

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-22898; Directorate Identifier 2005-NE-10-AD; Amendment 39-15021; AD 2007-08-04]

RIN 2120-AA64

Airworthiness Directives; McCauley Propeller Systems Models 3A32C406/82NDB-X and D3A32C409/82NDB-X Propellers

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

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for McCauley Propeller Systems models 3A32C406/82NDB-X and D3A32C409/82NDB-X propellers, installed on Teledyne Continental Motors (TCM) IO-520, TSIO-520, or IO-550 reciprocating engines. These propellers are herein referred to as C406 and C409 propellers, respectively. This AD requires adding an operational revolutions per minute (RPM) restriction on the C406 and C409 propellers, and installing an RPM restriction placard in the cockpit. This AD also adds a 10,000-hour total time-in-service (TIS) life limit for these propellers. This AD also removes from service any propeller that has 10,000 hours or more total TIS, or that has an unknown total TIS. Also, this AD requires initial and repetitive propeller blade inspections for damage, and repair if necessary. This AD results from testing by the manufacturer that identified stress conditions that affect the fatigue life and damage tolerance of C406 and C409 propellers, when installed on TCM IO-520, TSIO-520, or IO-550 reciprocating engines. We are issuing this AD to prevent blade or hub failure that could result in separation of a propeller blade and loss of control of the airplane.

DATES: This AD becomes effective May 17, 2007. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of May 17, 2007.

ADDRESSES: You can get the service information identified in this AD from McCauley Propeller Systems, P.O. Box 7704, Wichita, KS 67277-7704; telephone (800) 621-7767.

You may examine the AD docket on the Internet at <http://dms.dot.gov> or in Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Jeff D. Janusz, Aerospace Engineer, Wichita Aircraft Certification Office, Small Airplane Directorate, 1801 Airport Road, Room 100, Wichita, KS 67209, telephone: 316-946-4148, fax: 316-946-4107.

SUPPLEMENTARY INFORMATION: The FAA proposed to amend 14 CFR part 39 with a proposed AD. The proposed AD applies to McCauley Propeller Systems C406 and C409 propellers, installed on TCM IO-520, TSIO-520, or IO-550 reciprocating engines. We published the proposed AD in the Federal Register on Nov. 16, 2005 (70 FR 69472). That action proposed to require adding an operational RPM restriction on the C406 and C409 propellers, and installing an RPM restriction placard in the cockpit. We coordinated the proposed placard placement with the responsible Aircraft Certification Offices within the Small Airplane Directorate, and all proposed installations include a manifold pressure gauge. That action also proposed to add a 10,000-hour total time-in-service (TIS) life limit for these propellers. That action also proposed to remove from service any propeller that has 10,000 hours or more total TIS, or that has an unknown total TIS. Finally, that action proposed to require initial and repetitive propeller blade inspections for damage, and repair if necessary.

Examining the AD Docket

You may examine the docket that contains the AD, any comments received, and any final disposition in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Office (telephone (800) 647-5227) is located on the plaza level of the Department of Transportation Nassif Building at the street address stated in ADDRESSES. Comments will be available in the AD docket shortly after the DMS receives them.

Comments

We provided the public the opportunity to participate in the development of this AD. We have considered the comments received.

Financial Burden and Potential Unsafe Condition

One commenter states that this AD will impose a financial burden on owners and operators of airplanes with this propeller installation because of the increased number of inspections and additional wear on the propeller system increasing the probability of the propeller system failing. The commenter also suggests that stamping a letter on the propeller model to designate a life-limited propeller could create a potentially unsafe condition because the stamping can create stress risers and if improperly treated after stamping, could contribute to corrosion. The commenter also notes that the airplane model designations are incorrect and we omitted one model from the airplane model listing. Finally, the commenter asks why we did not immediately ground the fleet using this propeller because of the described severity of the unsafe condition. We partially agree with the comments. Each is addressed in turn. The increased inspections required by this AD are necessary to resolve the unsafe condition. Owner operators must maintain their aircraft in an airworthy condition, which includes paying for maintenance. We considered that cost and discussed it in the cost section below. We did not change the AD.

This AD will not result in additional wear and tear on the propellers, or in increased failures. This AD resolves an unsafe condition. All actions required are either performed with the propeller installed, or coincident with the next overhaul or major disassembly. An experienced, appropriately rated mechanic can do the inspection and rework without removing the propeller. We did not change the AD.

The manufacturer carefully considered where to stamp the life limit indication to minimize any stress riser. We have no indications that his choice was wrong. We did not change the AD.

We agree that this AD should include additional models. We changed the AD to include the Beech 35-A33 and 35-B33. The Beech 35-A33 and 35-B33 are now included in Applicability paragraph (c) Table (1).

Grounding the fleet that has the suspect propellers installed is not required. The unsafe condition identified is due to material fatigue. The actions required by this AD adequately address the unsafe condition. We did not change the AD.

Eliminate the Repetitive Inspections of This AD

Another commenter states that the AD does not include a terminating action to eliminate the recurring inspections necessary to comply with it. Even if an operator replaces the existing propeller with a new propeller, the recurring inspections are necessary as long as the replacement propeller is one of same models identified in the airworthiness directive. Additionally, the commenter notes that aircraft performance is also a consideration. This AD will require operating the engine and propeller combination in a less than full engine power regime, which could compromise safety in particular situations associated with departures, arrivals and clearing obstacles. We partially agree.

This AD imposes the RPM and life limit to correct an unsafe condition. The recurring inspections are required to enhance safety. The RPM restriction, imposed propeller life limit, and periodic propeller blade inspection/rework provide a cost effective means to correct the unsafe condition without prematurely retiring the propeller. The RPM restriction does not affect the engine full power ratings. Takeoff, climb, and descent values remain unchanged. Therefore, this AD does not compromise safety during departures, arrivals, and in clearing obstacles. We did not change the AD.

Recall Impacted Propellers

Another commenter believes that the FAA should require a recall of all propeller models listed in the AD so the manufacturer will be responsible for the cost of repair and replacement. We do not agree.

The FAA cannot dictate commercial business decisions related to AD actions. We identified the unsafe condition and are imposing appropriate corrective action. We did not change the AD.

Extend the Comment Period

Two commenters asked that we extend the comment period for the proposed rule to give the general aviation community added time to review non-proprietary data used to substantiate the proposed action and to make additional comments. We agree, and extended the comment period to give the aviation community time to respond. The comments that we responded to above include any additional comments that came in.

Correct Date of Service Bulletin

The proposed rule referenced McCauley Propeller Systems Alert Service Bulletin (ASB) No. ASB248, dated January 17, 2005. The correct date is April 19, 2005. We changed the AD to indicate the correct date of the service bulletin.

Conclusion

We have carefully reviewed the available data, including the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously. We have determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Costs of Compliance

This AD will affect about 2,350 C406 and C409 propellers installed on airplanes of U.S. registry. We estimate it will take three work-hours per propeller to perform the proposed inspections and repairs. We also estimate it will take about 0.5 work-hour to install the proposed cockpit placard, and about 950 airplanes will require the placard. The average labor rate is \$80 per work-hour. A replacement propeller blade set will cost about \$5,200. We estimate 500 propellers in the fleet (or about 21 percent) would require propeller blade set replacement. Based on these figures, we estimate the total cost of the AD to U.S. operators to be \$3,202,000.

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 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 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

Accordingly, under the authority delegated to me by the Administrator, the Federal Aviation Administration 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 airworthiness directive:



2007-08-04 McCauley Propeller Systems: Amendment 39-15021. Docket No. FAA-2005-22898; Directorate Identifier 2005-NE-10-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective May 17, 2007.

Affected ADs

(b) None.

Applicability

(c) This AD applies to McCauley Propeller Systems models 3A32C406/82NDB-X and D3A32C409/82NDB-X propellers, herein referred to as C406 and C409 propellers, respectively. These propellers are installed on, but not limited to, the airplanes in the following Table 1:

Table 1.—Airplanes That Propellers Are Installed On, But Not Limited To

Airplane models	With engine model
Beech: A35, B35, C35, D35, E35, F35, G35, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, 36, A36, A45, and D45.	Teledyne Continental Motors (TCM) IO-520 series and IO-550 series reciprocating engines.
Beech: A36TC, B36TC, S35, V35A, V35B	TCM TSIO-520 series reciprocating engines.
Navion: A (L-17B, C), B, D, E, F, G, and H	TCM IO-550 and TSIO-520 series reciprocating engines.

Unsafe Condition

(d) This AD results from testing by the manufacturer that identified stress conditions that affect the fatigue life and damage tolerance of C406 and C409 propellers, when installed on TCM IO-520, TSIO-520, or IO-550 reciprocating engines. We are issuing this AD to prevent blade or hub failure that could result in separation of a propeller blade and 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.

Installation of Cockpit Placard for RPM Restriction

(f) Within 10 hours time-in-service (TIS) after the effective date of this AD, install a placard on the instrument panel as close to the tachometer as possible, that states, in 1/8 inch-high or higher characters, "Continuous operation between 2,350-2,450 RPM at or above 24" manifold pressure is prohibited".

The placard shall have red letters, on a white contrasting background with a red border. For example:

Continuous operation
between 2,350-2,450 RPM
at or above 24" manifold
pressure is prohibited

Propellers With Unknown Total Hours TIS, or 10,000 or More Hours Total TIS on the Effective Date of This AD

(g) For propellers that the total TIS is unknown, or that have 10,000 or more hours total TIS on the effective date of this AD, remove the propeller from service within 50 hours TIS after the effective date of this AD.

Propellers With Fewer Than 10,000 Hours Total TIS on the Effective Date of This AD

(h) For propellers with fewer than 10,000 total hours TIS on the effective date of this AD, do the following:

(1) Perform an inspection of the propeller blades and repair if necessary, within 100 hours after the effective date of this AD, using paragraphs 2.B. through 2.F. of Accomplishment Instructions of McCauley Propeller Systems Alert Service Bulletin (ASB) No. ASB248, dated April 19, 2005.

(2) At the next propeller overhaul or next major propeller disassembly, life-limit-stamp the letter "L" on the propeller hub and blades, using paragraph 3 of Accomplishment Instructions of McCauley Propeller Systems ASB No. ASB248, dated April 19, 2005.

(3) Thereafter, within every 100 hours TIS or at next annual inspection, whichever occurs first, inspect, and repair if necessary, the propeller blades using paragraphs 2.B. through 2.F. of Accomplishment Instructions of McCauley Propeller Systems ASB No. ASB248, dated April 19, 2005.

(4) Remove the propeller from service upon reaching the life limit of 10,000 hours total TIS.

Alternative Methods of Compliance

(i) 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.

Related Information

(j) Contact Jeff D. Janusz, Aerospace Engineer, Wichita Aircraft Certification Office, Small Airplane Directorate, 1801 Airport Road, Room 100, Wichita, KS 67209; telephone: 316-946-4148, fax: 316-946-4107, for more information about this AD.

Material Incorporated by Reference

(k) You must use McCauley Propeller Systems Alert Service Bulletin No. ASB248, dated April 19, 2005, to perform the actions 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, P.O. Box 7704, Wichita, Kansas; telephone (800) 621-7767, for a copy of this service information. You may review copies at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or 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 April 4, 2007.

Peter A. White,
Acting Manager, Engine and Propeller Directorate, Aircraft
Certification Service.
[FR Doc. E7-6831 Filed 4-11-07; 8:45 am]