



421 Aviation Way  
Frederick, Maryland 21701

T. 301-695-2000  
F. 301-695-2375

[www.aopa.org](http://www.aopa.org)

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Docket Management Facility  
U.S. Department of Transportation  
1200 New Jersey Avenue, SE  
West Building Ground Floor, Room W12-140  
Washington, DC 20590-0001

***Re: Docket Number FAA–2015–2147 Advanced Notice of Proposed Rulemaking; Transponder Requirement for Gliders***

The Aircraft Owners and Pilots Association (AOPA) submit the following comments to the Federal Aviation Administration (FAA) in regard to the elimination of the current transponder exception for gliders. Transponder equipment increases an aircraft’s visibility to air traffic controllers and has been historically required in congested airspace to enhance safety. The transponder exception currently provided to gliders is also provided to balloons and aircraft without an engine-driven electrical system.

The exemption currently allows “any aircraft which was not originally certificated with an engine-driven electrical system or which has not subsequently been certified with such a system installed, balloon, or glider” to operate within the Mode C veil of Class B airspace without a transponder installed.<sup>1</sup> This exemption excludes any operations within an area defined as Class A, B, or C airspace. Another exemption allows these three types of aircraft to operate at and above 10,000 feet MSL, but below 18,000 feet MSL, without an installed transponder.

**Collision Avoidance**

One of the most recent comprehensive glider accident studies was completed in 2007 wherein the authors analyzed accidents between 2001 and 2005 that were found within the National Transportation Safety Board (NTSB) database. Of all the cases during that time period that met the definition of accident and were analyzed by the study, only three, or 2.1% of all glider accidents reviewed, were the result of a midair collision; however, the NTSB database shows only one of those collisions was with an aircraft not involved in glider operations.<sup>2</sup> A review of the NTSB database showed no history of a fatal midair accident between a glider and a non-participating aircraft in the last 10 years.<sup>3</sup> Furthermore, the NTSB publishes a review of U.S. civil aviation accidents each year with glider’s accident rate remaining stable between 2007 and 2012.<sup>4</sup> There is no increase to point to

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<sup>1</sup> General Operating and Flight Rules, Title 14 C.F.R. pt. 91 (1989).

<sup>2</sup> Van Doorn, R. R., & De Voogt, A. J. (2007). Glider accidents: An analysis of 143 cases, 2001–2005. *Aviation, Space, and Environmental Medicine*, 78(1), 26-28.

<sup>3</sup> National Transportation Safety Board. (2015, July 20). Aviation accident database & synopses. Retrieved from [http://www.nts.gov/\\_layouts/ntsb.aviation/index.aspx](http://www.nts.gov/_layouts/ntsb.aviation/index.aspx)

<sup>4</sup> National Transportation Safety Board. (2014). *Review of US civil aviation accidents, calendar year 2011* (Annual review NTSB/ARA-14/01). Washington, DC: National Transportation Safety Board Records Management Division.

that should result in a change to regulatory requirements for this niche of aviation, especially one that could have a large financial impact on a largely volunteer/club based operation, or is based on the false perception of an increased collision threat. AOPA believes the proposal for glider aircraft to be required to have transponders is an overreaction to an isolated 2006 event that does not point to a pattern or a systemic issue.

When 14 C.F.R. §91 was revised in the late 1980's to be simpler and more comprehensible, the FAA initially proposed no exceptions to 14 C.F.R. §91.215. In the final rulemaking, they changed their position stating "there is no question that the proposed requirement, if adopted without modification, would have had an impact on operations conducted by aircraft which were not originally certificated with an engine-driven electrical system or which have not subsequently been certified with such a system installed, balloons, and gliders."<sup>5</sup> The proposed rule would have unduly impacted these aircraft with little benefit seen by the rest of the users of the NAS. The FAA continued stating that:

[Allowing this exception] will not have a detrimental effect on the safety of other operations. For example, the small numbers of operations conducted by these types of aircraft that could interfere with traffic flows do not warrant requiring such equipment; balloons are conspicuously visible in [Visual Flight Rules (VFR)] flight environments; other aircraft without an electrical system normally do not operate about 10,000 feet MSL; and in most cases, [air traffic control] and transient pilots have notice of the locations of glider operations.

Although aircraft without an engine-driven electrical system are not discussed in the Advanced Notice of Proposed Rulemaking, AOPA believes the argument for gliders to remain exempt from applicable sections of 14 C.F.R. §91.215 and 91.225 is the same argument for why this niche of aircraft should also remain exempt. Gliders and aircraft without an engine-driven electrical system both largely operate VFR and in Class E or G airspace.

Many famous aircraft, including versions of the Piper Cub and the Aeronca Champ, do not have an engine-driven electrical system or a transponder, but have been operating safely for many decades in the national airspace system. These aircraft are flown under 14 C.F.R. §91, VFR, and predominantly at lower altitudes that keep them away from higher flying, high performance aircraft. The propensity for lower altitude flying can make these aircraft challenging to be identified on radar by air traffic control, resulting in a difficulty to see the benefit of the addition of transponder equipment for the pilot or other users of the national airspace system. With these types of aircraft operating largely where there is no radar service, or where larger aircraft fly, any advantage of the transponder's collision avoidance benefit for air traffic control would be negated.

Pilots are required under 14 C.F.R. §91.113 "to see and avoid other aircraft." All pilots, including operators of gliders or airliners, must comply with this regulation and be actively scanning for other traffic. The responsibility for avoidance ultimately falls to the pilot-in-command during visual meteorological conditions. Better tools for pilots to "see" other aircraft in advance, such as the Traffic Awareness Beacon System (TABS), is one method to increase safety that the AOPA would strongly support should it be made available at a cost that would be commensurate with the potential users. The NTSB and FAA have long embraced the benefits of collision avoidance technology and so embracing and supporting these types of technology will improve safety while also not causing an increase in cost that makes flying inaccessible, which could occur should the exemption be removed.

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<sup>5</sup> Transponder with Automatic Altitude Reporting Capability Requirement, 53 Fed. Reg. 23361 (1988, June 21) (to be codified at 14 C.F.R. pt. 91)

## Equipment Cost

When 14 C.F.R. §91 was rewritten in 1988 there were questions, as there continues to be today, as to the availability of battery operated transponder units and of the need for an antenna to be installed in order for the system to be effective. Modifications to the aircraft lead to certification questions and larger costs. Aircraft required to have a transponder must comply with the tests and inspections required by 14 C.F.R. §91.413. These inspections and tests must be performed and approved in accordance with appendixes E and F of 14 C.F.R. §43. There would be the additional burden for the aircraft owner for the cost of installation and the on-going maintenance. The lack of a radio in some of these aircraft could create an additional expense and barrier to the aircraft owner seeing a benefit, such as traffic advisories, of any transponder equipment.

## Conclusion

After looking at the airports and airspace gliders and aircraft without an engine-driven electrical system primarily operate from/within, the AOPA does not see a benefit to the removal of the current transponder exception or an additional requirement of ADS-B equipage. History has shown that gliders are safe and that this exemption works in the favor of aviation being accessible. There would likely be a high financial cost to these aircraft owners should the exemption be discontinued with little return in benefits as they operate in the national airspace system. The AOPA agrees with the FAA's 1988 determination to allow the transponder exception for gliders and believes the removal of this exception would not substantially increase safety.

AOPA encourages the FAA to continue working with the Soaring Society of America and other industry organizations, including AOPA, in order to find cost effective anti-collision solutions, such as FLARM, and equipment that would meet TSO-C199 specifications. The expertise of local airspace managers who could assist local glider clubs implement safe procedures, tailored to each unique environment, would also benefit all users of the airspace system. AOPA applauds the FAA for instituting a standardized transponder code for glider operators as it increases visibility of glider operations and their performance limitations to air traffic controllers.

Thank you for the opportunity to comment on this important issue.

Sincerely,



Melissa Rudinger  
Vice President, Government Affairs

The Aircraft Owners and Pilots Association (AOPA) is a not-for-profit individual membership organization of General Aviation Pilots and Aircraft Owners. AOPA's mission is to effectively serve the interests of its members and establish, maintain and articulate positions of leadership to promote the economy, safety, utility and popularity of flight in general aviation aircraft. Representing two thirds of all pilots in the United States, AOPA is the largest civil aviation organization the world.