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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2006-25244; Directorate Identifier 2006-NE-25-AD; Amendment 39-14754; AD 2006-18-15]

RIN 2120-AA64

Airworthiness Directives; Hartzell Propeller Inc. ()HC-()2Y(-)() Series Propellers

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

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for Hartzell Propeller Inc. ()HC-()2Y(-)() series propellers with non-suffix serial number (SN) propeller hubs installed on Lycoming O-, IO-, LO-, and AEIO-360 series reciprocating engines. This AD requires initial and repetitive eddy current inspections (ECI) of the front cylinder half of the propeller hub for cracks and removing cracked hubs from service before further flight. In addition, this AD allows installation of an improved design propeller hub (suffix SN "A" or "B") as terminating action to the repetitive ECI. This AD results from a report of a propeller blade separating from a propeller hub. We are issuing this AD to prevent failure of the propeller hub causing blade separation and subsequent loss of airplane control.

DATES: This AD becomes effective September 25, 2006. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of September 25, 2006.

We must receive any comments on this AD by November 7, 2006.

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

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001.
- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Contact Hartzell Propeller Inc. Technical Publications Department, One Propeller Place, Piqua, OH 45356; telephone (937) 778-4200; fax (937) 778-4391, for the service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Tim Smyth, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018-4696; telephone (847) 294-7132; fax (847) 294-7834.

SUPPLEMENTARY INFORMATION: In April 2006, we received a report of a propeller blade separation on a Hartzell Propeller Inc. two blade, aluminum hub, "compact" ()HC-()2Y(-)() series propeller. Also, to date, we received seven reports of excessive vibration determined to be caused by cracks in the propeller hub fillet. Those propellers were manufactured before December 1991 (non-suffix SN propeller hubs) and are installed on Lycoming O-, IO-, LO-, and AEIO-360 series reciprocating engines. This condition, if not corrected, could result in blade separation and subsequent loss of airplane control.

Relevant Service Information

We have reviewed and approved the technical contents of Hartzell Propeller Inc. Service Bulletin (SB) HC-SB-61-269, dated April 18, 2005. That SB describes procedures for eddy current inspections of propeller hubs on affected propellers. That SB also lists improved design replacement propeller hub part numbers.

FAA's Determination and Requirements of This AD

The unsafe condition described previously is likely to exist or develop on other Hartzell Propeller Inc. ()HC-()2Y(-)() series propellers of the same type design. For that reason, we are issuing this AD to prevent failure of the propeller hub causing blade separation and subsequent loss of airplane control. This AD requires, within 50 operating hours time-in-service (TIS), an initial ECI of the front cylinder half of non-suffix SN propeller hubs for cracks. This AD also requires, within every 100 operating hours TIS or annual inspection, whichever occurs first, repetitive ECIs of the front cylinder half of non-suffix SN propeller hubs for cracks. This AD also requires removing cracked hubs from service before further flight. 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.

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 "AD Docket No. FAA-2006-25244; Directorate Identifier 2006-NE-25-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://dms.dot.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 DMS Web site, anyone can find and read the comments in any of our dockets, including 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) or you may visit <http://dms.dot.gov>.

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 Docket Office 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.

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 the regulation:

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 adding the following new airworthiness directive:

SUPERSEDED

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

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



2006-18-15 Hartzell Propeller Inc.: Amendment 39-14754. Docket No. FAA-2006-25244;
Directorate Identifier 2006-NE-25-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective September 25, 2006.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Hartzell Propeller Inc. ()HC-()2Y(-)() series propellers with non-suffix serial number (SN) propeller hubs installed on Lycoming O-, IO-, LO-, and AEIO-360 series reciprocating engines. These propellers and engines could be installed on, but not limited to:

O-360-A1A	Piper Aircraft	Comanche (PA-24)
	Lake Aircraft	Colonial (C-2, LA -4, 4A, or 4P)
	Mooney Aircraft	Mark "20B" (M-20B)
	Earl Horton	Pawnee (Piper PA-25)
	Partenavia	Oscar (P-66)
	Siai-Marchetti	(S-205)
	Procaer	Picchio (F-15-A)
	S.A.A.B.	Safir (91-D)
	Malmö	Vipan (MF-10B)
	Aero Boero	AB-180
	Beagle	Airedale (A-109)
	DeHavilland	Drover (DHA-3MK3)
	Kingsford-Smith	Bushmaster (J5-6)
O-360-A1AD	S.O.C.A.T.A.	Tabago TB-10

O-360-A1D	Piper Aircraft	Comanche (PA-24)
	Lake Aircraft	Colonial (LA -4, 4A, or 4P)
	Doyn Aircraft	Doyn-Beech (Beech 95)
	Mooney Aircraft	Master "21" (M-20E), Mark "20B", "20D", (M20B, M20C), Mooney Statesman (M-20G)
O-360-A1F6	Cessna Aircraft	Cardinal
O-360-A1F6D	Cessna Aircraft	Cardinal 177
	Teal III	TSC (1A3)
O-360-A1G6	Aero Commander	
O-360-A1G6D	Beech Aircraft	Duchess 76
O-360-A1H6	Piper Aircraft	Seminole (PA-44)
O-360-A1P	Aviat	Husky
O-360-A2A	Avion Jodel	D-140-B
	S.O.C.A.T.A.	Rallye Commodore (MS-893)
	Partenavia	Oscar (P-66)
	Beagle	Husky (D5-180) (J1-U)
O-360-A2D	Piper Aircraft	Comanche (PA-24), Cherokee "C" (PA-28 "180")
	Mooney Aircraft	Master "21" (M-20D), Mark "21" (M-20E)
O-360-A2F	Dynac Aerospace Corp	Aero Commander Model 100
O-360-A2G	Beech Aircraft	Sport
O-360-A3A	C.A.A.R.P.S.A.N.	(M-23III)
	Robin	Regent (DR400/180), Remorqueur (DR400/180R), R-3170
	S.O.C.A.T.A.	Rallye 180GT, Sportavia Sportsman (RS-180)
	Norman Aeroplance Co.	NAC-1 Freelance
	Nash Aircraft Ltd.	Petrel
O-360-A3AD	S.O.C.A.T.A.	TB-10
	Robin	Aiglou (R-1180T)
O-360-A4A	Piper Aircraft	Cherokee "D" (PA-28 "180")
O-360-A4D	Varga	Kachina
O-360-A4G	Beech Aircraft	Musketeer Custom III

O-360-A4K	Grumman American Beech Aircraft	Tiger Sundowner 180
O-360-A4M	Piper Aircraft Valmet	Archer II (PA-28 "18") PIK-23
O-360-A4N	Cessna Aircraft	172 (Optional)
O-360-A4P	Penn Yan	Super Cub Conversion
O-360-A5AD	C. Itoh and Co.	Fuji FA -200
O-360-B2C	Seabird Aviation	SB7L
O-360-C1A	Intermountain Mfg. Co.	Call Air (A-6)
O-360-C1E	Bellanca Aircraft	Scout (8GCBC-CS)
O-360-C1F	Maule	Star Rocket MX-7-180
O-360-C1G	Christen	Husky (A-1)
O-360-C2E	Bellanca Aircraft	Scout (8GCBC FP)
O-360-C4F	Maule	MX-7-180A
O-360-C4P	Penn Yan	Super Cub Conversion
O-360-F1A6	Cessna Aircraft	Cutlass RG
O-360-J2A	Robinson	R22
IO-360-B1A	Beech Aircraft Doyn Aircraft	Travel-Air (B-95A) Doyn-Piper (PA -23 "200")
IO-360-B1B	Beech Aircraft Doyn Aircraft Fuji	Travel-Air (B-95B) Doyn-Piper (PA -23 "200") (FA-200)
IO-360-B1D	United Consultants	See-Bee
IO-360-B1E	Piper Aircraft	Arrow (PA-28 "180R")
IO-360-B1F	Utva	75
IO-360-B2E	C.A.A.R.P.	C.A.P. (10)
IO-360-B1F6	Great Lakes	Trainer
IO-360-B1G6	American Blimp	Spector 42
IO-360-B2F6	Great Lakes	Trainer
LO-360-A1G6D	Beech Aircraft	Duchess
LO-360-A1H6	Piper Aircraft	Seminole (PA-44)
IO-360-E1A	T.R. Smith Aircraft	Aerostar
IO-360-M1A	Diamond Aircraft	DA-40
IO-360-M1B	Vans Aircraft Lancair	RV6, RV7, RV8 360

AEIO-360-B1F	F.F.A. Grob	Bravo (200) G115/Sport-Acro
AEIO-360-B1G6	Great Lakes	
AEIO-360-B2F	Mundry	CAP-10
AEIO-360-B4A	Pitts	S-1S
AEIO-360-H1A	Bellanca Aircraft	Super Decathalon (8KCAB-180)
AEIO-360-H1B	American Champion	Super Decathalon

(d) The parentheses appearing in the propeller model number indicates the presence or absence of an additional letter(s) that varies the basic propeller model. This AD still applies regardless of whether these letters are present or absent in the propeller model designation.

Propellers Not Affected by This AD

(e) Hartzell Propeller Inc. ()HC-()2Y()-() series propellers installed on the following aircraft are not affected by this AD, but are affected by AD 2001-23-08 which addresses the same unsafe condition:

- (1) Aerobatic aircraft (including certificated aerobatic aircraft, military trainers, or any aircraft routinely exposed to aerobatic usage).
- (2) Agricultural aircraft.
- (3) Piper PA-32() series aircraft with Lycoming 540 series reciprocating engines rated at 300 HP or higher.
- (4) Britten Norman BN-2() series aircraft with Lycoming 540 series reciprocating engines.

Unsafe Condition

(f) This AD results from a report of a propeller blade separating from a propeller hub. We are issuing this AD to prevent failure of the propeller hub causing blade separation and subsequent loss of airplane control. We are issuing this AD to prevent failure of the propeller hub causing blade separation and subsequent loss of airplane control.

Compliance

(g) 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 Propeller Hub Eddy Current Inspection (ECI)

(h) Within 50 operating hours time-in-service (TIS) after the effective date of this AD, perform an initial ECI of the front cylinder half of the propeller hub for cracks.

(i) Use paragraphs 3.A. through 3.A.(4)(g) of the Accomplishment Instructions of Hartzell Propeller Inc. Service Bulletin (SB) HC-SB-61-269, dated April 18, 2005, to perform the ECI inspection.

(j) If any cracks are found, remove the propeller hub from service before further flight.

(k) If no cracks are found, mark the propeller using paragraph 3.A.(6)(a) of the Accomplishment Instructions of Hartzell Propeller Inc. Service Bulletin (SB) HC-SB-61-269, dated April 18, 2005, to indicate compliance with Hartzell Propeller Inc. SB HC-SB-61-269, dated April 18, 2005.

Repetitive Propeller Hub ECIs

(l) Within every 100 operating hours TIS after the last propeller hub ECI inspection, or at every annual inspection, whichever occurs first, perform repetitive ECIs of the front cylinder half of the propeller hub for cracks.

(m) If any cracks are found, remove the propeller hub from service before further flight.

Optional Terminating Action

(n) As optional terminating action to the repetitive ECIs required by this AD:

(1) Replace the non-suffix SN propeller hub with a propeller hub identified by an "A" or "B" suffix letter in the propeller hub SN; except

(2) Do not install a suffix "A" propeller hub that was previously installed on an aircraft affected by the original issue or later revision of Hartzell Propeller Inc. SB HC-SB-61-227.

(3) Replacement propeller hub part numbers can be found in paragraph 2.A., Material Information, of Hartzell Propeller Inc. SB HC-SB-61-269, dated April 18, 2005.

Alternative Methods of Compliance

(o) The Manager, Chicago 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

(p) Hartzell Propeller Inc. SB HC-SB-61-227, Revision 2, dated April 18, 2005, and AD 2001-23-08 pertain to the subject of this AD.

Material Incorporated by Reference

(q) You must use Hartzell Propeller Inc. Service Bulletin HC-SB-61-269, dated April 18, 2005, to perform the ECI inspections 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 Hartzell Propeller Inc. Technical Publications Department, One Propeller Place, Piqua, OH 45356; telephone (937) 778-4200; fax (937) 778-4391, 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 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 August 30, 2006.

Francis A. Favara,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

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