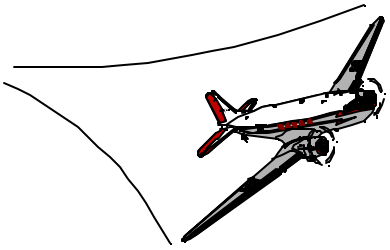
SPECIAL AIRWORTHINESS INFORMATION BULLETIN



Aircraft Certification Service
Washington, DC

U.S. Department of Transportation

Federal Aviation Administration

No. NE-01-19
March 20, 2001

We post SAIBs on the internet at "av-info.faa.gov"

This is information only. Recommendations are not mandatory.

Introduction

The FAA revoked Southern California Propeller Service's (SCPS) certificate (# VXSR617L) as a propeller repair station, on June 16, 1998, for performing improper maintenance and overhauls. These improper overhauls show corrosion signs, which could serve as the point of origin for cracks, and fatigue cracks that could propagate to blade failure, resulting in the loss of aircraft control.

This Special Airworthiness Information Bulletin (SAIB) alerts you, an owner or operator, of **Hartzell, McCauley,** and **Sensenich** propellers which SCPS may have performed work that could affect the airworthiness of the propeller. The FAA rated SCPS to work on the following propeller models:

> Note: Any letter or number could appear where open parentheses are shown in the model number. Model numbers could show any combination of letters or numbers where the model number shows parentheses with a series of numbers or letters.

Hartzell propeller models

( )HC-( )(2,3,4)Y( )-( ), ( )HC-( )(2,3,4)(X,V,MV,W,Z,P,R)(F,G,L,K,R,20,30,31)-( ), ( )HA-( )-( ), HC-B(3,4)(M,P,R,T)(A,N,P)-( ), and HC-(D,E)(4,5)(A,B,N,P)-( )

McCauley propeller models

( )2( )( )3( )C( )( )( )-( ), ( )3( )( )3( )C( )( )( )-( ), and 1( )( )( )( )/( )

Sensenich propeller models

All metal propellers models

Background

The FAA received seven reports of potential airworthiness problems resulting from work done by SCPS. Six reports concerned propeller assemblies that the FAA concluded were not airworthy (2 Hartzell, 2 McCauley, 2 unknown propellers that were installed on a Cessna 337) and one report concerned a blade failure (Hartzell). The FAA is currently reviewing comments received from aircraft owners concerning this issue.

SCPS overhauled the Hartzell propeller where the blade failure occurred. There is evidence suggesting that SCPS performed an improper repair procedure by welding or hot straightening on the blade that eventually failed. As a result of the failure, the propeller lost approximately 10 inches from the blade tip and the aircraft suffered substantial damage. The propeller only had 200 hours time-in-service (TIS) since the Southern California Propeller Service overhaul during which the improper repair procedure was accomplished.

The six unairworthy propeller assemblies had safety critical problems including:

1) improperly drilled actuating pin holes and the unauthorized use of helicoils in the actuating pin holes, both of which could lead to a higher stressed area and possible cracking with subsequent loss of propeller blade pitch control,

2) corrosion pitting in a blade nut which could lead to a fatigue crack and subsequent blade failure,

3) blade retention clamps that were rusted and pitted in critical areas, which could lead to fatigue cracks or failure and possible loss of the propeller blade,

4) bearing races that were rusted and pitted, which could lead to bearing seizure and loss of propeller blade pitch control, and,

5) hub arms with corrosion pitting in the bearing retention radius and gouged, scratched and rusted in other critical areas, which could lead to fatigue cracks and subsequent hub failure, blade loss, and loss of aircraft control.

Recommendation

We recommend that you, an owner or operator, of propellers serviced by Southern California Propeller Service have these propellers reinspected in accordance with the propeller manufacturer's overhaul instructions. We also recommend that you send all reinspection results, whether favorable or unfavorable, to the FAA at the address noted below.

For Further Information Contact

FAA, Chicago Aircraft Certification Office, Propulsion Branch, ACE-118C, 2300 East Devon Avenue, Des Plaines, IL, 60018; Facsimile (847) 294-7834

Hartzell propellers- Tomaso DiPaolo, Aerospace Engineer, Telephone (847) 294-7031

McCauley propellers - Tim Smyth, Aerospace Engineer, Telephone (847) 294-7132