



PLAN YOUR ADS-B UPGRADE BEFORE TIME RUNS OUT

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The deadline is years away, but a shortage of shop capacity will make it difficult for operators to equip in time to meet the January 2020 compliance date

By Jan. 1, 2020, the majority of aircraft operating domestically in the U.S. will be required to have ADS-B Out capabilities. FAR Part 91.225 outlines the specific airspace requirements, and the regulation applies to the vast majority of business aircraft. In many cases, an upgrade or replacement of the existing transponder will be needed to make an aircraft ADS-B Out compliant.

Operators that fly internationally may already have installed ADS-B Out equipment to meet existing requirements in Australia, Hong Kong, Singapore, Taiwan and Vietnam or those that are scheduled to go into effect in Europe by June 2020.



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However, in some cases, operators may have installed earlier model transponders that are compliant with certain international requirements but do not meet Part 91.225 standards.

It's also important to note that the FAA's ADS-B Out requirements apply regardless of which FAR an operator typically operates under. Whether it's

Part 91, 121, 125, 135 or some other regulation, the FAA's ADS-B Out deadline is still Jan. 1, 2020.

Some rumors have circulated that Part 121 airlines might receive an exemption from the ADS-B requirement or an extension from the Jan. 1, 2020, deadline. That simply is not true.

“No one will be exempt from the equipage requirement,” declared Doug

Carr, NBAA's vice president of regulatory and international affairs. “It's possible some operational aspects won't be ready by 2020. For example, an aircraft parked next to a building might not receive or transmit an ADS-B signal until the aircraft is pushed back. The FAA recognizes the need to keep flights moving, despite the operational standard requiring a signal at dispatch.”

The wide-ranging impact of this rule means aircraft owners and operators need to know what ADS-B solutions are available for their aircraft, plan accordingly and consider other upgrade options.

IS THERE A SOLUTION FOR MY AIRCRAFT?

NBAA recently looked at what percentage of the business aviation fleet has an ADS-B solution. According to preliminary data, almost 92 percent of business aircraft have an available ADS-B solution, leaving 8 percent as what Carr refers to as “orphaned” – that is, without an identified solution.

Ric Peri, vice president of regulatory affairs for the Aircraft Electronics Association, said a good way to think of available ADS-B solutions is by generation of ownership:

1. First-generation owners are likely fully supported by the original equipment manufacturer (OEM) because the aircraft are so closely tied to the OEM due to configuration and aesthetics considerations.
2. Second-generation owners are still probably 90 percent tied to OEMs mostly because of service bulletins, which tend to compound on each other – one service bulletin leans





ASSURING PRIVACY IN THE ADS-B ERA

Many business aircraft operators participate in the FAA's Aircraft Situation Display to Industry (ASDI) Block program. However, Mode S transponder technology negates some of the program's privacy benefits. How much privacy can operators of ASDI Block-registered aircraft expect once they are ADS-B-equipped?

All transponders are assigned a 24-bit ICAO code, which is based on the aircraft's registration and a public algorithm. This can be used to identify the aircraft and aircraft owner. NBAA is working with the FAA on a process to set up a certain set of ICAO codes for business aircraft operators that would not translate to an aircraft registration number. NBAA believes this could provide another layer of privacy protection for aircraft flying in the U.S.

Also, FlightAware and some other tracking providers are working with the industry to provide the privacy expected by ASDI Block participants, at least in domestic airspace. However, other flight-tracking applications allow for easy and inexpensive (or even free) tracking worldwide.

NBAA will continue to work with the FAA and others in the industry to ensure that operators' privacy and security are maintained after ADS-B implementation.

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on another, but provides a logical path to compliance.

3. "Third-generation owners will start to see deviations from the OEM, partly because these owners and operators tend to look at cost-effectiveness as much as configuration control," said Peri. "This is where you start to see third-party solutions viable in the marketplace."

Peri said the first generation of owners might experience challenges meeting the deadline since the avionics suppliers for those aircraft are also the dominant suppliers for the

airlines. For more modern aircraft, Peri doesn't anticipate solutions being available until late 2016 or early 2017.

Also, newer aircraft tend to be maintained at authorized service centers. While there are roughly 950 avionics repair stations in the U.S., approximately 750 are installation shops and only 100 to 150 repair stations support business jets or turboprops. It's not hard to anticipate the overwhelming demand on these repair stations over the next few years.

The shop availability concerns are compounded by the fact that OEMs tend to limit service bulletins to their repair centers only. Now, instead of looking at up to 150 potential repair stations, you might be limited to fewer than a dozen.

"Considering the industry is looking at two weeks of down time for each aircraft, mathematically, it's virtually impossible to meet the compliance date unless we can rely on the full resources of the industry," said Peri.

PLANNING FOR ADS-B

"Aircraft owners and operators need to be aware that the planning phase is not just about budget and available shop time," said Carr. "ADS-B systems also require operational testing to ensure they work properly and, if not, to work out any bugs, such as phantom imaging."

Carr explained that a fair number of installations have a problem upon implementation. The only way to resolve these issues is to contact the FAA, identify the exact problem and coordinate a solution.

Peri encourages aircraft owners and operators to choose repair stations with proper ADS-B test equipment. This equipment can help prevent post-installation issues. Although the shops that have this equipment might not be the cheapest options, they can save operators and owners a significant amount of time by not having to deal with post-installation problems.

The final step in validating [your installation's] ADS-B accuracy is to



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request a Public ADS-B Performance Report (PAPR) from the FAA. The report is free and there is no penalty or violation assessed if any concerns are identified.

“The future health of your ADS-B system will be judged by what [data] the FAA is receiving,” said Peri. “That’s it. There’s no required maintenance check or continuing airworthiness process.”

Peri recommends adding ADS-B checks to your approved maintenance program and conducting them along with transponder checks.

THINK ABOUT ADS-B IN, TOO

Aircraft owners and operators should also consider what technology might be required or helpful in the future. For now, the ADS-B

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mandate is only for transmitting out. However, many operators would benefit from installing ADS-B In capabilities as well. While your aircraft is already down for the ADS-B Out upgrade, it’s worth considering installing ADS-B In, as well as other cutting-edge technology.

“Plan beyond simple rule compliance and consider what comes next,”

suggested Carr, “which for most aircraft is ADS-B In.”

Also, installing Wide Area Augmentation System and other technology might be well worth the investment for some operators. ❖

Review NBAA’s ADS-B resources at www.nbaa.org/cns.

REBATES AVAILABLE TO CERTAIN AIRCRAFT OWNERS

Owners of eligible aircraft may qualify for a \$500 rebate for installing avionics required for ADS-B Out compliance. Eligible aircraft must be U.S.-registered, fixed wing, single-engine piston aircraft that are not currently equipped with Version 2 ADS-B Out.

The FAA estimates a minimal rule-compliant system for this type of aircraft would cost approximately \$2,000, plus installation fees. The rebate offer is limited to the first 20,000 eligible aircraft owners that apply. The FAA expects the rebate program to run for approximately one year, or until 20,000 rebates are distributed, whichever comes first.

NBAA encourages aircraft owners to schedule their ADS-B upgrades as soon as possible to avoid the challenges that will occur closer to the Jan. 1, 2020, compliance deadline. Aircraft not properly equipped by that date face grounding or significant operational limitations. The FAA will not be issuing an extension to the deadline or exemptions to the equipage requirement.

Learn more about the rebate at www.faa.gov/nextgen/equipadsb/rebate.