

Submission: 277

Antique Aeroplane Association of Australia Inc



Automatic Dependent Surveillance Broadcast (ADS-B) mandate in Australia

Response to Consultation Paper - October 2025

Introduction

The Antique Aeroplane Association of Australia (AAAA) is Australia's premier organisation promoting the preservation, restoration and flying of antique/vintage aircraft both civil and military. The Association exists to give restorers, maintainers, owners and operators of antique/vintage aircraft a unified voice with which to engage with government agencies. The association is now in its 51st year, and represents the owners of more than five hundred aircraft of both antique/vintage types as well as contemporary types.

The AAAA welcomes the opportunity to respond to the Consultation Paper which proposes to mandate the carriage of ADS-B OUT equipment in all VFR aircraft, and further expand the mandate for IFR aircraft to include ADS-B IN technology.

Statement of Position

The AAAA does not support the proposed expansion of the ADS-B mandate to VFR aircraft for the reasons outlined below.

We note that all alternative models outlined in Figure 14 of the Consultation Paper lead to the same outcome of mandating of approved ADS-B equipment in VFR aircraft and thus are not supported.

- **Lack of Safety Case**

The Consultation Paper promotes the proposed ADS-B mandate ostensibly from a safety perspective, i.e. reducing the risk of midair collisions, however does not establish the level of existing risk and the extent to which the proposed mandate would mitigate that risk.

Research undertaken by the Australian Transport Safety Bureau (ATSB) into midair collisions in Australia over a 40 year period established that the rate of midair collisions is only 0.048 per 100,000 flying hours, and account for only 0.4 percent of accidents involving general aviation aircraft¹. The rate of fatal midair collisions is only 0.035 per 100,000 flying hours. The vast majority of the midair collisions studied occurred in the circuit area with a majority of those occurring on final approach. Only five percent of collisions occurred enroute or during airwork.

It is AAAA view that a ADS-B OUT mandate for VFR would do little if anything to reduce the risk of midair collision on final approach and in the circuit area, and the overall low rate of midair collisions in Australia does not support the substantial impost on general aviation associated with the ADS-B mandate.

¹ Review of Midair Collisions Involving General Aviation Aircraft in Australia between 1961 and 2003, Australian Transport Safety Bureau, 2004

- **Opportunity Cost of the Proposal versus Other Safety Benefits**

The majority of operations involving antique/vintage aircraft are non-commercial, usually recreational or public benefit in nature (eg commemorative fly-pasts etc). As such, the resources that aircraft operators can devote to their operations are limited, and funds expended in one area reduce funds available in other areas. It is important that limited resources, including for air safety measures, are directed to the area which will have the greatest benefit.

The ATSB report referred to earlier, demonstrated that 99.6 percent of accidents involving general aviation aircraft do not involve midair collisions. In fact, loss of control related accidents are the largest category involving general aviation aircraft. It is well accepted that training, currency and proficiency are the key mitigators for those types of accidents.

One of the justifications provided in the Consultation Paper for the ADS-B mandate for VFR aircraft is it will lead to “more informed accident investigation.” This effectively prioritises allocating scarce resources to accident investigation ahead of accident prevention and is not supported.

It is the AAAA view that the proposed ADS-B mandate for VFR aircraft does not represent the best use of scarce aviation safety funds, and the cost of such a mandate will reduce the funds available for higher priority safety activities including training and currency flying.

- **Cost of Compliance with the Mandate**

While the proposed VFR mandate permits compliance in the short term through the use of Electronic Conspicuity (EC) devices, it proposes to mandate the installation of approved ADS-B OUT equipment in the medium term.

The Consultation Paper provides no justification for mandating the vastly more expensive approved ADS-B OUT equipment in place of EC devices. Unlike installing ADS-B equipment, the use of EC devices does not involve invasive and irreversible modification to aircraft systems and structures. This is particularly important for maintaining the integrity of vintage/antique aircraft.

The cost of installing approved ADS-B OUT equipment in VFR aircraft is expected to exceed \$10,000 per aircraft given recent escalations in equipment and labour costs. This is before the impact that sudden, large scale, demand caused by the mandate will have on availability and consequently cost.

Within the vintage/antique aircraft fleet are a number of aircraft types with a market value in the \$30-\$50,000 range. It is an unreasonable and disproportionate burden to require aircraft owners to spend 1/5 to 1/3 of their aircraft value in meeting the mandate, when it provides no benefit to the majority of VFR aircraft operators beyond that available through EC devices.

- **Aircraft unable to be fitted with ADS-B OUT equipment**

A considerable proportion of aircraft in the vintage/antique fleet are not fitted with any electrical system, or have only limited portable battery electrical systems. These aircraft are not capable of powering approved ADS-B equipment or Mode A/C transponders.

This is recognised in *Part 91 (General Operating and Flight Rules) Manual of Standards 2020* which at 26.68 provides an exemption from transponder requirements in Class E and G airspace for VFR aircraft which do not have “sufficient engine-driven electrical power generation capacity to power the surveillance equipment.”

While the Consultation Paper refers to “capable aircraft” in relation to the carriage of ADS-B equipment, it lacks detail and thus certainty as to the nature and application of the exemption. The AAAA does not support any VFR mandate which does not at a minimum replicate the current transponder exemption for aircraft with limited or no electrical systems.

- **Assessment of Benefits from Existing IFR ADS-B Mandate**

The Consultation Paper highlights “improved quality of ATS” (air traffic services) as one of the four benefits of the proposed VFR mandate. It is noted however that the vast majority of VFR aircraft operating in Class G airspace do not access ATS and thus will not accrue that benefit.

No assessment is provided as to whether the 2017 ADS-B mandate for IFR general aviation aircraft resulted in “improved quality of ATS” for that cohort.

Those improvements were expected to include enhanced surveillance coverage, improved access to controlled airspace, and more direct tracking. However, anecdotal evidence suggests few tangible benefits have resulted from ADS-B OUT equipment for IFR general aviation operators compared to operating with only Mode A/C transponder equipment.

For example, ADS-B equipped IFR aircraft still lose surveillance coverage at lower levels in north west Victoria, including the busy Mildura-Wentworth area. This suggests that investment in ADS-B ground stations to expand the low level surveillance footprint has not been made, despite the substantial investment in ADS-B equipment that was required of general aviation IFR operators.

The Consultation Paper notes that ADS-B ground stations are typically deployed within controlled airspace, and coverage is limited within Class G airspace. This further highlights that there will be few ATS benefits for the majority of VFR operators, as has proved to be the case for IFR operators in Class G airspace.

- **Privacy & Security Implications**

The use of ADS-B OUT allows for the real-time identification and tracking of aircraft on a range of publicly accessible websites. Many of those websites match that tracking data with data from the publicly available CASA Aircraft Register which includes aircraft operator details, and often the home addresses of individuals. This has already created privacy and security concerns for some IFR aircraft operators.

The expansion of the ADS-B mandate will broaden that exposure.

The Attorney General's Department and Office of the Australian Information Commissioner require Australian Government entities to undertake Privacy Impact Assessments where policy proposals/projects have privacy implications including those arising from community expectations.

It is noted that the Consultation Paper does not address privacy issues arising from the broadcast of identified tracking data as a consequence of the proposed expanded ADS-B mandate.

The United States Federal Aviation Administration (FAA), has acted to address privacy and security concerns arising from ADS-B through implementation the 'Limiting Aircraft Data Displayed' (LADD) and Privacy ICAO Address (PIA) programs which are activated for individual aircraft by the FAA at the request of the aircraft operator.

To date Australian Government agencies have not implemented similar privacy protections for data broadcast as a consequence of the existing ADS-B mandate.

The AAAA does not support an expansion of the ADS-B mandate without similar privacy protections being introduced in Australia and extended to aircraft operators already subject to ADS-B mandates.

- **Drone Operations Beyond Visual Line of Sight (BVLOS)**

It would appear that one of the key drivers of the proposed ADS-B mandate is to facilitate the introduction of BVLOS drones into the Australian airspace system.

The operation of manned aircraft must be prioritised over that of unmanned aircraft. It is inequitable to impose substantial costs on existing aircraft operators, particularly general aviation, to facilitate the introduction of BVLOS drones.

The successful development and deployment of independent detect and avoid (DAA) technology (as is currently under development) should be a condition precedent for the introduction of BVLOS drones, rather than imposing a mandate to re-equip the existing aircraft fleet, as is being proposed.

It is noted that the United States FAA is currently consulting on a framework to introduce BVLOS drones into the airspace system. That framework is highly contested and yet to be resolved, however the FAA is not proposing to introduce a universal ADS-B mandate for VFR aircraft.

It is the AAAA's strong view that the Australian Government should not proceed with a BVLOS framework, including any ADS-B mandate, until a framework has been settled in the United States. That framework will set the global parameters for technology development, and any misalignment in Australian requirements will impose unnecessary costs, and limit technology options for local operators.

- **ADS-B IN mandate for IFR Aircraft**

The Consultation Paper proposes to further extend the mandate for IFR aircraft to require some form of ADS-B IN capability, though is silent on how this would be achieved.

The AAAA would not support a mandate requiring the fitment of approved ADS-B IN equipment. It is noted that ADS-B IN technology was available at the time the original ADS-B OUT mandate was imposed in 2017. We believe it would be unreasonable to now require general aviation IFR operators who complied with the original mandate to replace that equipment with new equipment at further substantial cost.

ADS-B IN capability can be achieved in most general aviation IFR aircraft with an EC device and tablet EFB. However we do not believe it is necessary to mandate such equipment, and uptake can be achieved through information campaigns. Any mandate for portable technology will inevitably reduce flexibility and delay the adoption of new innovations as they arise.

- **International Environment**

The Consultation Paper discusses ADS-B requirements in the United States, Canada, Europe and New Zealand. It is notable that none of those jurisdictions require ADS-B OUT equipment to be fitted to VFR aircraft operating outside controlled airspace (in lower level Class E and Class G airspace). In that regard the Australian proposal exceeds existing and proposed international practice.

The AAAA does not support the Australian Government introducing its own ADS-B mandate for VFR which is inconsistent with and ahead of the practice adopted by leading general aviation jurisdictions like the United States.

It is noted that the 2017 ADS-B mandate for IFR aircraft preceded, and differed from the requirements that were established in the United States. This led to Australian IFR operators incurring additional costs and having access to fewer technology options than subsequently become available in response to the later US mandate.

Conclusion

The AAAA welcomes the opportunity to respond to the Consultation Paper.

We are concerned that the proposed expansion of the ADS-B mandate is driven by considerations around BVLOS drones and not the objective and demonstrable needs and risks of the manned aviation sector.

We would be concerned if the Australian Government developed an ADS-B mandate that was misaligned with the frameworks being developed in the leading aviation jurisdiction and which imposed additional regulatory and cost burdens on Australian general aviation aircraft operators.

The proposal which seeks to mandate the installation of approved ADS-B OUT equipment in VFR aircraft rather than providing for EC technology, offers no tangible benefit over EC technology and comes at considerably greater cost.

A mandate for ADS-B OUT equipment in VFR aircraft creates particular problems for the antique/vintage sector in terms of disproportionate cost, electrical system limitations, and invasive modifications to historically significant airframes and is not supported.

ENDS

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