

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 17806 No. 65; 04/04/01]

Hartzell Propeller Inc.

[AD 2001-07-03](#)

Amendment 39-12168

Effective: June 4, 2001

ATA Code: 61

Recurring: No

{See Correction

below.}

[Docket No. 99-NE-21-AD; Amendment 39-12168; AD 2001-07-03] RIN 2120-AA64

Airworthiness Directives; Hartzell Propeller Inc. Y-Shank Series Propellers

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to certain Hartzell Propeller Inc. Y-shank series propellers, identified by hub serial numbers, that were returned to service by Brothers Aero Services Company, Inc. (BASCO). This AD requires maintenance actions amounting to an overhaul of affected propellers. This amendment is prompted by reports of propellers returned to service by BASCO as overhauled that had numerous unsafe conditions after being returned to service by BASCO. The actions specified by this AD are intended to prevent propeller failure of the propellers returned to service by BASCO, and possible loss of airplane control.

DATES: Effective date June 4, 2001.

ADDRESSES: The service information referenced in this AD may be obtained from Hartzell Propeller Inc., Technical Publications Department, One Propeller Place, Piqua, OH 45356; telephone (937) 778-4200, fax (937) 778-4365.

This information may be examined at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

The rulemaking docket may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA.

FOR FURTHER INFORMATION CONTACT: Tomaso DiPaolo, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, 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) to include an airworthiness directive (AD) that is applicable to certain Hartzell Propeller Inc. Y-shank series propellers, identified by hub serial

numbers (SN's), that were returned to service by BASCO was published in the Federal Register on September 20, 1999 (64 FR 50781). The FAA examined the results of teardown inspections of six Hartzell Propeller Inc. Y-Shank series propellers returned to service as overhauled by BASCO. Those propellers contained numerous unsafe conditions. BASCO formerly held Air Agency Certificate Number B4TR903J.

That certificate was revoked by an Amended Order of Revocation, dated May 12, 1999. The investigation that led to that Order of Revocation revealed that an additional 71 propellers had been returned to service by BASCO from November 1996 through October 1998 that likely have the same unsafe conditions present. The following unsafe conditions have been found in propellers returned to service by BASCO:

- BASCO either introduced or failed to remove potential failure sites (nicks and scratches) in the shank area of the blades,
- BASCO failed to perform a cold rolling operation on propeller blade shanks,
- Scratches were found in the blade internal bearing bore radius,
- Blades were found to be below minimum dimensions,
- Alodine and paint were applied over corrosion on hubs and blades,
- Low pitch blade angles were out of specification,
- The blade surface, beneath the de-ice boots, was not painted nor treated with a chemical conversion coating (Alodine),
- Bolts were incorrectly torqued,
- Wrong parts were used or parts were incorrectly installed,
- Parts intended for removal from service at overhaul and to be replaced with new, unused parts, were reused.

These conditions, if not corrected, could result in propeller failure of the propellers returned to service by BASCO, and possible loss of airplane control.

This AD requires maintenance actions that amount to an overhaul of the affected propellers, identified by hub SN. One of the required actions is a cold rolling operation on the blade shanks, which is part of the manufacturer's recommended overhaul. Not all propeller repair facilities have the equipment to properly perform this operation.

Additionally, repair facilities must first be qualified by the manufacturer to perform the process and then repetitively requalify and recalibrate the machine used in the process.

Comments Received

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

Request for Propeller Model Number Cross Reference to Hub SN's Listed in This AD

Two commenters request that the propeller model number be listed with the corresponding hub SN. One commenter feels that listing the propeller model number will simplify the process of determining whether the propeller is affected by this AD. Another commenter performed a computer search and did not find the AD to be applicable when it was.

The FAA agrees in part. Due to the inaccuracies of model identifiers in the repair station documentation, the FAA is unable to delineate specific propeller models without causing greater confusion. In addition, listing all the various propeller models will be too voluminous. However, the applicability paragraph has been rewritten to clarify that the AD applies to the “Y-shank series propellers” identified by hub SN, and by denoting a general model number for the Y-shank series propeller models. Concerning the computer search problems, it is unfortunate that the cumbersome propeller nomenclature system causes difficulties in computer searches. This problem should be directed to the private software company, which may be able to address it in the future.

Request To Expand the Applicability to Additional Propellers

Two commenters request that the AD be expanded to mandate that any propeller that was returned to service by BASCO, regardless of manufacturer, be affected by the AD. The commenters believe that the unsafe conditions introduced by BASCO could have been introduced into any propeller they returned to service. The FAA partially agrees. The FAA is continuing to investigate this concern and will continue to accept comments on this issue. At this point, however, the AD is limited to the denoted propellers, until the FAA has sufficient evidence to support a finding that an unsafe condition is likely to exist on other propellers. If sufficient evidence is found to warrant expanding the applicability to additional propellers, the FAA will revise the AD. It is noted that some of the serial numbers in Table 1 were not recognized by Hartzell, but that the repair station documentation was adequate to substantiate those to be Hartzell propellers with possible partial or fabricated SN's.

FAA Determination

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 with the changes described previously. The FAA has determined that the changes based upon the above comments will neither increase the economic burden on any operator nor increase the scope of the AD.

Economic Impact

The FAA estimates that 77 propellers installed on airplanes of U.S. registry would be affected by this proposed AD and that it would cost on average approximately \$1,300 to overhaul each propeller. Based on these figures, the total cost impact of the AD on U.S. operators is estimated to be \$100,100.

Regulatory Impact

This rule does not have federalism implications, as defined in Executive Order 13132, because it does 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 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 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 from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, 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 adding the following new airworthiness directive:

2001-07-03 HARTZELL PROPELLER INC.: Amendment 39-12168. Docket No. 99-NE-21-AD:

Applicability: This AD is applicable to all Hartzell Propeller Inc. Y-shank series propellers and those identified by hub serial numbers (SN's) in **Table 1** of this airworthiness directive (AD). The Y-shank series propellers has the letter Y in the model number which can be denoted in general as:

()HC-() ()Y()-(). **{See Correction below.}**

Table 1.--Hub Serial Numbers

121, 251, 715, 1111, 1387, 1661, 2383, 2479, 2883, 3059, 3343, 3479, 3717, 3890, 3990, 4690, and 5523
AM911
AN1309, AN2773, AN2826, AN2828, and AN3883
AU42, AU696, AU814, AU992, AU1226, AU1290, AU1416, AU2641, AU2643, AU2658, AU2699, AU2847, AU7186E, AU8364A, AU8418A and AU12997
BP344, BP715, BP1276, BP1772, BP2121, BP3811, BP3763, BP3978, BP5674, BP6126, BP6194, BP7141, BP7297, BP7513, BP8199, BP8708, and BP9586
CH6190 & CH19251
CJ52, CJ54, CJ419, and CJ649
DA1404 and DA1418
DG101
DJ4431, DJ4449, DJ9521A, DJ10407A, DJ11249A, DJ11880A, and DJ11881A
DN3775
DV11 and DV12
FH307 P560

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 (c) 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.

Note 2: This AD is limited to propellers returned to service from November 1996 to October 1998 by Brothers Aero Service Company, Inc. (BASCO), Air Agency Certificate Number B4TR903J, revoked by Amended Order of Revocation, dated May 12, 1999.

Compliance: Compliance with this AD is required as indicated, unless accomplished previously.

To prevent propeller failure of the propellers returned to service by BASCO, and possible loss of airplane control, accomplish the following:

Required Actions

(a) Within 10 hours time-in-service after the effective date of this AD, accomplish the following:

- (1) Disassemble,
- (2) Clean,
- (3) Inspect for the following:
 - (i) Nicks,
 - (ii) Scratches,
 - (iii) Failure of blades to meet minimum dimensions,
 - (iv) Alodine or paint or both applied over corrosion,
 - (v) Lack of chemical conversion coating applied beneath the de-ice boots,
 - (vi) Bolts incorrectly torqued,
 - (vii) Incorrect parts,
 - (viii) Incorrect installation of parts, and
 - (ix) Reinstallation of parts intended for one-time use.
- (4) Repair and replace with serviceable parts, as necessary,
- (5) Perform a cold roll operation on the blade shanks,
- (6) Reassemble and test.

Note 3: Information on performing an overhaul of the affected propellers may be found in the applicable Hartzell Propeller Inc. Overhaul Manual.

Note 4: For a current list of propeller overhaul facilities approved to perform the blade shank cold rolling procedure contact Hartzell Product Support, telephone: (937) 778-4379. Not all propeller repair facilities have the equipment to properly perform a cold roll of the blade shanks.

[Note: This AD was published without a section (b).]

Alternative Methods of Compliance

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

Note 5: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Chicago Aircraft Certification Office.

Special Flight Permits

- (d) 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 accomplished.

Effective Date of This AD

(e) This amendment becomes effective on June 4, 2001.

Issued in Burlington, Massachusetts, on March 27, 2001.

Diane S. Romanosky, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

FOR FURTHER INFORMATION CONTACT: Tomaso DiPaolo, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018; telephone (847) 294-7031, fax (847) 294-7834.

Manufacturer's Service Information:

None

Copies of the service information referenced in this AD may be obtained upon request from Hartzell Propeller Inc., Technical Publications Department, One Propeller Place, Piqua, OH 45356; telephone (937) 778-4200, fax (937) 778-4365.

DEPARTMENT OF TRANSPORTATION	Hartzell Propeller Inc.
Federal Aviation Administration	<u>AD 2001-07-03</u>
14 CFR Part 39 [66 FR 28651 No. 101; 5/24/01]	Correction
[Docket No. 99-NE-21-AD; Amendment 39-12168; AD 2001-07-03]	Amendment 39-12168
	Effective June 4, 2001
	<u>Corrects AD 2001-07-03</u>
	ATA Code: 61
	Recurring: No

RIN 2120-AA64

Airworthiness Directives; Hartzell Propeller Inc. Y-shank Series Propellers; Correction

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; **correction**.

SUMMARY: **This document makes a correction to Airworthiness Directive (AD) 2001-07-03** applicable to Hartzell Propeller Inc. Y-shank series propellers that was published in the Federal Register on April 4, 2001 (66 FR 17806). The words "and those" in the first sentence of the Applicability paragraph of the regulatory text are incorrect and must be deleted. This document corrects the Applicability paragraph. In all other respects, the original document remains the same.

DATES: Effective on June 4, 2001.

FOR FURTHER INFORMATION CONTACT: Tomaso DiPaolo, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018; telephone (847) 294-7031, fax (847) 294-7834.

SUPPLEMENTARY INFORMATION: A final rule airworthiness directive applicable to Hartzell Propeller Inc. Y-shank series propellers (FR Doc. 01-8066) was published in the Federal Register on April 4, 2001 (66 FR 17806). The following correction is needed:

Sec. 39.13 [Corrected]

On page 17808, in the third column, in the Applicability Section of the regulatory text of **AD 2001-07-03**, in the first paragraph, beginning in the first line,

“This AD is applicable to all Hartzell Propeller Inc. Y-shank series propellers and those identified by hub serial numbers (SN's) in **Table 1** of this airworthiness directive (AD).”

is corrected to read

“ This AD is applicable to all Hartzell Propeller Inc. Y-shank series propellers identified by hub serial numbers (SN's) in **Table 1** of this airworthiness directive (AD).”.

Issued in Burlington, MA, on May 15, 2001.

Diane S. Romanosky, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.

FOR FURTHER INFORMATION CONTACT: Tomaso DiPaolo, Aerospace Engineer, Chicago Aircraft Certification Office, FAA, Small Airplane Directorate, 2300 East Devon Avenue, Des Plaines, IL 60018; telephone (847) 294-7031, fax (847) 294-7834.