



February 20, 2024

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

RE: FAA–2023–1893 Proposed Airworthiness Directives: FS 2001 Corp, FS 2002 Corporation, FS 2003 Corporation, Piper, and Piper Aircraft, Inc. Airplanes; Docket No.; Project Identifier AD–2023–00389–A

EAA (Experimental Aircraft Association), based in Oshkosh, Wisconsin, embodies “The Spirit of Aviation” through the world’s most engaged community of aviation enthusiasts. Our more than 300,000 members and 900 local chapters enjoy the fun and camaraderie of sharing their passion for flying, building, and restoring recreational aircraft. EAA submits the following comments in response to the Federal Aviation Administration’s (FAA) proposed Airworthiness Directive (AD) FAA-2023-1893 published in the Federal Register on October 6, 2023.

EAA disagrees with this Airworthiness Directive in its current state and urges FAA to reconsider its issuance at this time. We are instead proposing that the FAA begin with the issuance of a Special Airworthiness Information Bulletin (SAIB). We further recommend that any subsequent AD be significantly limited in scope of affected aircraft, and include an ongoing inspection and repair option instead of the proposed mandatory replacement.

While these comments summarize our high-level concerns with this AD, we fully support and endorse the detailed engineering analysis prepared by our vintage division, the Vintage Aircraft Association (VAA), filed to this same docket.

Summary of Proposed AD:

The FAA proposes to adopt a new AD for certain FS 2001 Corp, FS 2002 Corporation, FS 2003 Corporation, Piper, and Piper Aircraft, Inc. (Piper) airplanes. The FAA received reports of two non-fatal accidents involving airplanes designed and built by Piper that were caused by broken rudder posts that structurally failed above the upper hinge in flight. Additionally, in response to an Airworthiness Concern Sheet dated September 4, 2020, the FAA became aware of five additional broken rudder incidents dating as far back as 1979.

This proposed AD would require, within 2, 3 or 5 years depending on model, replacing any rudder equipped with a rudder post made from 1025 carbon steel with a rudder equipped with a rudder post made from 4130N low-alloy steel. The FAA estimates that this AD, if adopted as

proposed, would affect 30,992 airplanes of U.S. registry at a cost to U.S. operators of \$92,976,000.

Discussion

The FAA's discussion and justification for this AD relies heavily on two non-fatal accidents and five additional incidents reported through the Airworthiness Concern process over a 44-year period. Neither the FAA identified accidents nor the five additional incidents appear to have led to subsequent additional damage, loss of aircraft, injury, or life.

The two aircraft identified by the FAA in the Airworthiness Directive are reported to have been modified through the installation of Supplemental Type Certificates (STC) and field approvals for higher horsepower engines, float operations, and installation of rudder post-mounted beacon lights. The FAA notes that both aircraft that suffered the rudder post failure did not have installed the ventral fin required per the STC for float operations.

Very little information is provided regarding the aircraft in the five incidents reported through the Airworthiness Concern process.

The FAA provides no information from Service Difficulty Reports (SDR), or other sources regarding additional incidents of reported issues.

EAA's Proposal:

Withdraw the Proposed Airworthiness Directive and Issue a Special Airworthiness Information Bulletin (SAIB)

The combination of the small number of occurrences, coupled with the extensive modifications of the two aircraft discussed in the AD, combined with the limited and incomplete information provided for the five other instances, and the resulting safe landing of all aircraft involved, EAA feels that the proper course of action for the FAA is to withdraw this proposed AD and to issue a Special Airworthiness Information Bulletin (SAIB).

Additionally, there appear to be no Service Difficulty Reports (SDR) or National Transportation Safety Board (NTSB) incident or accident reports on any aircraft proposed to be covered by this airworthiness action. There is no evidence that either the operational or maintenance history of the aircraft used to support the determination that an unsafe condition exists in an entire fleet was investigated or addressed.

A Special Airworthiness Information Bulletin is an information tool that can be issued by the FAA that alerts, educates, and makes recommendations to the aviation industry. The SAIB can also encourage the filing of Service Difficulty Reports when issues are found, providing for the gathering of additional pertinent information, which can lead to better informed and focused airworthiness action if warranted.

Limit Scope of Any Subsequent Airworthiness Action

As proposed by the FAA, this AD would require the replacement of the rudder on 30,992 aircraft encompassing almost every make and model of vintage high-wing Piper aircraft. This is a truly

staggering number of airframes, and the supply chain for replacement rudders comes nowhere close to meeting the quantity demanded by this AD (nearly 6200 rudders per year out to the maximum compliance time of five years).

This proposed AD does not include any documented issues, either through reported accidents, incidents, Service Difficulty Reports (SDRs), or submissions in response to the Airworthiness Concern Process for any Piper model other than modified examples of the PA-12 and PA-14, and yet it applies to nearly all high-wing Piper models.

As VAA and other commenters note, the incidents highlighted in the AD occurred on two modified aircraft. Both aircraft had major modifications accomplished in accordance with STCs, and one had a “field approval” for a higher horsepower engine. These modifications, including the installation of lights on the top of the rudder assembly, coupled with the greater forces associated with the higher horsepower engine, likely contributed to the subsequent issues.

Without evidence of a flight safety hazard, we request that any airworthiness action arising from this issue be limited to airframes with modifications, operating environments, and/or histories that are indicated as hazardous through a data-driven assessment.

Provide for Ongoing Inspection and/or Repair Options Instead of the Proposed Mandatory Replacement

Other commenters propose alternative inspection, testing, and repair techniques. EAA supports a thorough investigation of all alternatives to complete replacement of the rudder. One repair technique repeatedly suggested is simply the removal and replacement of the rudder post, which can be accomplished by any competent metalworker.

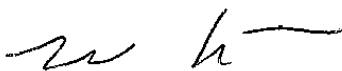
VAA’s report describes in detail both a practical periodic inspection technique as well as a minimally-invasive and economical means of internally reinforcing the rudder post. This repair method achieves an equivalent level of safety to the replacement of the rudder with not even a re-cover required.

While EAA supports a significant reduction in scope to any potential airworthiness action, we urge the FAA to consider all possible and practical means of assuring safety.

Conclusion:

EAA believes this AD is flawed in regulatory process, scope, and requirements. It is based on limited data, the required action is not possible in the timeframe required, the affected models list is vast, and the action required is excessive. We urge the FAA to withdraw this AD and collect additional data before embarking on any further airworthiness action. If such action is warranted, it must be targeted and practical.

Respectfully,



Tom Charpentier
Government Relations Director