

Date: December 15, 2014

Re: Petition for Rulemaking, to amend 14 CFR 91.225(d) and (e) and 14 CFR Part 91, App. D, Section 1.

**Explanation:**

14 CFR 91.225 requires ADS-B Out equipage for aircraft to enter certain airspace after January 1, 2020. This will create an unnecessary financial burden for tens of thousands of aircraft owners that are not regular users of the specified airspace, particularly for those owners who operate aircraft that have a low economic value. In the final rule NPRP Docket No. FAA-2007-29305; Amdt. No. 91-314, the FAA stated:

The FAA fully acknowledges that the general aviation community will incur significant costs from this rule.

The following is quoted from the statement provided by Mark Baker, President and CEO, Aircraft Owners and Pilots Association testimony to the Committee on Transportation and Infrastructure, United States House of Representatives on November 18, 2014:

For a large segment of the general aviation community, the cost of the required ADS-B Out equipment is the greatest barrier to adoption. More than 81,000 of the 188,000 certified piston-powered aircraft on the FAA registry are worth \$40,000 or less, and those aircraft have a weighted average value of \$25,800. That puts investing at least \$5,000-\$6,000 to install equipment that will only allow aircraft to operate in the same airspace they use today well beyond the reach of many owners.

Without changes, we will see many of these airplanes and their pilots stop flying on Jan. 1, 2020, further accelerating the already alarming losses in the GA community and creating an economic shock that could seriously damage thousands of small aviation businesses nationwide.

The aircraft that are cited in Mr. Baker's testimony are primarily used for recreational flying below 10,000 MSL. Many are never operated at or above 10,000 MSL. They rarely if ever enter class B or C airspace. However, many of these aircraft are affected because they are based at airports that are within the 30NM Mode C Veils surrounding the population centers of the US, even though the areas which these smaller airports are located may be sparse, such as much of the Mode C veil areas surrounding the Denver and Charlotte Class B airspace. Furthermore those aircraft which operate out of or into airports under the mode C veil must also be transponder equipped with mode C altitude reporting capability. If the requirement for ADS-B equipage did not include the Class E/G airspace within the mode C veil, such aircraft would have the option to not equip with ADS-B Out capability and live with the limitations regarding operation within class B and C airspace or above 10,000 MSL. In my opinion, even though many owners will voluntarily comply with equipage, this course of action would be chosen by tens of thousands of aircraft owners who really gain nothing from equipping while having negligible impact on more regulated airspace users. For those of us who need regular access to the airspace, equipage would be mandatory.

In summary, I petition the FAA to eliminate the ADS-B equipage requirement for aircraft certified with an electrical system to operate within the mode C veil, while below 10,000 MSL as long as they remain clear of all Class B and C airspace.

### **Proposed Regulation Language Changes:**

I petition that the following changes be made to the subject regulation:

1. Eliminate 14 CFR 91.225(d)(2) that requires aircraft to have ADS-B Out equipment inside the 30 NM mode C veil when below 10,000 MSL to the surface:

~~(2) Except as provided for in paragraph (e) of this section, within 30 nautical miles of an airport listed in appendix D, section 1 to this part from the surface upward to 10,000 feet MSL;~~

2. Edit 14 CFR 91.225(e) to read:

(e) The requirements of paragraph (b) of this section do not apply to any aircraft that was not originally certificated with an electrical system, or that has not subsequently been certified with such a system installed, including balloons and gliders. These aircraft may conduct operations without ADS-B Out in the airspace specified in paragraphs ~~(d)(2) and~~ (d)(4) of this section.

3. Edit 14 CFR Part 91, App. D, Section 1 to read:

Locations at which the requirements of §91.215(b)(2) ~~and Sec. 91.225(d)(2)~~ apply. The requirements of §91.215(b)(2) ~~and 91.225(d)(2)~~ apply below 10,000 feet above the surface within a 30-nautical-mile radius of each location in the following list.

### **The change is in the public interest:**

I support ADS-B and NextGen where it is beneficial or necessary for improving the efficiency of the US airspace system. However, forcing technology on those who do not benefit from ADS-B and have negligible impact the operations ADS-B is intended to support has the potential to negatively affect the general aviation industry more than any other single action the FAA can take without any corresponding benefit to the US airspace system. It is likely to substantially reduce the GA fleet size with unnecessary scrapping of aircraft. This will negatively affect those businesses in the industry who provide services (maintenance, storage, flight training, fuel sales, pilot supplies) to these aircraft and provide employment. States and communities that operate these airports derive income from taxes on personal property, aircraft storage and hangar fees, and fuel sales, will all see a decline in revenue. To the extent fewer people are gainfully employed, this will also have a negative impact. Training will become more expensive and exacerbate future anticipated shortages of pilots.

### **Argument and rationale:**

- 1) **Some aircraft already have an exception.** The current regulation 91.225(e) provides an exception for aircraft that were not originally certified with an electrical system to operate in this airspace. This proposal does not modify the requirement already contained in 91.215 which

requires a transponder with mode C for aircraft that have an electrical system installed. In effect, this change would extend the exception to include aircraft that had both an electrical system and a transponder with mode C.

- 2) **Secondary radar is not eliminated in the airspace.** From the NPRM Docket No. FAA–2007–29305; Amdt. No. 91-314:

The FAA completed the Surveillance/Positioning Backup Strategy Alternatives Analysis 58 on January 8, 2007. This study included a comprehensive analysis of various strategies for mitigating the impact of the loss of GPS on ADS–B surveillance. The analysis identified a reduced network of SSRs as the recommended backup for ADS–B. This strategy retains all existing en route SSRs (150) and approximately 50 percent of SSRs in high-density terminal areas (40).

- 3) **Controllers view a fused target.** From the NPRM Docket No. FAA–2007–29305; Amdt. No. 91-314:

If, during flight, an individual aircraft does not meet the minimum ADS–B–required performance parameters, then ATC may provide separation services using the backup (for example, radar where available and procedural separation elsewhere). This transition will be seamless because secondary surveillance data will be one of several surveillance sources fused into the display used by ATC.

The ADS–B ground automation combines or “fuses” all available surveillance information from ADS–B with primary surveillance radar and SSR. This provides a complete or “fused” picture of all the traffic operating in a given area. Multi-sensor fusion allows the automation to combine data from various sensors, and use the most accurate measurements.

- 4) **TCAS equipped Aircraft depend on transponders for operation:** TCAS equipped aircraft depend on the transponder for traffic awareness and alerting as do active TCAD traffic systems, not on ADS-B Out and thus will not be affected.
- 5) **ADS-B In Services are still available for appropriately equipped aircraft.** For aircraft equipped with ADS-B Out and also equipped with ADS-B In capability, they are still able to obtain traffic awareness of mode C transponder equipped within the affected airspace via the GBT (Ground Based Transceiver) TISB service.
- 6) **Aircraft won’t needlessly be scrapped.**
- 7) **Financial Impact to affected communities, Businesses, and employees will not be adversely affected.**

#### **Summary:**

Safety will not be adversely compromised or affected. This proposal has the effect of extending the same authorization for aircraft that have an electrical system and a functioning transponder with a mode C capability to fly in the same airspace the current rule exempts aircraft that were certified without an electrical system while not imposing the burden of mandating expensive ADS-B out equipment.

This permits low performance aircraft that may have low economic value, but are already equipped with mode A/C transponders to access all of the airports under and outside of the Class B and C areas and within the 30 NM mode C veil. These aircraft will receive no benefit other than to be able to fly in

airspace and to/from airports they currently are permitted to fly into. Since many aircraft of this category are found at airports in the metropolitan areas where the highest density of population reside and thus are adversely affected by the current rule, this change will eliminate the high financial burden for equipage for many such aircraft thus saving these aircraft from being scrapped. This rule change will eliminate the unnecessary financial burden to the owner and the community and not adversely impact safety or access to these valuable airports. There is no corresponding benefit to the system to balance the harm to grassroots General Aviation by the 2020 mandate with the current restriction mandating equipage within the mode C veil.