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January 17, 2006

Docket Management System
U.S. Department of Transportation
Room PL-401
400 Seventh Street, SW
Washington, DC 20590-0001

**Re: Docket No. FAA-2005-22898; Directorate Identifier 2005-NE-10-AD; Notice of proposed rulemaking (NPRM); McCauley Propeller Systems Models 3A32C406/82NDB-X and D3A32C409/82NDB-X Propellers**

The Aircraft Owners and Pilots Association (AOPA), representing over 407,000 members, requests that the Federal Aviation Administration (FAA) extend the comment period on its proposed airworthiness directive (AD) for McCauley C406 and C409 propellers that affects nearly 1,000 Beechcraft Bonanzas, T-34 airplanes, and Navion airplanes until the FAA can furnish the general aviation community with all non-proprietary data available that was used to substantiate the proposed actions, plus an additional 60 days for review and comment. The FAA-supplied data should include the test results from all Teledyne Continental Motors (TCM) engine models tested in addition to TCM's Full Authority Digital Engine Control (FADEC) -550 engine and the method used to arrive at the 10,000-hour life limit.

While the FAA states in the NPRM that the agency is issuing this AD to prevent blade or hub failure that could result in separation of a propeller blade and loss of control of the airplane, AOPA could not find any accidents or incidents attributable to propeller blade or hub failure. The service difficulty reports revealed only two cases of unrelated corrosion of the propeller blades. The proposed AD appears to be based entirely on the test data supplied by McCauley with no input from the user community or validation of the safety issue. It is therefore imperative that the FAA make available to AOPA and the general aviation community all of the non-proprietary data that was used to support this proposal. If the FAA is unable to supply the data, at the very least, the agency should answer the following questions:

1. What other engine models were tested beyond the FADEC –550?
2. How much did the harmonics differ among the engines tested?
3. Was the stress on the propeller assembly greater on the FADEC –550 than on the magneto-equipped –520 and –550 models? If so, provide order of magnitude.
4. What method and scatter factor (if applicable) was used to arrive at the 10,000-hour life limit?

***Vibration characteristics differ between FADEC and magneto-equipped engines***
According to reports from the propeller OEM industry and from engine and propeller experts, there are differences in the vibration characteristics between FADEC engines and traditional magneto-equipped engines. For AOPA and the general aviation community to make an informed determination as to the validity of this proposed AD, the data from all the engine

models that were tested, including stress measurements must be made available for review. AOPA further suggests that the FAA conduct a study with aviation community involvement to evaluate the long-term effects of harmonics on the fatigue life of FADEC and non-FADEC propellers.

***Proposed prohibition on commonly used propeller power setting is questionable***
The NPRM proposes to prohibit continuous propeller operation between 2,350 rpm and 2,450 rpm at 24 inches Hg and higher manifold pressure. This power setting is commonly referred to by many pilots as the "sweet spot" and is extensively used in normal operations. AOPA questions the justification for this restriction given that C406/C409 propellers have been safely operating for almost 30 years with no identified safety issues in this engine operating range.

***10,000-hour life limit affects aircraft value***
While the 10,000-hour life limit may seem inconsequential to the average Bonanza, it will significantly affect the value of higher-time Bonanzas, Navions and T-34s. For this reason, AOPA would like to know the type(s) of engines tested and the method or methods used to arrive at this limit.

***Provide alternative for propellers with unknown TIS***
Particularly troubling is the FAA's proposal to remove from service any propeller with an unknown total time in service (TIS). AOPA believes there may be many aircraft owners that for a myriad of reasons have no propeller TIS documentation available. The FAA should allow other means of validating TIS, like airframe total time, or aircraft or engine logbooks.

***Proposed inspection and repair requirements are duplicative of existing maintenance rules and guidance***
The Federal Aviation Regulations Part 43 already specifies which persons are authorized to perform propeller maintenance, and also describes the scope and detail of items, including propellers, which must be included in annual and 100-hour inspections. Advisory Circular (AC) 20-37, Aircraft Propeller Maintenance, provides guidance to maintenance personnel for inspection, maintenance, and field repair of aircraft propellers. Additionally, AC 43.13-1, Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair, and AC 43-4, Corrosion Control for Aircraft, contain many references to propeller inspection and maintenance. Requiring the same through an AD is duplicative and unnecessary.

***FAA developing pattern of circumventing the airworthiness concern process***
While we have had very good success with the FAA Small Airplane Directorate following the Airworthiness Concern Process (ACP), the Engine and Propeller Directorate has once again, as with the recent ECi Connecting Rod NPRM, surprised AOPA and the general aviation community despite an agreement to utilize the ACP. The Directorate instead chose to circumvent the agreed upon process and proceed to develop and issue this NPRM unilaterally without any input other than the manufacturer. The ACP has benefited the FAA and the general aviation community by reducing the number of potential ADs based on actual field activity and/or providing for realistic alternative methods of compliance to that identified by the FAA or

manufacturer. AOPA requests that the FAA follow the agreed upon process for dealing with airworthiness concerns.

***Summary***

Given that there have been no accidents or incidents attributable to C406/C409 propeller blade or hub failure, it reasonably follows that there is no urgent need that warrants an immediate AD. AOPA therefore requests that the FAA either withdraw the NPRM or provide us with the requested information and extend the comment period to give the general aviation community a reasonable amount of time to review the test data and to have the opportunity to comment in a meaningful way.

Sincerely,

Luis M. Gutierrez
Director
Regulatory and Certification Policy

cc: Francis Favara, Acting Manager, FAA Engine and Propeller Directorate
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