

October 10, 2007

U.S. Department of Transportation
Docket Operations M-30
West Building, Ground Floor
Room W12-140
1200 New Jersey Avenue, SE
Washington, D.C. 20590

Re: Docket No. FAA-2007-28478
Airworthiness Directive 2007-16-14, Taylorcraft A, B and F series aircraft.

EAA (Experimental Aircraft Association) is the world leader in recreational aviation. With an international membership of 170,000 people in more than 112 nations, EAA brings together aviation enthusiasts, pilots and aircraft owners who are dedicated to the continued growth of aviation, the preservation of its history and a commitment to aviation's future. EAA programs, activities and events are known throughout the world for *Preserving* the heritage of aviation, *Promoting* access to flight, *Protecting* the right to fly, *Preparing* the future of aviation, and of our *Passion* for aviation safety and education.

EAA's Vintage Aircraft Association is a core group of Vintage Aircraft enthusiasts who own, maintain and fly vintage aircraft built prior to 1971. This enthusiastic and dedicated group of people is continually looking for ways to legally and safely maintain and fly their aircraft.

EAA and VAA request that the FAA consider the following comments regarding Taylorcraft AD 2007-16-14, which will allow those maintaining and restoring these vintage aircraft to do so in a safe and cost-effective manner.

Based on the data presented in the AD, and after subsequent conversations with Taylorcraft Type Club representatives, we support the overall need for the airworthiness directive. While we still have some reservations concerning the single-source origin of the sample struts that were used to instigate the AD, later reports to the FAA and the Taylorcraft Owners Club have revealed corroded struts exist in the field as well. There are a few issues related to the AD's implementation and timing that we'd like to address, and we request that the following suggestions be considered.

A least two alternate methods of compliance (AMOC) should be given consideration, along with a modification to the Ultrasonic Inspection method:

- During a conversation with FAA engineer Andrew McAnaul, he stated that the primary reason the same procedures used for Piper strut AD 99-01-05 could not be included in Taylorcraft AD 2007-16-14 was due to a lack of engineering data (both on the part of the FAA and of New Piper) concerning the procedure used in the Piper AD. In that

procedure, a Maule Fabric Tester is utilized to check the integrity of the strut. We have read with great interest the subsequent Maule Fabric Tester report issued by Mr. McAnaul on September 17, 2007, and find the results very surprising given the nearly two decades of apparently successful testing done on Piper lift struts. If sufficient engineering data is made available to the FAA that would further detail the methods used to justify the use of the procedure within the Piper AD, we ask the procedure could be added to the Taylorcraft AD as an AMOC. EAA is not in possession of any engineering data concerning the procedure, but research into the procedure has revealed the name of one of the consultants who worked with the FAA on the Piper strut AD, and we have asked that he contact Mr. McAnaul regarding the engineering data concerning the Maule Fabric Tester AMOC.

- A number of comments have been received concerning the inspection of the struts without removal from the airframe, using the ultrasonic NDT methods specified in the procedure. While during the first inspection it is certainly desirable to inspect the strut attach fitting at the same time, per Taylorcraft Service Bulletin SB102-T, these are certainly separate maintenance actions, and should be considered separately. NDT professionals have stated to the commenters that the inspection of the struts while in place does not present any difficulties to the certified inspector.
- We'd like to see the inclusion of an X-Ray NDT inspection method as an AMOC. We understand both the Type Club and members at large have been active in testing this procedure, and that it is highly likely it will be included in the AD as an AMOC.

In AD 2007-16-14, the agency has suggested a recurrent inspection interval of two years. Over the years degradation of strength properties due to corrosion in 4130 tube aircraft structures have been identified and inspection procedures have been put into place to detect any degradation in the structures. However, there is much debate regarding proper recurrent inspection intervals for corrosion on 4130 tube structures on aircraft.

EAA contends that a two-year recurrent inspection interval is excessive for the following reasons:

- No data has been provided to indicate a need for any specific recurrent inspection interval.
- The structures in question have corrosion protection in the form of paints and oils. In addition the structures are often further protected by aircraft structure.

- The primary environment of concern is exposure to water. ASTM has monitored extensive corrosion tests by atmospheric exposure and immersion of panels and hardware of black iron, alloys, and metallic coatings. For results see annual reports of Committee A-5 “Corrosion of Iron and Steel,” 1918 to date.¹ In ASTM tests of unprotected 16 gage sheet steel in a marine environment, the first failure occurred after 26 years of continuous exposure.
- EAA is not aware of any reported corrosion induced failures in aircraft 4130 tube structures in aircraft less than 30 years of age.

The information above indicates that 4130 has considerable corrosion resistance and that in the manner that this material is used in aircraft, there is significant corrosion protection provided. Based on this information, EAA believes a reasonable interval for inspection would be approximately half the time, in years, at which the first failures were discovered on like aircraft structures, e.g., tube and fabric aircraft showing corrosion in the same location. For the aircraft identified in this proposed AD 2007-16-14, EAA proposes a recurrent inspection period of 15 years for corrosion.

- EAA also suggest that the following the initial inspection, anti-corrosion measures be taken, including the fogging of the inside of tube with tube sealing preservative oil (MIL-L-21260) or similar “creeping” anti-corrosion agents.

We thank you for considering our comments on behalf of the many EAA and VAA members who area affected by this AD.

Sincerely,

H.G. Frautschy
Executive Director, EAA’s Vintage Aircraft Association
Editor, Vintage Airplane magazine

Earl Lawrence
Vice President
Industry & Regulatory Affairs

¹Marks Standard Handbook for Mechanical Engineers, Ninth edition.