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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-NE-08-AD; Amendment 39-12741; AD 2002-09-08]

RIN 2120-AA64

Airworthiness Directives; Hartzell Propeller, Inc. Compact Series Propellers

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), that is applicable to Hartzell models ()HC-()Y(-)() compact series, constant speed or feathering propellers with Hartzell manufactured "Y" shank blades. That AD currently requires initial and repetitive blade inspections; rework of all "Y" shank blades including cold rolling of the blade shank retention radius; blade replacement and modification of pitch change mechanisms for certain propeller models; and changing the airplane operating limitations with specific models of propellers installed. This amendment requires initial blade inspections, with no repetitive inspections; rework of all "Y" shank blades including cold rolling of the blade shank retention radius, blade replacement and modification of pitch change mechanisms for certain propeller models; and changing the airplane operating limitations with specific models of propellers installed. This amendment is prompted by FAA reviews of propeller service histories since the issuance of AD 77-12-06R2. The actions specified by this AD are intended to prevent failure of the propeller blade from fatigue cracks in the blade shank radius, which can result in damage to the airplane and loss of airplane control.

DATES: Effective date June 13, 2002. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of June 13, 2002.

ADDRESSES: The service information referenced in this AD may be obtained from Hartzell Propeller Inc., One Propeller Place, Piqua, Ohio 45356-2634, telephone (937) 778-4200; fax (937) 778-4391. This information may be examined, by appointment, at the Federal Aviation Administration (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: Tomaso DiPaolo, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 E. Devon Ave., Des Plaines, IL 60018; telephone (847) 294-7031; fax (847) 294-7834.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 77-12-06R2, Amendment 39-3097 (42 FR 63165, December 15, 1977), which is applicable to Hartzell models ()HC-()Y(-)() compact series, constant speed or feathering propellers with Hartzell manufactured "Y" shank blades was published in the Federal Register on November 20, 2001 (66 FR 58077). That action proposed to require initial blade inspections, with no repetitive inspections; rework of all "Y" shank blades including cold rolling of the blade shank retention radius, blade replacement and modification of pitch change mechanisms for certain propeller models; and changing the airplane operating limitations with specific models of propellers installed.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to the public. The FAA has determined that air safety and the public interest require the adoption of the rule as proposed.

Economic Analysis

At the time the existing AD was issued, there were about 55,000 propellers of the affected design in the worldwide fleet. The FAA estimated that there were 35,750 propellers installed on airplanes of U.S. registry. The FAA expects that all of the affected propellers should have already been inspected to comply with the existing AD's requirements to inspect, and rework or replace the blades. If these actions have not already been done, then the total cost to comply with this AD is estimated to be \$700 per propeller.

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) if promulgated, 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.

Sec. 39.13 [Amended]

2. Section 39.13 is amended by removing Amendment 39-2922 (42 FR 31152, June 20, 1977), Amendment 39-3018 (42 FR 42191, August 22, 1977), and Amendment 39-3097 (42 FR 63165, December 15, 1977) and by adding a new airworthiness directive, Amendment 39-12741, to read as follows:

SUPERSEDED

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

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

We post ADs on the internet at "www.airweb.faa.gov/rg1"

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).

2002-09-08 Hartzell Propellers, Inc.: Amendment 39-12741. Docket No. 2000-NE-08-AD.
Supersedes AD 77-12-06R2, Amendment 39-3097.

Applicability

This airworthiness directive (AD) is applicable to Hartzell Propellers, Inc. Models ()HC-()Y(-)() compact series constant speed or feathering propellers with Hartzell manufactured "Y" shank blades. These propellers are used on but not limited to the following airplanes:

Aermacchi S.p.A. (formerly Siai-Marchetti) S-208
Aero Commander 200B and 200D
Aerostar 600
Beech 24, 35, 36, 45, 55, 56TC, 58, 60, and 95
Bellanca 14 and 17 series
Cessna 182 and 188
Embraer EMB-200A
Maule M5
Mooney M20 and M22
Pilatus Britten Norman, or Britten Norman BN-2, BN-2A, and BN-2A-6
Piper PA-23, PA-24, PA-28, PA-30, PA-31, PA-32, PA-34, PA-36, and PA-39
Pitts S-1T and S-2A
Rockwell 112, 114, 200, 500, and 685 series

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 (e) 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, unless already done. Propeller maintenance records showing compliance with AD 77-12-06R2 is an indication that compliance was previously done.

To prevent failure of the propeller blade from fatigue cracks in the blade shank radius, which can result in damage to the airplane and loss of airplane control, do the following:

(a) Propellers are considered in compliance with the one-time inspection and rework requirements only, of this AD if:

- (1) All blades are serial number D47534 and above, or
- (2) All blades are identified with the letters "PR" or "R" or "SP-P" ink-stamped on the camber side, or the letters "SP", "RD" or "SP-P" metal-stamped on the blade butt.

Models ()HC-()Y() Compact Series "Y" Shank Propellers

(b) If propellers models ()HC-()Y() have not been inspected and reworked in accordance with AD 77-12-06R2, then before further flight, do a one-time action to remove, inspect, rework or replace blades if necessary in accordance with Hartzell Service Bulletin (SB) No.118A, dated February 15, 1977.

Note 2: One requirement in SB No. 118A is the cold rolling of the propeller blade shank. This is a critical requirement in the prevention of cracks in the blade. Propeller repair shops must obtain and maintain proper certification to perform the cold rolling procedure. For a current list of propeller overhaul facilities approved to perform the blade shank cold rolling procedure, contact Hartzell Product Support, telephone: (937) 778-4200. Not all propeller repair facilities have the equipment to properly perform a cold roll of the blade shanks. In addition, any rework in the blade shank area will also necessitate the cold rolling of the blade shank area, apart from the one-time cold rolling requirement of this AD.

Instrument Panel Modifications

(c) If airplanes with propeller models ()HC-C2YK-() / ()7666A-(), installed on (undamped) 200 horsepower Lycoming IO-360 series engines, have not been modified in accordance with AD 77-12-06R2, then modify the airplane instrument panel according to the following subparagraphs before further flight. Airplanes include, but are not limited to, Mooney M20E and M20F (normal category), Piper PA-28R-200 (normal category), and Pitts S-1T and S-2A (acrobatic category).

(1) For normal category airplanes, before further flight, remove the present vibration placard and affix a new placard near the engine tachometer that states:

"Avoid continuous operation:
Between 2000 and 2350 rpm."

(2) For utility and acrobatic category airplanes, before further flight, remove the present vibration placard and affix a new placard near the engine tachometer that states:

"Avoid continuous operation:
Between 2000 and 2350 rpm.
Above 2600 rpm in acrobatic flight."

(3) For normal category airplanes, re-mark the engine tachometer face or bezel with a red arc for the restricted engine speed range, between 2000 and 2350 rpm.

(4) For acrobatic and utility airplanes, re-mark the engine tachometer face or bezel with a red arc for each restricted engine speed range, i.e., between 2000 and 2350 rpm and between 2600 and 2700 rpm (red line).

Models ()HC-C2YK-() / ()8475-() or ()8477-() Propellers

(d) If propeller models ()HC-C2YK-() / ()8475-() or ()8477-() have not been inspected and reworked in accordance with AD 74-15-02, then do the following maintenance before further flight.

- (1) Remove propeller from airplane.

(2) Modify pitch change mechanism, and replace blades with equivalent model blades prefixed with letter "F" in accordance with Hartzell Service Letter No. 69, dated November 30, 1971 and Hartzell SB No. 101D, dated December 19, 1974.

(3) Inspect and repair or replace, if necessary, in accordance with Hartzell SB No. 118A, dated February 15, 1977.

Alternative Methods of Compliance

(e) Alternative methods of compliance to Hartzell Service Bulletin No. 118A are Hartzell Service Bulletin No.'s 118B, 118C, 118D, and Hartzell Manual 133C. Alternative method of compliance to Hartzell SB No. 101D is Hartzell Manual 133C. No adjustment in the compliance time is allowed. Any requests for an alternative method of compliance that provides an acceptable level of safety may be used if approved by the Manager, Chicago Aircraft Certification Office (ACO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Chicago ACO.

Note 3: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Manager, Chicago ACO.

Special Flight Permits

(f) Special flight permits may be issued in accordance with Secs. 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

(g) The inspections must be done in accordance with the following Hartzell Propeller, Inc. service bulletins (SB's) and service letter (SL):

Document No.	Pages	Revision	Date
SB No. 101D Total pages: 2	All	D	December 19, 1974.
SB No. 118A Total pages: 16	All	A	February 15, 1977.
SL No. 69 Total pages: 2	All	1	November 30, 1971.

These incorporations by reference were 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 Hartzell Propeller, Inc., One Propeller Place, Piqua, Ohio 45356-2634; telephone (937) 778-4200; fax (937) 778-4391. Copies may be inspected, 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.

Effective Date

(h) This amendment becomes effective on June 13, 2002.

Issued in Burlington, Massachusetts, on April 24, 2002.

Marc J. Bouthillier,

Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 02-11251 Filed 5-8-02; 8:45 am]

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