

**TERMS OF REFERENCE**  
**Special Committee (SC) 186**  
**Automatic Dependent Surveillance Broadcast (ADS-B)**  
 Revision 29

**REQUESTORS:**

Organization	Person
Federal Aviation Administration	Steve Zaidman

**SC LEADERSHIP:**

Position	Name	Affiliation	Telephone	email	Change
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**BACKGROUND:**

There are a number of potential benefits that FAA customers (e.g., airlines and the flying public) and service providers (e.g., air traffic controllers) can realize with the use of ADS-B technology and associated applications. Several operational capabilities have been identified that could provide benefit if implemented and provided as a tool for flying public use. These benefits include enhanced safety, increased aviation efficiency and the potential to increase the capacity of all air and ground space used by the aviation industry. To satisfy the need for providing the ADS-B capabilities, SC-186 has been established to recommend industry standards for ADS-B applications that can be made available to governments, industry and other organizations. Version update releases are planned to support the phased operational implementation of ADS-B applications.

**DELIVERABLES:**

<b>Product</b>	<b>Description</b>	<b>FRAC Completion Due Date*</b>	<b>Change</b>
<b>Change 1 to DO-317C, Aircraft Surveillance Applications (ASA) MOPS</b>	Update test vectors to address data discrepancies and document deficiencies. Add CDTI-Assisted Visual Separation (CAVS) application requirements to align with TSO-C195c. Editorial changes as identified in the SC-186 WG-4 White Paper ‘Summary of ADS-B In Discussion Group Activities’ as published in 2023.	<b>April 2024</b>	<b>New</b>

\*Note: Final Review and Comment (FRAC) Completion Due Date refers to the date that the committee plenary approves the document after completing the FRAC Process. SCs should submit the final document at least 45 days before the PMC meeting where it will be considered for approval.

**SCOPE:**

Special Committee 186 (SC-186) shall codify requirements based upon the airborne and ground user needs for an Automatic Dependent Surveillance-Broadcast (ADS-B) system. The development activities of SC-186 shall consider the relevant work of other bodies, including ICAO Panels, FAA/CAAs, EUROCAE, AEEC, SAE, and other RTCA Special Committees. The Special Committee should coordinate with these bodies, including the EUROCAE and ICAO representatives.

SC-186, working jointly with EUROCAE WG-51, shall update DO-317C (and corresponding EUROCAE document ED-194B) to address identified problems with TIS-B test vectors for the surveillance processing test procedures. Furthermore, the document shall be updated to include CAVS requirements that align with TSO-C195c. Finally, editorial changes as identified in the SC-186 WG-4 White Paper ‘Summary of ADS-B In Discussion Group Activities’ shall be considered.

**ENVISIONED USE OF DELIVERABLE(S):**

MOPS published by SC-186 are intended to be used by the FAA and other civil aviation authorities (CAAs) as an acceptable means of certifying ADS-B equipment for civil aircraft. Additional documents from SC-186 may form the basis of advisory material for certification authorities and may inform the operational approval process and safety risk management directives for the FAA and other CAAs.

Specifically, the deliverable above is intended for the following purpose:

ASA MOPS: provides equipment specifications for ADS-B In applications. The changes to DO-317C include the following: update/add CAVS requirements to align with TSO-C195c, update test vectors to address identified problems, and editorial changes.

**SPECIFIC GUIDANCE:**

The committee should:

1. Harmonize operational concepts and perform high-level safety, performance and interoperability performance analysis for well-defined aircraft surveillance (AS) and ground surveillance (GS) applications brought to the committees from key stakeholders, other user groups, and sponsor programs, such as FAA/SBS and Eurocontrol/CASCADE.

The efforts will be based on previous work done within RTCA and in Europe. The work products of these efforts will be documents addressing the entire set of applications that include the following:

- Operational Services and Environment Definition (OSED),
  - Safety and Performance Requirements,
  - Interoperability Requirements.
2. Working jointly with EUROCAE WG-51, update and maintain, as required, Minimum Operational Performance Standards (MOPS) for an ADS-B system operating on 1090 MHz frequency (RTCA Document No. RTCA/DO-260[]). DO-260B is a basis for the U.S. ADS-B Out rule (14 CFR 91.225 and 14 CFR 91.227), so any subsequent versions of DO-260[] must be compatible with the broadcast requirements in DO-260B.
  3. Update and maintain, as required, Universal Access Transceiver (UAT) ADS-B MOPS (RTCA Document No. RTCA/DO-282[]). DO-282B is a basis for the U.S. ADS-B Out rule (14 CFR 91.225 and 14 CFR 91.227), so any subsequent versions of DO-282[] must be compatible with the broadcast requirements in DO-282B
  4. Update and maintain jointly with EUROCAE WG-51, MOPS for Aircraft Surveillance Application (ASA) System (RTCA DO-317[]). *Note that SC-186 is not authorized to make any changes to DO-185[] (TCAS MOPS), DO-385[] (ACAS-X<sub>10</sub> MOPS), or DO-386[] (ACAS*

*XU MOPS). Any changes that are determined to be required to DO-185[], DO-385[], or DO-386[] shall be coordinated through the RTCA Program Management Committee.*

5. Develop and maintain, jointly with EUROCAE WG-51, SPR and MOPS for Flight-deck Interval Management (FIM). These MOPS will provide all system-level requirements for the FIM application, including display requirements and algorithm performance and be tightly aligned with the ASA System platform as specified in DO-317[[]].
6. Coordinate with SC-147 and EUROCAE WG-75 for all issues pertaining to the use of ADS-B as a surveillance source with the ACAS X system.
7. Coordinate with SC-214 and EUROCAE WG-78 to ensure that CPDLC messages and functions meet the needs of ASA System applications and Air Traffic Data Communications services. Specifically, an SC-186/SC-214 Inter-Special Committee Requirements Agreement (ISRA) 186-ISRA-04 was established so that ADS-B In datalink communications requirements are updated as part of the updates to SC-214's Baseline 2 SPR and INTEROP documents.
8. Coordinate with SC-227 to ensure proper requirement allocation, as needed, to support navigation system integration with ASA System applications, such as FIM.
9. Coordinate closely with other government and industry groups, as appropriate, e.g., EUROCAE, ICAO, as well as with other RTCA special committees and working groups including, for example, SC-159, SC-206, SC-217, and SC-228.

#### **TERMINATION:**

When the scope of this Terms of Reference is complete, the committee will recommend to the PMC that the committee Sunset, go into Active Monitoring Mode, or spend a period of time in Hiatus. Any change/extension of a committee's work program requires prior PMC approval.

*ACRONYMS:*

ACAS X	Airborne Collision Avoidance System for Next Gen
AEEC	Airlines Electronic Engineering Committee
ASA	Aircraft Surveillance Applications
CAA	Civil Aviation Authority
CAS-D	CDTI-Assisted Separation on Departures
CAVS	CDTI-Assisted Visual Separation
CDTI	Cockpit Display of Traffic Information
CPDLC	Controller-Pilot Data Link Communications
FIM	Flight-deck- Interval Management
ICAO	International Civil Aviation Organization
IM	Interval Management
INTEROP	Interoperability
MOPS	Minimum Operational Performance Standards
OSED	Operational Services and Environmental Definition
SBS	Surveillance Broadcast Services
SPR	Safety and Performance Requirements
TCAS	Traffic-alert Collision Avoidance System
TSO	Technical Standard Order
UAT	Universal Access Transceiver