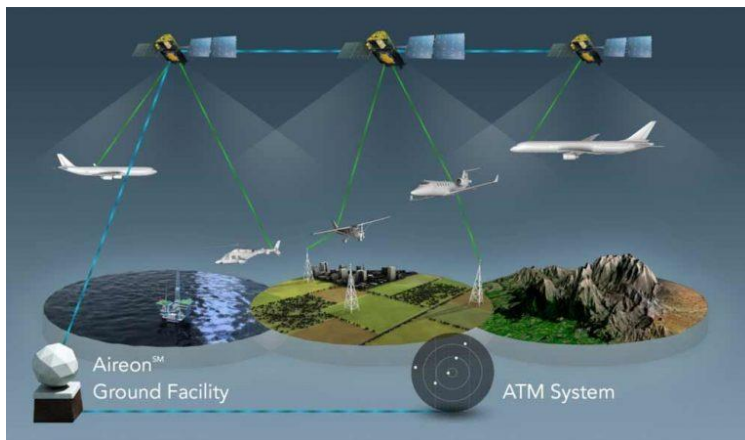


The Technical Side: Canadian ADS-B mandate status?

One of the most frequent questions we get from our customers is what they should be doing regarding ADS-B compliance in Canada. If you don't want to read this whole article, the short answer is unless your aircraft is all apart for another job don't do anything until this gets properly sorted out. It will be mandated in Canada, but unlikely on the timeframe being said and perhaps not across the whole aircraft fleet.

The U.S. mandated ADS-B solution uses a ground-based transmission solution but our vast expanse in Canada would make that cost prohibitive. Nav Canada's solution was to partner with Aireon, a satellite-based solution, which would allow communication across Canada (and other parts of the world). Aireon's space-based global surveillance system is just Automatic Dependent Surveillance-Broadcast (ADS-B) on a satellite. Instead of utilizing traditional radio receiver towers on the ground, Aireon has redesigned them into flexible and highly effective space-grade receivers on Iridium's second-generation satellite constellation. This allows for 100 percent global surveillance using the same ADS-B signal that aircraft already transmit.



Maxcraft has watched this very carefully, we have sat in on numerous presentations by NAV Canada, Transport Canada, FAA and ADS-B vendor suppliers, COPA, etc., and frankly it's a bit of a mess. Action on the Canadian mandate has been quiet over the last few years, but in Feb 2022, NAV Canada has published its Mandate requiring ADS-B Out equipage for Canadian airspace. Requirements in Class A and B airspace are identified to start February 23, 2023, and

no sooner than February 23, 2026, in Class C, D and E airspace. [AERONAUTICAL INFORMATION CIRCULAR 2/22 \(navcanada.ca\)](#)

COPA has some excellent articles on the legality and practicality of moving forward on this within the timeframe Nav Canada is suggesting.

[NAV CANADA's ADS-B "Mandate"? – COPA \(copanational.org\)](#)

[Doesn't the verdict come at the end of a trial? – COPA \(copanational.org\)](#)

The ADS-B Out avionics performance standards required is RTCA DO-260B or newer along with the unique Canadian antenna placement. This requirement must be met either through antenna diversity (the use of a top and bottom antenna) or with a single antenna that is capable of transmitting both towards the ground and up towards satellites. In the U.S., aircraft that operate in airspace that required a Mode C or Mode S transponder needed to be equipped with ADS-B Out by December 31, 2019. This includes most controlled airspace (Class A, B, C and parts of E) transmitting on either 978 or 1090 MHz. Outside U.S. airspace, almost all ADS-B systems operate on 1090 MHz.



Nav Canada estimates that approximately 95% of aircraft currently operating in Class A airspace are equipped with DO-260B compliant ADS-B Out transponders, while approximately 65% of those in Class B airspace are properly equipped. Those numbers seem awfully high to us and

certainly the large majority of our customers operating in Class A and B are not currently compliant.

Maxcraft's view on this timeframe, is if we started working exclusively just on our existing customer's aircraft that operate in Class A and B airspace, we could not get done by February 2023! There is going to have to be some sort of extension in these timeframes the question is when and what aircraft will be affected. The solutions vary depending on type of aircraft and the current avionics suite. Of course, pressurized aircraft antenna installation will be more complex and require additional certification. Recent supply chain delays for transponders make this upgrade just that much more complicated. The smart money says watch the industry announcements and schedule the work when your aircraft is apart for other upgrades or maintenance.