



SPECIAL AIRWORTHINESS INFORMATION BULLETIN

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation

**Federal Aviation
Administration**

NE-05-61
June 22, 2005

<http://www.faa.gov/aircraft/safety/alerts/>

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin alerts you, owners and operators of **The Cessna Aircraft company model 152 airplanes, with McCauley Propeller Systems model 1A103TCM/() propellers installed**, of our recommendation to perform an additional onetime voluntary inspection following the instructions contained in paragraph (a) of Airworthiness Directive (AD) 2003-12-05 (attached).

Background

We received a report from a foreign Cessna F152 operator that they removed a McCauley Propeller Systems 1A103TCM/6958 model propeller from the airplane because of engine vibration problems. They inspected the propeller as part of the vibration troubleshooting effort under AD 2003-12-05 instructions. The inspection discovered a significant crack on the propeller hub area. The crack, approximately two inches long, appeared to have come out of one bolthole, and spread down the side of the propeller hub area.

AD 2003-12-05 addresses inspection and rework in this suspect area and requires a repetitive inspection every 12 calendar months or 800 hours time-in-service (TIS) for propellers with at least 3,000 hours TIS or if propeller TIS is unknown.

The Cessna F152 report indicates this propeller was last inspected about eight months prior to the incident and 363 hours TIS. A crack, if left in service, can cause propeller failure and loss of aircraft control.

Recommendation

- We recommend that you inspect the propellers following AD 2003-12-05 within the next 100 hours TIS or at the next annual inspection, whichever occurs first, especially if the airplane is used for flight training. Please send the inspection results, whether favorable or not, to us at the address below. The result may affect new AD action currently under consideration. If you have recently inspected the propeller under AD 2003-12-05, please submit the results to the address below.
- This is an additional inspection request. Any past inspection result history would be helpful in our evaluation.

For Further Information Contact

Tim Smyth, Aerospace Engineer, FAA
Chicago ACO, Propulsion Branch, ACE-118C, 2300 East Devon Avenue, Des Plaines, IL, 60018; phone: (847) 294-7132; fax: (847) 294-7834, e-mail: timothy.smyth@faa.gov.

[Federal Register: June 12, 2003 (Volume 68, Number 113)]
[Rules and Regulations]
[Page 35155-35157]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97-ANE-06-AD; Amendment 39-13190; AD 2003-12-05]

RIN 2120-AA64

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

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), that is applicable to McCauley Propeller Systems 1A103/TCM series propellers. That AD currently requires an initial inspection for cracks in the propeller hub in accordance with a dye penetrant inspection procedure, replacement of propellers with cracks that do not meet acceptable limits, rework of propellers with cracks that meet acceptable limits, and repetitive inspections of all affected propellers. This amendment allows additional rework operations to be performed at more than one bolt hole location. This amendment is prompted by the need to clarify the requirement to use a steel backing plate and Mylar gasket during installation of the propeller, and to relax the replacement requirements. The actions specified in the proposed AD are intended to prevent propeller separation due to hub fatigue cracking, which can result in loss of control of the airplane.

DATES: Effective July 17, 2003. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 17, 2003.

ADDRESSES: The service information referenced in this AD may be obtained from McCauley Propeller Systems, 3535 McCauley Drive, PO Drawer 5053, Vandalia, OH 45377-5053; telephone: 937-890-5246; fax: 937-890-6001. This information may be examined, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Timothy Smyth, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2350 East Devon Avenue, Room 323, Des Plaines, IL 60018; telephone: (847) 294-7132; fax: (847) 294-7834.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 97-06-16, Amendment 39-9973 (62 FR 16064, April 4, 1997), which is applicable to McCauley Propeller Systems 1A103/TCM series propellers, was published in the Federal Register on September 27, 2002 (67 FR 61043). That action proposed to require:

- An initial inspection for cracks in the propeller hub in accordance with a dye penetrant inspection procedure.
- Replacement of propellers with cracks that do not meet acceptable limits.
- Rework of propellers with cracks that meet acceptable limits.
- Painting of the propeller hub before installation of the propeller.
- Repetitive inspections of all affected propellers.
- Installation of a steel backing plate and Mylar gasket during installation of the propeller.

These actions must be done in accordance with McCauley Propeller Systems Alert Service Bulletin (ASB) 221C, dated September 7, 1999.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

One commenter agrees with the NPRM as written.

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Economic Analysis

There are approximately 6,100 propellers of the affected design in the worldwide fleet. The FAA estimates that approximately 3,000 propellers installed on airplanes of U.S. registry will be affected by this AD. The FAA also estimates that it will take approximately 3 work hours per propeller to perform the required actions, and that the average labor rate is \$60 per work hour. Required parts would cost approximately \$17 per propeller. Based on these figures, the total cost of the AD to U.S. operators is estimated to be \$591,000 per year.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, 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 39-9973 (62 FR 16064, April 4, 1997) and by adding a new airworthiness directive, Amendment 39-13190, to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2003-12-05 McCauley Propeller Systems: Amendment 39-13190. Docket No. 97-ANE-06-AD. Supersedes AD 97-06-16, Amendment 39-9973.

Applicability: This airworthiness directive (AD) is applicable to McCauley Propeller Systems 1A103/TCM series propellers with numeric serial numbers 770001 through 777390; and propellers with alphanumeric serial numbers BC001 up to, but not including KC001. These propellers are installed on but not limited to Cessna 152, Cessna A152, Reims F152, and Reims FA152 series airplanes. All alphanumeric serial number propellers beginning with the letters "B" through "J" are affected by this AD.

Note 1: This AD applies to each propeller 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 propellers 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: Compliance with this AD is required as indicated below, unless already done.

To prevent propeller separation due to hub fatigue cracking, which can result in loss of control of the airplane, do the following:

Inspection and Rework Requirements

(a) Inspect propellers, rework or replace with a serviceable propeller, as necessary, and install in accordance with Sections II, III, IV, and V of McCauley Propeller Systems Alert Service Bulletin (ASB) No. 221C, dated September 7, 1999, as follows:

(1) For propellers with 3,000 or more hours time-in-service (TIS), or unknown TIS, on the effective date of this AD, as follows:

(i) If not already done, perform an initial dye penetrant inspection in accordance with Section II of the ASB before further flight.

(ii) Thereafter, perform repetitive dye penetrant inspections in accordance with Section IV of the ASB at intervals not to exceed 800 hours TIS, or 12 calendar months since last dye penetrant inspection, whichever occurs first.

(iii) If cracks are discovered that are not within the rework limits described in Section III of the ASB, before further flight remove the propeller from service and replace with a serviceable propeller.

(iv) If cracks are discovered that are within the rework limits described in Section III of the ASB, before further flight rework the propeller in accordance with Section III of the ASB, and resume inspecting repetitively in accordance with paragraph (a)(1)(ii) of this AD.

(2) For propellers with less than 3,000 hours TIS on the effective date of this AD, upon accumulating 3,000 hours TIS perform the steps required by paragraph (a)(1)(i) through (a)(1)(iv) of this AD.

(b) Paint camber side of the propeller in accordance with Section II or Section III of the ASB.

(c) Install propeller in accordance with Section V of the ASB.

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, Chicago Aircraft Certification Office (CHIACO). Operators must submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, CHIACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the CHIACO.

Special Flight Permits

(e) Special flight permits may be issued in accordance with §§ 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 done.

Documents That Have Been Incorporated by Reference

(f) The inspections, rework and replacement must be done in accordance with McCauley Propeller Systems Alert Service Bulletin (ASB) No. 221C, dated September 7, 1999. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from McCauley Propeller Systems, 3535 McCauley Drive, PO Drawer 5053, Vandalia, OH 45377-5053; telephone: 937-890-5246; fax: 937-890-6001. Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; 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 July 17, 2003.

Issued in Burlington, Massachusetts, on June 4, 2003.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 03-14675 Filed 6-11-03; 8:45 am]

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