

Standard Change CS-SC005a

INSTALLATION OF AN ADS-B OUT SYSTEM

1. Purpose

This SC is for the installation of an ADS-B OUT system.

Note: The aircraft identified in the applicability/eligibility section of this Standard Change do not need to comply with Commission Implementing Regulation (EU) No 1207/2011. The installation supports the capability for aircraft to be seen by air traffic control and ACAS II (TCAS II) equipped aircraft.

2. Applicability/Eligibility

This SC applies to aeroplanes that are not complex motor-powered aircraft, and that have a maximum cruising speed in ISA conditions below 250 kt, to rotorcraft that are not complex motor-powered aircraft, and to any ELA2 aircraft.

3. Acceptable methods, techniques, and practices

The following standards contain acceptable data:

- FAA Advisory Circular AC 43-13-2B, Chapter 2, and
- FAA Advisory Circular AC 43.13-1B, Chapter 11.

Additionally, the following conditions apply:

- The transponder equipment and its installation are compliant with CS-SC002a or later amendments, or are otherwise approved.

The transponder equipment and its installation are in compliance with CS ACNS.D.ELS.010.

The reported pressure altitude is obtained from an approved source connected to the static pressure system that provides pressure to the instrument used to control the aircraft (credit can be taken from the embodiment of SC002a or later amendments).

The ADS-B transmit unit (transponder) is certified in accordance with ETSO-C166b, or later amendments.

- The GNSS receiver is certified in accordance with:

- ETSO-C129a, or
- ETSO-C196a or ETSO-C145c or ETSO-C146c, or later amendments, or equivalent.

- The GNSS installation is approved, or the GNSS receiver is integrated into the transponder and certified in accordance with ETSO-C196a, C145c, C145e, C146c or C146e, or later amendments, or equivalent.

- There is a direct digital interface between the GNSS receiver and the transponder, or the GNSS receiver is integrated into the transponder and certified in accordance with ETSO-C196a, C145c, C145e, C146c, or C146e, or later amendments, or equivalent.

- The compatibility of the combination of the transponder and the GNSS receiver is explicitly stated by the manufacturer of the transponder.

The ADS-B surveillance functionality provides data according to CS ACNS.D.ADSB.020. Surface data is optional if the system is not capable of determining air/ground status.

If automatic determination of the on-the-ground status is not available, the on-the-ground status is set to 'airborne' (credit can be taken from the embodiment of SC002a or later amendments).

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— Any antenna connected to the transponder has a resulting pattern that is vertically polarised, omnidirectional in the horizontal plane, and has sufficient vertical beam width to ensure proper system operation during normal aircraft manoeuvres (credit can be taken from the embodiment of SC002a or later revision).

— The equipment is qualified for the environmental conditions to be expected during normal operation (credit can be taken from the embodiment of SC002a or later revision).

— A system ground test that verifies all transmitted data according to CS ACNS.D.ADSB.020 and the consistency with data according to CS ACNS.D.ELS.015, as well as any voluntary transmission of additional data, is performed.

— This SC does not include the installation of GNSS antennas (see CS-SC004, which may be applied concurrently).

— The GNSS antenna must be installed with free line of sight to the sky (including all directions above the horizon) in normal flight conditions.

— Instructions from the equipment manufacturer have to be followed.

4. Limitations

Any limitations defined by the equipment manufacturer apply.

An installation according to this SC cannot be used to claim compliance with CS-ACNS Subpart D Section 4 '1090 MHz Extended Squitter ADS-B Out installations'.

5. Manuals

Amend the AFM with AFMS to include or refer to the equipment instructions for operations, as required.

Amend the Instructions for Continued Airworthiness (ICAs) to establish maintenance actions/inspections and intervals, as required. In particular, include a check every 2 years in accordance with the latest version of EASA SIB No. 2011-15R2. The ground test shall also include voluntarily transmitted ADS-B data (if any).

6. Release to service

This SC is not suitable for the release to service of the aircraft by the Pilot-owner.

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