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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-19955; Directorate Identifier 2004-NE-17-AD; Amendment 39-14252; AD 2005-18-12]

RIN 2120-AA64

Airworthiness Directives; Hartzell Propeller Inc. Propellers

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

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Hartzell Propeller Inc. propellers. This AD requires inspecting the propeller blades and other critical propeller parts for corrosion and mechanical damage. This AD results from two events where a "Z-shank" blade failed and separated and the results of teardown inspections that detected corrosion in the blade bore. We are issuing this AD to detect corrosion and mechanical damage that can cause failure of a propeller, which could result in loss of control of the airplane.

DATES: This AD becomes effective October 14, 2005. The Director of the Federal Register approved the incorporation by reference of certain publications listed in the regulations as of October 14, 2005.

ADDRESSES: You can get the service information identified in this AD from Hartzell Propeller Inc. Technical Publications Department, One Propeller Place, Piqua, OH 45356; telephone (937) 778-4200; fax (937) 778-4391.

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: 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: The FAA proposed to amend 14 CFR part 39 with a proposed airworthiness directive (AD). The proposed AD applies to certain Hartzell Propeller Inc. propellers. We published the proposed AD in the Federal Register on December 29, 2004 (69 FR 77961). That action proposed to require inspecting the propeller blades and other critical propeller parts for corrosion and mechanical damage.

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 System Docket Offices 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.

Recommendation To Modify the AD To Exclude Certain Propellers

One commenter recommends that this AD be modified to exclude propellers that have been examined in connection with AD 95-11-08 within the last five years. The commenter feels his propeller has been adequately inspected and he does not want to remove the propeller at this time. Doing so could introduce potential oil leaks that are difficult and expensive to seal.

We do not agree. AD 95-11-08 corrects an unsafe condition in blade clamp screws and on the outside surface of the blade shank. The requirements of that AD are not equivalent to the actions mandated by this AD. This AD mandates inspections of the entire propeller assembly, especially the inside surface area of the blade balance hole.

Requests To Provide More Clarity in the Compliance Section

One commenter requests that we clarify the compliance section. We agree, and reworded it. We changed the title for Table 1 to "List of Applicable Propeller Assemblies by Hub Model Series".

The same commenter suggests we should be more specific in detailing the inspection method in Table 3 if we intend a more thorough inspection. We agree. We have changed (b) in Table 3 to state "Perform
visual and nondestructive inspections of propeller components for cracks, corrosion or pits, nicks, scratches, wear, blade minimum dimensions, and damage in the blade balance hole."

The same commenter states that if the FAA intends to detect small or light cracks in the hub or blade clamps, we should consider adding the following text to Table 3, under the "Then:" column, under (c): "Perform a magnetic-particle-inspection of the hub and blade clamps for cracks". However, if the FAA intends to detect gross corrosion only, then the added wording in (c) is not needed. The commenter further states that although they support the need for a blade dimensional inspection, they suggest the FAA review the justification for this inspection. The commenter believes the FAA may find this inspection requirement not supportable by service events.

We do not agree that (c) should be changed. Appropriate clarifying changes to Table 3, paragraph (b), as noted earlier, achieve the proper inspection.

The same commenter suggests that the text to Table 3, under the "Then:" column, under (d) which reads "Repair and replace with serviceable parts, as necessary" be changed to "If any of these conditions are present, perform additional inspections, including magnetic particle or fluorescent-penetrant inspections as appropriate to determine the serviceability of the part". The commenter states that these inspections be specifically required when corrosion or other damage has been visually identified since cracks are more likely to start from these conditions, and the cracks are likely to be small and only detectable by magnetic particle or fluorescent-penetrant inspection.

We do not agree that (d) should be changed. Appropriate clarifying changes to Table 3, paragraph (b), as noted earlier, achieve the proper inspection.

Request for Repetitive Inspections

One commenter, the National Transportation Safety Board (NTSB), states that it generally supports the proposed AD. However, the NTSB notes that the proposed AD only proposes a onetime inspection rather than a repetitive inspection. The commenter further states that although the proposed AD also includes a requirement to report inspection findings and indicates that we will use this information to determine whether repetitive inspections are in order, the NTSB continues to believe that repetitive inspections best reflect the manufacturer's inspection recommendations. These recommendations have been established in consideration of product design and service requirements. Therefore, the NTSB again urges us to require that these propellers be subject to repetitive inspections.

We do not agree. Our review of the service history for the specified propellers supports the need for a onetime action, especially in light of the aging of the specified propeller fleet. As stated in the proposed AD, we will review the need for a repetitive inspection only if new reports submitted per the AD requirements, document the need to mandate a repetitive inspection. We encourage the public to comply with manufacturer's maintenance recommendations, but the public is only required to maintain their aircraft in accordance with 14 CFR part 91 requirements.

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

There are about 1,700 Hartzell propeller assemblies of the affected design in the worldwide fleet. We estimate that 1,200 propeller assemblies installed on airplanes of U.S. registry will be affected by this AD. We also estimate that it will take about 20 work hours per propeller assembly to perform the actions, and that the average labor rate is $65 per work hour. Required parts will cost about $450 per propeller assembly. Based on these figures, we estimate the total cost of the AD to U.S. operators to be $2,100,000.

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:

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/aircraft/safety/alerts/

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).

2005-18-12 Hartzell Propeller Inc. Propellers: Amendment 39-14252. Docket No. FAA-2004-19955; Directorate Identifier. 2004-NE-17-AD.

Effective Date

(a) This airworthiness directive (AD) becomes effective October 14, 2005.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Hartzell propeller assemblies with hub model series specified in Table 1 of this AD. These propellers are installed on, but not limited to, the aircraft listed in Table 2 of this AD.

TABLE 1.—LIST OF APPLICABLE PROPELLER ASSEMBLIES BY HUB MODEL SERIES

HC–92W Hub Model Series
BHC–92W Hub Model Series
HC–92Z Hub Model Series
BHC–92Z Hub Model Series
HC–B3P Hub Model Series
HC–B3R Hub Model Series
HC–B3W Hub Model Series
BHC–B3W Hub Model Series
HA–B3Z Hub Model Series
HC–B3Z Hub Model Series

TABLE 2.—LIST OF AIRPLANES THAT MIGHT USE AN AFFECTED PROPELLER ASSEMBLY

Aircraft manufacturer	Aircraft model
AERMACCHI (AERONAUTICA MACCHI)	AM–3C
AERO COMMANDER	560–F680, 680E, 680F, 680FL, 680FLP, 720

Aircraft manufacturer	Aircraft model
AEROSPATIALE (MORANE SAULNIER)	733
AEROSTAR AIRCRAFT CORP.	360
AEROTEK II, INC. (CALLAIR)	B1A (CALLAIR)
AIR & SPACE	18, 18A
BEECH	18 SERIES
	C45
	35 SERIES
	A65, 65, 65–80, 65–A80, 65–B80, 65–88
	95, B95, B95A, D95A, E95
	70
	C18S [(C–45(A, F), UC–45(B, F), AT–7 (A, B, C), JRB–(1, 2, 3, 4),
	SNB–2(C)] C18S, AT–11
	C–45G,C–45H; TC–45G, H, J; RC–45J
	D18S,E18S, G18S, H18; 3N, 3NM, 3TM
	E50, F50, G50, H50, J50
BUSHMASTER AIRCRAFT CORP	BUSHMASTER 2000
CESSNA	172
	175, 175A
	190, 195, A, B
	421, 421A
	A185E, A185F (SEAPLANES ONLY)
	T50
DE HAVILLAND CANADA	DHC–2 MKI
DORNIER	DO28D, DO28D–1
FOUND BROTHERS	100
	FBA–2C
GOODYEAR (LOCKHEED MARTIN)	GZ20, GZ20A
GRUMMAN (GULFSTREAM AERO.)	G44, G44A
GRUMMAN (MCKINNON)	G21A
HELIO	H–250
	H–295, HT–295 (U–10D)
	H–395 (L–28A, U–10B)
	H–500
ICA (ROMANIA)	IAR–831
JOBMASTER	DGA–15P
KWAD	SUPER–V
LAKE (REVO)	LA–4
LOCKHEED	12A
MESSERSCHMITT	207
MOONEY	M20A
NAVY	N3N–3
NORD	3400, 3402
PACIFIC AEROSPACE (FLETCHER)	FU–24, FU–24A
PIAGGIO	P–166B, C

Aircraft manufacturer	Aircraft model
PILATUS	PC–6/350; PC–6/350–H1, –H2
PIPER	PA–23
	PA–24
	PA–25
PROCAER	F15/B
REVO (COLONIAL)	C–2
SAAB	91D SAFIR
SCHWEIZER (GRUMMAN)	G–164
SIMMERING GRAZ PAUKER A.G	SGP222
SPARTON	7W
UTVA	66
WDL AVIATION (formerly WDL FLUGDIENST)	An Airship
WEATHERLY	201B, 201C, 620, 620A, 620C

Unsafe Condition

(d) This AD results from two events where a "Z-shank" blade failed and separated and the results of teardown inspections that detected corrosion in the blade bore. We are issuing this AD to detect corrosion and mechanical damage that can cause failure of a propeller, which could 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.

Aircraft With Experimental Type Certificates

(f) We recommend that you comply with the inspection requirements of this AD, if you have an aircraft with an experimental type certificate, and you have a propeller hub model listed in this AD installed on that aircraft.

Inspection of the Propeller

(g) If the time-since-overhaul (TSO) of the propeller is 10 years or fewer on the effective date of this AD, no further action is required.

(h) If the propeller assembly was inspected using Hartzell Service Bulletin (SB) No. HC-SB-61-136, Revision I, dated April 25, 2003; SB No. 136, Revision H, dated March 12, 1993; or SB No. 136, Revision G, dated November 15, 1991; no further action is required.

(i) If the TSO of the propeller assembly is more than 10 years on the effective date of this AD, or if the TSO is unknown, or if the propeller has not complied with Hartzell SB No. HC-SB-61-136, Revision I, dated April 25, 2003; or SB No. 136, Revision H, dated March 12, 1993; or SB No. 136, Revision G, dated November 15, 1991; perform the actions specified in Table 3 of this AD. Use the compliance times specified in Table 3 of this AD. Information on inspecting the propeller assembly for cracks, corrosion or pits, nicks, scratches, wear, blade minimum dimensions, and damage in the blade balance bore can be found in the applicable Hartzell maintenance manuals.

TABLE 3.—COMPLIANCE TIMES FOR ONETIME INSPECTION

If the TSO of the propeller assembly on the effective date of this AD is...	Then...	Perform the the inspection...
(1) More 25 years or the TSO is not known.	(a) Disassemble and clean the propeller assembly	Within 12 months after the effective date of this AD.
	(b) Perform visual and nondestructive inspections of propeller components for cracks, corrosion or pits, nicks, scratches, wear, blade minimum dimensions, and damage in the blade balance hole.	
	(c) Inspect and rework the propeller blade bore. Use 3.A. of the Accomplishment instructions of Hartzell SB No. HC–SB–61–136, Revision I, dated April 26, 2003.	
	(d) Repair and replace with serviceable parts, as necessary.	
	(e) Reassemble and test.	
(2) Twenty-one to 25 years	(a) Disassemble and clean the propeller assembly	Within 18 months after the effective date of this AD.
	(b) Perform visual and nondestructive inspections of propeller components for cracks, corrosion or pits, nicks, scratches, wear, blade minimum dimensions, and damage in the blade balance hole.	
	(c) Inspect and rework the propeller blade bore. Use 3.A. of the Accomplishment instructions of Hartzell SB No. HC–SB–61–136, Revision I, dated April 26, 2003.	
	(d) Repair and replace with serviceable parts, as necessary.	
	(e) Reassemble and test.	
(3) Sixteen to 20 years	(a) Disassemble and clean the propeller assembly	Within 24 months after the effective date of this AD.
	(b) Perform visual and nondestructive inspections of propeller components for cracks, corrosion or pits, nicks, scratches, wear, blade minimum dimensions, and damage in the blade balance hole.	
	(c) Inspect and rework the propeller blade bore. Use 3.A. of the Accomplishment instructions of Hartzell SB No. HC–SB–61–136, Revision I, dated April 26, 2003.	
	(d) Repair and replace with serviceable parts, as necessary.	
	(e) Reassemble and test.	
(4) Eleven to 15 years	(a) Disassemble and clean the propeller assembly	Within 36 months after the effective date of this AD.
	(b) Perform visual and nondestructive inspections of propeller components for cracks, corrosion or pits, nicks, scratches, wear, blade minimum dimensions, and damage in the blade balance hole.	
	(c) Inspect and rework the propeller blade bore. Use 3.A. of the Accomplishment instructions of Hartzell SB No. HC–SB–61–136, Revision I, dated April 26, 2003.	
	(d) Repair and replace with serviceable parts, as necessary.	
	(e) Reassemble and test.	

Propeller Overhaul

(j) Performing an overhaul of the propeller assembly after the effective date of this AD constitutes compliance with the requirements specified in this AD. The latest applicable Maintenance Manuals issued by Hartzell Propeller Inc. contain information on overhauling a propeller assembly.

(k) The time-since-overhaul only changes if you overhaul the propeller assembly while performing the requirements specified in this AD.

Reporting Requirements

(l) Report inspection results to the Manager, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Ave, Des Plaines, IL 60018, within 15 working days of the inspection. The Office of Management and Budget (OMB) approved the reporting requirements and assigned OMB control number 2120-0056.

Alternative Methods of Compliance

(m) 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

(n) None.

Material Incorporated by Reference

(o) You must use Hartzell Service Bulletin No. HC-SB-61-136, Revision I, dated April 25, 2003, to perform the inspections and rework 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 Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001, on the internet at *http://dms.dot.gov*, 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 29, 2005.
Peter A. White,
Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.
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