Systems 1A103/TCM series propellers. That AD requires, for certain serial numbers (S/Ns) of McCauley Propeller Systems 1A103/TCM series propellers, initial and repetitive visual and dye penetrant inspections for cracks in the propeller hub, replacement of propellers with cracks that do not meet acceptable limits, and rework of propellers with cracks that meet acceptable limits. This AD requires, for all McCauley Propeller Systems 1A103/TCM series propellers, the same actions but at reduced compliance times. This AD also requires inspections of the bolt holes, reaming holes if necessary, and inspections of steel reinforcement plates and gaskets. This AD results from 16 reports received of propeller hubs found cracked since AD 2003-12-05 was issued. We are issuing this AD to prevent propeller separation due to hub fatigue cracking, which can result in loss of control of the airplane.

**DATES:** Effective March 10, 2010. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of March 10, 2010.

We must receive any comments on this AD by April 26, 2010.

**ADDRESSES:** Use one of the following addresses to comment on this AD.

- Federal eRulemaking Portal: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility, U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590-0001.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: (202) 493-2251.

**FOR FURTHER INFORMATION CONTACT:** Thomas Teplik, Aerospace Engineer, Wichita Aircraft Certification Office, FAA, Small Airplane Directorate, 1801 Airport Road, Room 100, Wichita, KS 67209; e-mail: thomas.teplik@faa.gov; telephone: (316) 946-4196; fax: (316) 946-4107.

**SUPPLEMENTARY INFORMATION:** The FAA amends 14 CFR part 39 by superseding AD 2003-12-05, Amendment 39-13190 (68 FR 35155, June 12, 2003). That AD requires, for certain S/Ns of McCauley Propeller Systems 1A103/TCM series propellers, initial and repetitive visual and dye penetrant inspections for cracks in the propeller hub, replacement of propellers with cracks that do not meet acceptable limits, and rework of propellers with cracks that meet acceptable limits. That AD was the result of reports of hub cracking on the camber (forward) side of the propeller hub near the attachment bolt holes on certain propellers. That condition, if not corrected, could result in propeller separation due to hub fatigue cracking, which can result in loss of control of the airplane.

### **Actions Since AD 2003-12-05 Was Issued**

Since AD 2003-12-05 was issued, we received 16 reports of propeller hubs found cracked. Two of the cracks were on propellers outside the propeller range of serial numbers affected by AD 2003-12-05. These cracks began at a bolt hole and extended through to the hub outer surface. These propellers had fewer than 3,000 operating hours time-in-service (TIS). AD 2003-12-05 required inspections starting at 3,000 operating hours TIS. We have not yet been able to determine the cause of the propeller hub cracking.

### **Relevant Service Information**

We have reviewed and approved the technical contents of McCauley Propeller Systems Alert Service Bulletin (ASB) No. ASB221E, dated January 28, 2010. That ASB describes, for all McCauley Propeller Systems 1A103/TCM series propellers, procedures for initial and repetitive visual and dye penetrant inspections for cracks in the propeller hub, removal from service of propellers with cracks that do not meet acceptable limits, and rework of propellers with cracks that meet acceptable limits.

### **FAA's Determination and Requirements of This AD**

The unsafe condition described previously is likely to exist or develop on other McCauley Propeller Systems 1A103/TCM series propellers of the same type design. We are issuing this AD to prevent propeller separation due to hub fatigue cracking, which can result in loss of control of the airplane. This AD requires, for all McCauley Propeller Systems 1A103/TCM series propellers, initial and repetitive visual and dye penetrant inspections for cracks in the propeller hub, including bolt holes, reaming holes if necessary, inspections of steel reinforcement plates and gaskets, removal from service of propellers with cracks that do not meet acceptable limits, and rework of propellers with cracks that meet acceptable limits. You must use the service information described previously to perform the actions required by this AD.

### **FAA's Determination of the Effective Date**

Since an unsafe condition exists that requires the immediate adoption of this AD, we have found that notice and opportunity for public comment before issuing this AD are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

### **Interim Action**

These actions are interim actions and we may take further rulemaking actions in the future.

## **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to send us any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2010-0093; Directorate Identifier 97-ANE-06-AD" in the subject line of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of the Web site, anyone can find and read the comments in any of our dockets, including, if provided, the name of the individual who sent the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

## **Examining the AD Docket**

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

## **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 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 placed it in the AD docket. You may get a copy of this summary at the address listed under ADDRESSES.

## **List of Subjects in 14 CFR Part 39**

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

### **Adoption of the Amendment**

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 Amendment 39-13190 (68 FR 35155, June 12, 2003), and by adding a new airworthiness directive, Amendment 39-16198, to read as follows:



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**2010-04-05 McCauley Propeller Systems:** Amendment 39-16198. Docket No. FAA-2010-0093; Directorate Identifier 97-ANE-06-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective March 10, 2010.

**Affected ADs**

- (b) This AD supersedes AD 2003-12-05, Amendment 39-13190.

**Applicability**

(c) This AD applies to McCauley Propeller Systems 1A103/TCM series propellers, all serial numbers. These propellers are installed on, but not limited to Cessna 152, Cessna A152, Reims F152, and Reims FA152 series airplanes, and on airplanes with Lycoming O-235-L2C reciprocating engines modified by Supplemental Type Certificates SA1763SO, SA5695NM, SA1000NW, and SA432NE.

**Unsafe Condition**

(d) This AD results from 16 reports received of propeller hubs found cracked since AD 2003-12-05 was issued. We are issuing this AD to prevent propeller separation due to hub fatigue cracking, which can result in loss of control of the airplane.

**Compliance**

(e) You are responsible for having the actions required by this AD performed within the compliance times specified unless the actions have already been done.

**Initial Inspection of Propellers Not Previously Inspected**

(f) For propellers not previously inspected using McCauley Service Bulletin (Alert) No. 221C, dated September 7, 1999, or McCauley Alert Service Bulletin (ASB) No. ASB221D, dated January 28, 2008, do the following:

(1) For propellers with more than 1,500 operating hours time-since-new (TSN) or unknown operating hours TSN on the effective date of this AD, within the next 50 operating hours time-in-service (TIS), do the actions specified in paragraphs (h) through (m) of this AD.

(2) For propellers with 1,500 or fewer operating hours TSN on the effective date of this AD, upon reaching 1,500 operating hours TSN or within the next 50 operating hours TIS, whichever is later, do the actions specified in paragraphs (h) through (m) of this AD.

## **Initial Inspection of Propellers Previously Inspected**

(g) For propellers previously inspected using McCauley Service Bulletin (Alert) No. 221C, dated September 7, 1999, or McCauley ASB No. ASB221D, dated January 28, 2008, do the following:

(1) For propellers with more than 1,500 operating hours TSN on the effective date of this AD, and with 750 or more operating hours time-since-last-inspection (TSLI), within the next 50 operating hours TIS, do the actions specified in paragraphs (h) through (m) of this AD.

(2) For propellers with more than 1,500 operating hours TSN on the effective date of this AD, and with fewer than 750 operating hours TSLI, before reaching 750 operating hours TSLI or within the next 50 operating hours TIS, whichever occurs later, do the actions specified in paragraphs (h) through (m) of this AD.

(h) Visual- and dye-penetrant-inspect for cracks in the propeller hub.

(i) Inspect the bolt holes and ream the holes if necessary.

(j) Inspect the steel reinforcement plates and gaskets.

(k) Remove propellers that are not within the bolt hole inspection limits or have cracks that are not within the rework limits.

(l) Rework propellers that have cracks that meet acceptable rework limits.

(m) Use the Accomplishment Instructions of McCauley ASB No. ASB221E, dated January 28, 2010, to do the inspections, rework, and removals from service. Repetitive Propeller Inspections

(n) Thereafter, for all propellers, within every additional 750 operating hours TIS, perform the actions in paragraphs (h) through (m) of this AD.

## **Alternative Methods of Compliance**

(o) The Manager, Wichita Aircraft Certification Office, has the authority to approve alternative methods of compliance for this AD if requested using the procedures found in 14 CFR 39.19.

## **Special Flight Permits**

(p) Under 39.23, we are limiting the availability of special flight permits for this AD. Special flight permits are available only if:

(1) The operator has not observed abnormal propeller vibration or abnormal engine vibration.

(2) The operator has not made earlier reports of abnormal propeller vibration, abnormal engine vibration, or other abnormal propeller operations that have not been addressed.

## **Related Information**

(q) Contact Thomas Teplik, Aerospace Engineer, Wichita Aircraft Certification Office, FAA, Small Airplane Directorate, 1801 Airport Road, Room 100, Wichita, KS 67209; e-mail: [thomas.teplik@faa.gov](mailto:thomas.teplik@faa.gov); telephone: (316) 946-4196; fax: (316) 946-4107, for more information about this AD.

## **Material Incorporated by Reference**

(r) You must use McCauley Propeller Systems Alert Service Bulletin No. ASB221E, dated January 28, 2010, to perform the inspections, rework, and removals from service required by this AD. The Director of the Federal Register approved the incorporation by reference of this service bulletin in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact McCauley Propeller Systems, 5800 E. Pawnee, Wichita, KS 67218, telephone: (800) 621-7767; e-mail: [productsupport@mccauley.textron.com](mailto:productsupport@mccauley.textron.com); Web: <http://www.mccauley.textron.com>, for a copy of this service information. You may review copies at the FAA, New England Region, 12 New England Executive Park, Burlington, MA; or 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/cfr/ibr-locations.html>.

Issued in Burlington, Massachusetts, on February 8, 2010.

Peter A. White,  
Assistant Manager, Engine and Propeller Directorate,  
Aircraft Certification Service.