

Standard Change CS-SC058ab

INSTALLATION OF TRAFFIC AWARENESS BEACON SYSTEM (TABS) EQUIPMENT

1. Purpose

This SC is for the installation of traffic awareness beacon systems. ~~TRAFFIC AWARENESS BEACON SYSTEM (TABS).~~

~~TABS equipment are~~ intended for use as ~~voluntary equipment~~ optional equipment ~~on aircraft that are not required to carry a transponder or automatic dependent surveillance - broadcast (ADS-B) equipment.~~

— A TABS consists of two main elements:

— Class A TABS consists of a transponder, altitude source and ADS-B OUT functionality;

— The transponder and ADS-B ~~OUT~~ functionality must be authorised to either ETSO-C199 Class A or ~~ETSO-C112e~~ and ETSO-C166b or later revision as applicable;

— ETSO-C112e and ETSO-C166b compliant TABS devices must be capable of being configured for use with GNSS position sources that comply with ETSO-C199 Class B where applicable (i.e. configuration 2);

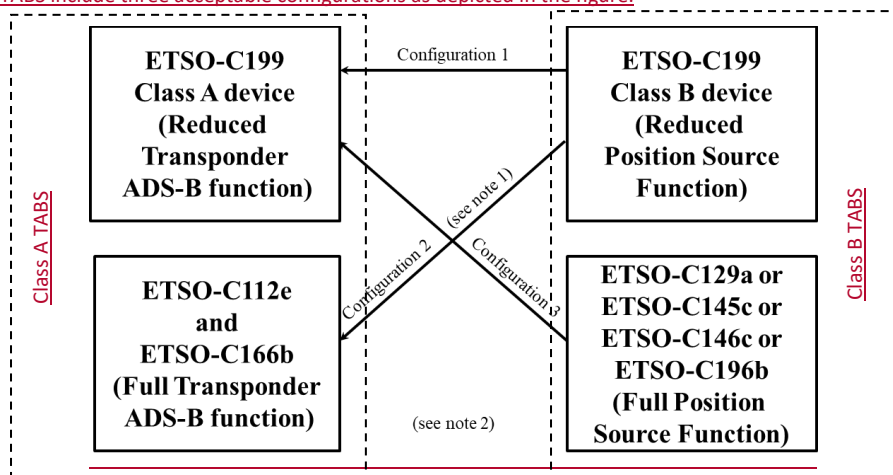
— The altitude source must be authorised to ETSO-C88a or later revision.

— Class B TABS consists of the GNSS position source;

— The Class B functionality must comply with ETSO-C199 Class B or ETSO-C129a (cancelled) or ETSO-C145c or ETSO-C146c or ETSO-C196b or later revisions;

— ~~The GNSS position source must provide a GPS-only solution for use by the TABS ADS-B function;~~

TABS include three acceptable configurations as depicted in the figure.



NOTE 1: Ensure device is configured as a TABS, for example; bits 53-54 should be set in the Type Code 31 message per A1.2.5.11 of the TABS TSO, SIL and SDA values should correctly reflect the capability of the TABS.

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Commented [JM1]: At least remove this part since this may indeed be configuration 2.

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Moved (insertion) [2]

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Commented [JM2]: Minimum version? e (as per ETSO-C199)?

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— Transponder installation for configuration 2 must be performed under SC002.

~~This SC does not qualify the TABS equipment installation in which the Class A TABS is not authorised according to ETSO-C112e, as compliant with ~~to meet~~ the transponder or ADS-B requirements defined in European Commission Implementing Regulations (EU) Nos 1206/2011 and (EU) No 1207/2011. Therefore, this TABS installation, in which the Class A TABS is not authorised according to ETSO-C112e, is not sufficient to permit the pilot to fly the aircraft into transponder mandatory zones (TMZs). Additional requirements may apply; refer to CS-SC002b or a later amendment.~~

NOTE 2: A ETSO-C112e / 166b transponder paired with a ETSO-C129a or C145c or C146c or C196b GPS receiver is not a TABS configuration refer to SC005 (ref. to ADS-B merge of 005 and 006).

The installation of a TABS will enable an aircraft to be visible to air navigation service providers and other aircraft equipped with:

- a traffic advisory system (TAS);
- a traffic alert and collision avoidance system I (TCAS I);
- a traffic alert and collision avoidance system II (TCAS II); or
- ADS-B IN capability.

~~This SC does not cover the installation of external antennas (see SC004, which may be applied concurrently).~~

~~The installation of a TABS will enable an aircraft to be visible to air navigation service providers and other aircraft equipped with:~~

- ~~— traffic advisory system (TAS); or~~
- ~~— traffic alert and collision avoidance system I (TCAS I); or~~
- ~~— traffic alert and collision avoidance system II (TCAS II); or~~
- ~~— ADS-B IN capability.~~

2. Applicability/Eligibility

This SC is applicable to Aeroplanes that are not being complex motor-powered aircraft, to rotorcraft that are not being 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, Chapters 1 and 2.

Additionally, the following conditions apply:

~~— 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.~~

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Moved up [1]: TABS equipment ~~are~~ is intended for use as ~~voluntary equipment~~ optional equipment on aircraft that are not required to carry a transponder or automatic dependent surveillance - broadcast (ADS-B) equipment.

Deleted: This SC does not qualify the TABS equipment installation, in which the Class A TABS is not authorised according to ETSO-C112(), as compliant with ~~to meet~~ the transponder or ADS-B requirements defined in European Commission Implementing Regulations (EU) Nos 1206/2011 and (EU) No 1207/2011. Therefore, this TABS installation, in which the Class A TABS is not authorised according to ETSO-C112(), is not sufficient to permit the pilot to fly the aircraft into transponder mandatory zones (TMZs). Additional requirements may apply; refer to CS-SC002b or a later amendment.¶

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- Ensure that the system is configured as TABS and that the correctness of all transmitted parameters are verified during post-installation functional test, especially verify that:
 - For all configurations SDA shall be set to 1 and bits 53-54 should be set in the Type Code 31 message.
 - For configuration 1 and 2 NIC shall not exceed 6 and SIL shall be set to 1.
 - When position is not valid NIC shall be set to 0

— The design of the equipment installation must take into account crashworthiness, the arrangement and visibility of the installation, any interferences with other equipment, the canopy jettison and the emergency exit.

— The design of the equipment installation must take into account the structural integrity of the instrument panel or any other attachment point. Special consideration is necessary for equipment installed at a location behind the occupant(s).

— Data connectivity ~~with~~ between the TABS equipment and other equipment which is:

- required by TCDS, AFM or POH; or
 - required by other applicable requirements such as those for operations and airspace; or
 - mandated by the respective minimum equipment list (MEL), if this exists,
- is not allowed unless the TABS is explicitly listed by its manufacturer as compatible equipment to which the other equipment can be connected ~~to~~.

— The equipment is suitable for the environmental conditions to be expected during normal operation;

— Instructions and tests defined by the equipment manufacturer shall be followed.

4. Limitations

— Any limitations defined by the manufacturer of the TABS equipment apply.

— ADS-B IN information, if provided, is for situational awareness only.

— If ~~case~~ a Mode A/C/S ~~transponder~~ system is already installed in the aircraft, ~~the an additional~~ Class A TABS equipment cannot be installed using CS-STAN. However, the existing transponder can be used as a Class A TABS, when connected to a Class B device position source (i.e. configuration 2).

5. Manuals

The AFMS shall, at least, contain:

- ~~the a description of the~~ system ~~description~~, its operating modes and its functionality;
- the normal and emergency operating procedures;
- ~~if~~ the TABS provides ADS-B IN information, the AFMS must include a statement that the ADS-B IN data is to be used for situational awareness only.

Amend the Instructions for Continued Airworthiness (ICAs) to establish maintenance actions/inspections and intervals, as required, including instructions for carrying out ~~in case of~~ software and database updates.

6. Release to service

Moved up [2]: A TABS consists of two main elements:¶
Class A TABS consists of a transponder, altitude source and ADS-B OUT functionality;¶
The transponder and ADS-B out functionality must be authorised to either ETSO-C199 Class A or ETSO-C112() and ETSO-C166b or later revision as applicable;¶
ETSO-C112() and ETSO-C166b compliant TABS devices must be capable of being configured for use with GNSS position sources that comply with ETSO-C199 Class B where applicable;¶
The altitude source must be authorised to ETSO-C88a or later revision.¶
Class B TABS consists of the GNSS position source;¶
The Class B functionality must comply with ETSO-C199 Class B or ETSO-C129a (cancelled) or ETSO-C145c or ETSO-C146c or ETSO-C196b or later revisions;¶
The GNSS position source must provide a GPS-only solution, not excluding augmentation, for use by the TABS ADS-B function;¶

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