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

Re: Docket No. FAA-2007-27747 Airworthiness Directives; Cessna Aircraft Company Models 150 and 152 Airplanes

The Aircraft Owners and Pilots Association (AOPA), representing more than 412,000 members, or two-thirds of the nation's general aviation pilots, submits the following comments to the Federal Aviation Administration's (FAA) Airworthiness Directives; Cessna Aircraft Company Models 150 and 152 Airplanes Notice of Proposed Rulemaking (NPRM) published in the Federal Register on Monday, April 16, 2007. AOPA believes the proposed airworthiness directive (AD) is an overreaction and should be withdrawn.

AOPA Requests FAA Withdraw the Proposed Airworthiness Directive

The FAA proposes an airworthiness directive for all Cessna 150 and 152 aircraft that would require the replacement of the rudder stop, rudder stop bumper, attachment hardware and substituting safety wire with jamnuts within the next 100 hours of time-in-service or 12 months, whichever occurs first.

Explanation of proposed airworthiness directive: The proposed airworthiness directive is a result of a National Transportation Safety Board (NTSB) recommendation. After two fatal crashes involving a rudder jam on Cessna 152 aircraft, the NTSB issued a recommendation that all Cessna 150 and 152 aircraft should be required to comply with the Cessna Aircraft Company's Service Bulletin (SB) No. SE01-1. This SB recommends the replacement of certain rudder components, including installing a larger rudder stop, to prevent the possibility of the rudder overriding the stops and jamming.

Cessna issued this SB after a fatal accident in Canada in 1998. The Cessna 152 involved in this accident was conducting practice spins and was unable to recover. The subsequent investigation by the Transportation Safety Board of Canada found that the rudder had jammed beyond its travel limit. The report also found that the aircraft was not airworthy prior to the accident. The accident report issued by the Transportation Safety Board of Canada revealed that one day before the accident the aircraft underwent a 50-hour inspection and pieces of the rudder assembly were removed, and not replaced. Specifically, the reported stated:

> During the check, the right pedal rudder bar return spring, P/N 0310196-13, and a spring attachment bracket for this spring, which was welded to P/N 0411526-2 Rudder bar assembly, were found to be broken . . . . .
>
> The broken pieces of the rudder control system were removed by the apprentice mechanic during the check, but were not replaced . . ..
>
> The aircraft was released for flight with a rudder bar return spring missing, which, in combination with other factors, probably allowed the rudder to lock in a full left deflection.
>
> Thus, the aircraft did not meet the airworthiness requirements for flight.

The Canadian accident is one of the two accidents cited in the FAA's proposed AD. The second accident occurred in the United States in 2005. This aircraft was also practicing spins and was unable to recover. The NTSB's investigation showed that the rudder was jammed beyond its travel limit, thus preventing recovery from the spin. According to the Cessna 152 pilot's operating handbook, spin recovery procedures are:

1. Place ailerons in the neutral position.
2. Retard throttle to idle position.
3. Apply and **hold** full rudder opposite to the direction of rotation.
4. Just **after** the rudder reaches the stop, move the control wheel **briskly** forward far enough to break the stall. Full down elevator may be required at aft center of gravity loadings to assure optimum recoveries.
5. **Hold** these control inputs until rotation stops. Premature relaxation of the control inputs may extend the recovery.
6. As rotation stops, neutralize rudder, and make a smooth recovery from the resulting dive.

Presumably, with the rudder jammed, the pilots were not able to "apply and hold full rudder opposite to the direction of rotation." The NTSB found that the aircraft involved in the 2005 accident had two rudder bumpers that were installed *incorrectly*.

The NTSB listed the probable cause of this accident as "An improperly installed rudder bumper, which resulted in a rudder jam during spin training and subsequent uncontrolled descent into terrain."

AOPA recommendation: The FAA should withdraw the proposed airworthiness directive and issue a special airworthiness information bulletin (SAIB) that includes a one-time inspection of the rudder assembly pieces listed in the proposed NPRM. The registered owner of the aircraft, or a mechanic, should be allowed to perform the inspection. If any of the components parts are found to be defective or installed incorrectly, the effected parts should be replaced and/or installed properly by a mechanic.

The association strongly objects to the proposed AD that would affect nearly 19,000 aircraft. The proposed AD is based on two accidents in a seven-year period (1998 to 2005) in which the aircraft involved were not airworthy prior to the flights on which the accident occurred. In the case of the first accident, the Transportation Safety Board of Canada stated that the "Standard of Airworthiness was not accomplished on the accident aircraft" (i.e., the aircraft was not airworthy at the time of the accident).

In the second accident, the rudder bumpers, which prevent the rudder from traveling past its limits and jamming, were installed incorrectly. The NTSB cited the incorrect installation of these rudder bumpers as the probable cause of the accident.

A review of the service difficulty reports from 1998 to June 2007 found only one report of Cessna 150 and 152 aircraft with the rudder problem described in this NPRM. Another service difficult report, from a Canadian operator who had complied with the Canadian issued AD requiring the same fix as the one currently proposed in this NPRM, complained that the enlarged rudder stop bolts required by the AD were causing binding between the rudder and the rudder stop bolts.

Summary

Based on the information provided in the Transportation Safety Board of Canada, the NTSB, the association's staff and members, AOPA strongly objects to the proposed AD. The FAA needs to recognize that the two accidents upon which this AD is based were damaged or had rudder assembly pieces installed incorrectly before the accidents cited in the NPRM took place. In addition, there is evidence to suggest that the proposed "fix" could inhibit rudder travel. The association believes that requiring nearly 19,000 aircraft owners to replace the rudder stop, rudder stop bumper, attachment hardware and substituting safety wire with jamnuts is an overreaction to maintenance issues that affected these aircraft prior to their respective accidents.

Sincerely,

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