

**DEPARTMENT OF  
TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39 [68 FR 39815 No. 128; 07/03/03]**

**[Docket No. 2003-NE-13-AD; Amendment 39-13219;  
AD 2003-13-17] RIN 2120-AA64**

**Hartzell Propeller, Inc.,  
McCauley Propeller  
Systems,  
Sensenich Propeller Mfg  
Co.,  
& Raytheon Aircraft Co.  
[AD 2003-13-17](#)  
Amendment 39-13219  
Effective July 18, 2003  
ATA Code: 61  
Recurring: No**

**Airworthiness Directives; Hartzell Propeller, Inc., McCauley Propeller Systems, Sensenich Propeller Manufacturing Company, Inc., and Raytheon Aircraft Company Propellers**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Hartzell Propeller, Inc., McCauley Propeller Systems, Sensenich Propeller Manufacturing Company, Inc., and Raytheon Aircraft Company (formerly Beech Aircraft Corporation) propellers returned to service by T and W Propellers, Inc., of Chino, CA. This AD requires maintenance actions amounting to an overhaul of the affected propellers. This AD is prompted by the results of a National Transportation Safety Board (NTSB) investigation of a failed propeller blade and subsequent inspections of various propeller models returned to service by T and W Propellers, Inc. We are issuing this AD to detect unsafe conditions that could result in separation of a propeller blade and loss of control of the airplane.

**DATES:** Effective July 18, 2003.

We must receive any comments on this AD by September 2, 2003.

**ADDRESSES:** Use one of the following addresses to submit comments on this AD:

By mail: The Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2003-NE-13-AD, 12 New England Executive Park, Burlington, MA 01803-5299.

By fax: (781) 238-7055.

By e-mail: [9-ane-adcomment@faa.gov](mailto:9-ane-adcomment@faa.gov).

You may examine the AD docket 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 60018-4696; telephone (847) 294-7031, fax (847) 294-7834.

**SUPPLEMENTARY INFORMATION:** This AD applies to certain Hartzell Propeller, Inc., McCauley Propeller Systems, Sensenich Propeller Manufacturing Company, Inc., and Raytheon Aircraft Company (formerly Beech Aircraft Corporation) propellers returned to service by T and W Propellers, Inc of Chino, CA. This AD requires maintenance actions that amount to an overhaul of the affected propellers. This AD is prompted by the results of an NTSB investigation into the separation of a propeller blade on a Beech 95 Travel Air airplane and subsequent inspections of various propeller models returned to service by T and W Propellers, Inc. The NTSB metallurgical analysis of the failed blade showed that the fracture was approximately 4 inches from the butt end of the propeller blade. Several corrosion pits were found in the propeller inner blade bearing bore at and around the site of crack initiation. While the fatigue failure appeared to have corrosion pits as its initiation site, the size of the crack was approximately 4 inches in the outer surface of the blade shank. A crack of that size is visually detectable. However, the time-since-overhaul (TSO) of the propeller was reported as being zero hours. Documentation from T and W Propellers, Inc. propeller repair station of Chino, CA, indicated that they had complied with Hartzell service documents. However, inspection of the propellers on the airplane involved showed that T and W Propellers, Inc. had not complied with Hartzell service documents. The FAA participated in several subsequent teardowns of other propellers returned to service by T and W Propellers, Inc. We conducted these teardowns on other Hartzell and McCauley propeller models that the public provided voluntarily. The cumulative teardown information provided enough information to substantiate that T and W Propellers, Inc. had introduced unsafe conditions on propellers they had returned to service. These inspections uncovered the following unsafe conditions:

- Extensive corrosion in the internal bearing bore of the blade.
- Absence of corrosion protection (chemical conversion coating and paint) in the internal bearing bore area of the blade.
- Cadmium plating on top of deep corrosion pits.
- Poor cadmium plating and corrosion in the hub.
- Extra phenolic washers that are not approved for use in Hartzell propellers.
- A deteriorated O-ring that was not replaced during the overhaul.
- Failure to properly shot peen propeller parts.

We are requiring certain actions in this AD to detect unsafe conditions that could result in separation of a propeller blade and loss of control of the airplane.

#### **FAA's Determination and Requirements of This AD**

The unsafe condition described previously is likely to exist or develop on other propellers that T and W Propellers Inc., propeller repair station of Chino, CA, returned to service. We are issuing this AD to detect unsafe conditions that could result in separation of a propeller blade and loss of control of the airplane. This AD requires maintenance actions that amount to an overhaul of certain Hartzell Propeller, Inc., McCauley Propeller Systems, Sensenich Propeller Manufacturing Company, Inc., and Raytheon Aircraft Company propellers returned to service T and W Propellers, Inc., and that are listed by serial number (SN) in this AD.

### **Recommendation for Propellers Not Identified by SN**

This AD currently affects all propellers that we have identified by propeller hub SN from 434 T and W Propellers, Inc. shop work order records. The records range in date from January 8, 2000 to December 30, 2002. This range of dates represents a portion of propellers returned to service by

T and W Propellers, Inc. since January 22, 1997, when the FAA issued a repair station certificate to

T and W Propellers, Inc. The NTSB and the FAA have conducted inspections on propellers returned to service by T and W Propellers, Inc. as far back as December 1997 and found unairworthy conditions similar to those in propellers identified by serial number in this AD.

The FAA has alerted the public of this through *Unapproved Parts Notification No.*

*2003-00142* issued on March 31, 2003. The FAA recommends that any propeller not in the applicability list for this AD returned to service by T and W Propellers, Inc. comply with paragraph (h) of 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 amendment is impracticable, and that good cause exists for making this amendment effective in less than 30 days.

### **Changes to 14 CFR Part 39--Effect on the AD**

On July 10, 2002, we issued a new version of 14 CFR part 39 (67 FR 47997, July 22, 2002), which governs our AD system. This regulation now includes material that relates to special flight permits, alternative methods of compliance, and altered products. This material previously was included in each individual AD. Since this material is included in 14 CFR part 39, we will not include it in future AD actions.

### **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 submit any written relevant data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "AD Docket No. 2003-NE-13-AD" in the subject line of your comments. If you want us to acknowledge receipt of your mailed comments, send us a self-addressed, stamped postcard with the docket number written on it; we will date-stamp your postcard and mail it back to you. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify it. If a person contacts us verbally, and that contact relates to a substantive part of this AD, we will summarize the contact and place the summary in the docket. We will consider all comments received by the closing date and may amend the AD in light of those comments.

We are reviewing the writing style we currently use in regulatory documents. We are interested in your comments on whether the style of this document is clear, and your suggestions to improve the clarity of our communications with you. You may get more information about plain language at <http://www.plainlanguage.gov>.

## 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 by sending a request to us at the address listed under ADDRESSES. Include “AD Docket No. 2003-NE-13-AD” in your request.

## List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

## Adoption of the Amendment

Accordingly, 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.

#### **Sec. 39.13 [Amended]**

2. The FAA amends Sec. 39.13 by adding the following new airworthiness directive:

**2003-13-17 HARTZELL PROPELLER, INC., MCCAULEY PROPELLER SYSTEMS, SENSENICH PROPELLER MANUFACTURING COMPANY, INC., AND RAYTHEON AIRCRAFT COMPANY PROPELLERS:** Amendment 39-13219. Docket No. 2003-NE-13-AD.

## Effective Date

- (a) This airworthiness directive (AD) becomes effective July 18, 2003.

**Affected ADs**

- (b) None.

**Applicability:**

- (c) This AD applies to Hartzell Propeller, Inc., McCauley Propeller Systems, Sensenich Propeller Manufacturing Company, Inc., and Raytheon Aircraft Company (formerly Beech Aircraft Corporation) propellers returned to service by T and W Propellers, Inc. of Chino, CA, and that have a propeller hub serial number (SN) listed in **Table 1** of this AD. **Table 1** follows:

[**Table 1. Propeller Hub SNs by Manufacturer and Propeller Model**] [[PDF with Figure](#)]

**Unsafe Condition**

- (d) This AD is prompted by the results of a National Transportation Safety Board (NTSB) investigation of a failed propeller blade and subsequent inspections of various propeller models returned to service by T and W Propellers, Inc. We are issuing this AD to detect unsafe conditions that could result in separation of a propeller blade and loss of control of the airplane.

**Compliance:**

- (e) If you have not already performed the actions required by this AD, you must perform the actions within the compliance times specified in this AD.

**Required Actions**

- (f) For propellers listed in **Table 1** of this AD, that have been overhauled since being returned to service by T and W Propellers, Inc by an authorized repair station other than T and W Propellers, Inc., no further action is required.

**Propellers With Fewer Than 10 Hours Time-in-Service (TIS) Since Return to Service**

- (g) Before further flight, perform the actions specified in paragraph (h) of this AD on propellers listed in **Table 1** of this AD, that have fewer than 10 hours time-in-service (TIS) since return to service by T and W Propellers, Inc. You can find information on performing the actions in the applicable propeller manufacturer's service documentation.
- (h) Perform the following actions:
  - (1) Disassemble,
  - (2) Clean,
  - (3) Inspect for the following:
    - (i) Cracks,
    - (ii) Corrosion,
    - (iii) Nicks,
    - (iv) Scratches,
    - (v) Blade minimum dimensions,

- (vi) Chemical conversion coat or paint or both applied over corrosion,
  - (vii) Lack of chemical conversion coating,
  - (viii) Lack of paint on internal surfaces,
  - (ix) Bolts incorrectly torqued,
  - (x) Incorrect parts,
  - (xi) Incorrect installation of parts,
  - (xii) Reinstallation of parts intended for one-time use, and
  - (xiii) Lack of proper shot peening.
- (4) Repair and replace with serviceable parts, as necessary,
  - (5) Reassemble and test.

#### **Propellers With 10 Hours or More TIS Since Return to Service**

- (i) Within 10 hours TIS after the effective date of this AD or one year after the effective date of this AD, whichever is earlier, perform the actions specified in paragraph (h) of this AD on propellers listed in **Table 1** of this AD, that have 10 hours or more TIS since return to service by T and W Propellers, Inc. You can find information on performing the actions in the applicable propeller manufacturer's service documentation.

#### **Required Actions Before Installation**

- (j) After the effective date of this AD, do not install any propeller that has a SN listed in **Table 1** of this AD returned to service by T and W Propellers, Inc. unless you have performed paragraph (h) of this AD on the propeller.

#### **Alternative Methods of Compliance (AMOCs)**

- (k) You must request AMOCs as specified in 14 CFR 39.19. All AMOCs must be approved by the Manager, Chicago Aircraft Certification Office, FAA.

#### **Special Flight Permits**

- (l) We will not issue special flight permits for propellers with fewer than 10 hours TIS since return to service by T and W Propellers, Inc.

#### **Material Incorporated by Reference**

- (m) None.

#### **Related Information**

- (n) The applicable propeller manufacturer's service documents contain instructions for performing the required overhaul actions.

Issued in Burlington, Massachusetts, on June 26, 2003.

Francis A. Favara, 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 60018-4696; telephone (847) 294-7031, fax (847) 294-7834.

**Manufacturer's Service Information::**

None