

AERONAUTICAL INFORMATION CIRCULAR 26/23

ADS-B WITHIN CANADIAN DOMESTIC AIRSPACE

(Replaces AIC 17/23)

Background

Effective 10 August 2023, Canada implemented the first phase of an automatic dependent surveillance – broadcast out (ADS-B Out) Performance Requirements Mandate in Canadian domestic airspace. This first phase mandates ADS-B Out throughout Class A airspace, and on **16 May 2024 the mandate will also become effective in Class B airspace**. ADS-B mandates in Class C, D and E airspace will commence no earlier than 2028, and the approach and timing for implementation in Class C, D and E will be determined pending further assessment and stakeholder engagement.

The Canadian ADS-B Out mandate is enabled through airspace classification designation and amendment to transponder airspace requirements, as described in the Designated Airspace Handbook, which is available on the NAV CANADA website: <https://www.navcanada.ca/en/aeronautical-information/operational-guides.aspx>.

Equipage Requirements

To demonstrate compliance with the Canadian ADS-B Out mandate, aircraft are required to:

- be equipped with an appropriate transponder with ADS-B Out capabilities that performs to the Minimum Operational Performance Standards of RTCA DO-260B, or newer; and
- have antenna capability for broadcast toward both ground-based as well as space-based ADS-B receivers. This requirement can be met either through antenna diversity (the use of a top and bottom antenna) or with a single antenna capable of transmitting both towards the ground and up towards satellites.

Aircraft equipment and installation requirements are defined in Airworthiness Chapter 551 – Aircraft Equipment and Installation – Canadian Aviation Regulations (CARs), section 551.103 – Transponder and Automatic Pressure Altitude Reporting Equipment, which is available at the Transport Canada website: https://tc.canada.ca/en/corporate-services/acts-regulations/list-regulations/canadian-aviation-regulations-sor-96-433/standards/airworthiness-chapter-551-aircraft-equipment-installation-canadian-aviation-regulations-cars#551_103

Flight Planning Requirements

Aircraft operators are expected to file the following ADS-B equipage in item 10b of the ICAO flight plan:

- B1 ADS-B with dedicated 1090 MHz ADS-B Out capability; or
- B2 ADS-B with dedicated 1090 MHz ADS-B Out and In capability.

In addition to the B1 or B2 code, aircraft equipped in accordance with the Canadian ADS-B Out mandate must also include CANMANDATE in item 18 of the flight plan following the SUR/ indicator, such as in the following two examples:

- SUR/CANMANDATE
- SUR/260B RSP180 A2 CANMANDATE

Aircraft operators planning flights in Canadian domestic Class A airspace require this new equipment identification in item 18 to indicate that the aircraft is equipped in accordance with the Canadian ADS-B Out

mandate. However, even if the flight does not plan to enter airspace where ADS-B has been mandated, aircraft operators are encouraged to always begin including SUR/CANMANDATE as soon as the aircraft is appropriately equipped.

Aircraft that have filed flight plans that do not correctly include SUR/CANMANDATE in airspace where ADS-B has been mandated will be filtered from Air Traffic Services (ATS) surveillance displays. Therefore in areas where ADS-B is the only available form of surveillance, ADS-B surveillance services will not be available.

ADS-B Accommodation for Unequipped Aircraft

Due to supply-chain limitations experienced in the context of the global pandemic, some customers have identified that they may not be able to meet the equipment requirements in time for the mandate effective date and, in some cases, they may require additional time to comply. To help this small number of customers bridge the gap, so long as system capacity permits, NAV CANADA will strive to accommodate aircraft unable to transmit ADS-B in accordance with the Canadian ADS-B Out mandate, in a similar fashion as accommodations are handled today for aircraft without functioning transponders in transponder mandatory airspace.

The three principles NAV CANADA will apply for ADS-B accommodation requests will be: safety, type of ATC separation service available in a given airspace, and impacts to other airspace users.

Assessing ADS-B accommodation requests will be a manual process and will take time for each flight. NAV CANADA will need to assess alternative surveillance means for each flight and determine if all the affected air traffic control specialties will be able to adequately handle the procedural-separation needs of unequipped aircraft on requested routes and altitudes.

To provide enough time to perform each of these assessments, NAV CANADA will require ADS-B accommodation requests to be submitted at least three business days in advance. ADS-B accommodations for unequipped flights will generally be issued on a first-come, first-served basis, although NAV CANADA will ensure that requests for unequipped priority flights (such as MEDEVAC, VIP, Rescue, etc) will be prioritized.

NAV CANADA will always try to communicate the capability to accommodate the route and/or altitude as soon as possible, and in no case will it be later than four hours prior to the expected time of departure. In cases where routes and/or altitudes are not conducive to accommodate unequipped aircraft, NAV CANADA may be able to propose alternative flight planning options for the pilot to consider. For cases where NAV CANADA has agreed to accommodate a flight that is unequipped, details of what to include in item 18 of the flight plan will be provided. In-flight accommodation requests will not be considered and, if traffic conditions or other operational circumstances change, NAV CANADA may need to rescind already agreed upon ADS-B accommodations.

Individual ADS-B accommodation requests can be submitted online at the NAV CANADA website:
<https://aar.navcanada.ca>

Blanket accommodations may be made available to air operators with regularly scheduled flights. Air operators wishing to request a blanket accommodation agreement should contact service@navcanada.ca

Further Information

Additional information on ADS-B can be found in AIP CANADA ENR section 1.6.3 available at the NAV CANADA website: <https://www.navcanada.ca/en/aeronautical-information/aip-canada.aspx>

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