AIRCRAFT OWNERS AND PILOTS ASSOCIATION
421 Aviation Way • Frederick, MD 21701-4798
Telephone (301) 695-2000 • FAX (301) 695-2375
www.aopa.org

April 17, 2001

Ms. Carol J. Carmody, Acting Chairman
National Transportation Safety Board
490 L'Enfant Plaza East, SW
Washington, DC 20594

Dear Ms. Carmody,

The Aircraft Owners and Pilots Association (AOPA), representing the aviation interests of more than 370,000 pilots and aircraft owners, submits the following comments on Safety Recommendations A-01-6 through –8. The safety recommendations reference several failures of control cable terminals installed on Piper Cherokees/Seminoles and Cessna 172s, and recommend FAA issuance of an airworthiness directive (AD) requiring inspection for and replacement of corroded control cable fittings of certain stainless steel material.

AOPA agrees that, in this particular circumstance, the possibility of in-flight failure of a control cable attach fitting and subsequent loss of elevator and/or aileron control warrants airworthiness action. Although Piper and Cessna maintenance manuals currently mandate the inspection of control cable attach fittings at annual or 100-hour inspections, they do not recommend/require replacement of corroded fittings. The evidence (as presented in the safety recommendations) indicates that corrosion/pitting is the origin of the stress cracks that ultimately resulted in the failed fittings. Thus, it may be prudent to replace control cable attach fittings that show outward signs of corrosion.

It is arguable, however, whether or not such inspections/part replacements must be mandated through the issuance of an AD. Detailed inspections of control cables and their fittings are already a required part of annual and 100-hour inspections. Appendix D of Part 43 of the Federal Aviation Regulations entitled "Scope and Detail of Items (As Applicable to the Particular Aircraft) to be Included in Annual and 100-Hour Inspections" mandates that all systems, parts, components etc. be inspected for improper installation/operation during routine annual and 100-hour inspections. Specifically, Part 43 Appendix D paragraph (b)(2) states "(b) Each person performing an annual or 100-hour inspection shall inspect (where applicable) the following components of the fuselage and hull group...(2) Systems and components – for proper installation, apparent defects, and unsatisfactory operation." Control cables and their attach fittings are included by definition in this group. Thus, AOPA questions the need to mandate inspections and part replacements through the issuance of an airworthiness directive as set forth in Safety Recommendation A-01-06.

Safety Recommendation A-01-07 recommends that the FAA research all other aircraft currently using control cable attach fittings of the same material, and implies that the agency should then apply the same AD to these airplanes. As the control cable attach fittings referenced in these Safety Recommendations are of an industry standard design specification (Mil Spec MS21260), AOPA suspects that they are utilized on an extremely large portion of the piston powered general aviation fleet. AOPA has serious reservations about expanding any airworthiness action to include such a large portion of the fleet based on a concern that is isolated to only three models of airplane. There are simply too many factors that contribute to corrosion to imply that these fasteners are not safe for use in any airplane. Factors like the location of the fasteners and their exposure to corrosion causing elements such as water, exhaust gasses, dissimilar metals etc. undoubtedly play a large role in the rate at which they corrode.

In certain models of Piper Cherokee, for example, the airplane's battery is contained in an area in very close proximity to the area in which the control cables (and their attach fittings) enter the bottom of the fuselage. Battery acid *will* corrode stainless steel over time. Although this may or may not prove to be the direct cause of control cable attach fitting corrosion on these particular airplanes, it is an excellent example of how the marriage of a particular part to a particular airframe can cause specific and unique problems to arise. Thus, it is very likely that the control cable attach fitting corrosion experienced on Piper Cherokees and Seminoles is not indicative of the general condition of fittings of similar design, composition, and age installed on other type-designs.

Safety recommendation A-01-8 recommends that the FAA alert manufacturers of the current cracking and corrosion problems with terminals made from SAE-AISI 303 Se stainless steel. Although AOPA suspects that the current cracking and corrosion problems with these fittings are specific to particular airframe applications, we do not oppose this recommendation.

However, Safety Recommendations A-01-6 and –7 warrant considerable research before they're considered by the FAA. AOPA's preliminary consultations with owners and operators of affected airplanes indicate that this problem may not be as wide-spread as the board suspects. Although AOPA recognizes the severity of an in-flight loss of aileron or elevator/stabilator authority, we can support the institution of a mandatory mitigating action only when the perceived problem is confirmed through the real world operational and maintenance experiences of owners and operators of affected airplanes. Thus, AOPA looks forward to working with the FAA, aircraft type-clubs, and owners and operators of affected airplanes to uncover the true extent of this problem and the best means of resolution.

Thank you for your time and consideration in this matter. AOPA stands ready to assist the NTSB and the FAA in reconsidering the extent of the actions necessary to mitigate this concern.

Respectfully,

Andrew V. Cebula
Senior Vice President
Government and Technical Affairs

cc: Michael Gallagher – Manager, FAA Small Airplane Directorate