European Aviation Safety Agency

Explanatory Note to Decision 2017/014/R

CS-STAN — Issue 2

RELATED NPA 2016-17 — RMT.0690

EXECUTIVE SUMMARY

The objective of this Decision is to amend CS-STAN taking into account efficiency and proportionality.

This Decision introduces amendments to CS-STAN:

— providing additional clarification in Subpart A 'General' regarding the use of CS-STAN;

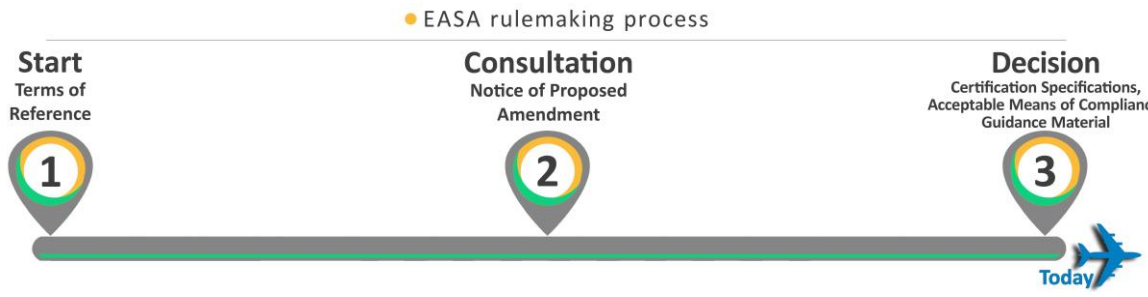
— introducing new standard changes and updating some existing ones; and

— introducing new standard repairs and updating some existing ones.

The changes introduced by this Decision are based on lessons learnt during the utilisation of CS-STAN, proposals submitted by stakeholders and on technological innovations coming from the industry, which can bring safety benefits or allows implementation of the latest technologies in a cost-efficient manner.

These amendments are expected to provide economic benefits to the General Aviation (GA) community by reducing the regulatory burden for the embodiment of changes and repairs in certain aircraft when fulfilling the acceptable methods, techniques and practices included in CS-STAN. These amendments are not expected to have any social or environmental impacts.

Action area:	General Aviation		
Affected rules:	CS-STAN		
Affected stakeholders:	Operators other than airlines, MOs, and maintenance engineers or mechanics		
Driver:	Efficiency/proportionality	**Rulemaking group:**	No
Impact assessment:	None	**Rulemaking Procedure:**	Standard



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1. About this Decision

The European Aviation Safety Agency (EASA) developed ED Decision 2017/014/R in line with Regulation (EC) No 216/2008[1] (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure[2].

This rulemaking activity is included in the EASA 5-year Rulemaking Programme[3] under rulemaking task RMT.0690. The scope and timescales of the task were defined in the related Terms of Reference[4].

The text of this Decision has been developed by EASA under the Rulemaking Task RMT.0690. All interested parties were consulted through NPA 2016-17.

156 comments were received from 35 stakeholders, including industry and national aviation authorities (NAAs).

EASA reviewed the comments received during the consultation process.

The comments received on the NPA, and the EASA responses thereto, are presented in Comment-Response Document (CRD) 2016-17[5].

The major milestones of this rulemaking activity are presented on the title page.

1 Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1) http://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1467719701894&uri=CELEX:32008R0216).

2 EASA is bound to follow a structured rulemaking process as required by Article 52(1) of Regulation (EC) No 216/2008. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material (http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure).

3 http://easa.europa.eu/rulemaking/annual-programme-and-planning.php

4 https://www.easa.europa.eu/rulemaking-tasks/rmt0690

5 https://www.easa.europa.eu/document-library/comment-response-documents

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2. In summary — why and what

2.1. Why we need to change the CS

Issue 1 of CS-STAN was adopted on 8 July 2015 and contained a limited amount of standard changes and standard repairs (SCs/SRs).

EASA intends to gradually develop new SC/SR, in order to allow the industry, the national aviation authorities, and EASA to adapt to the new concept in an efficient and proportionate manner, maintaining an acceptable level of safety.

The continuous development of CS-STAN, including its regular updates, is part of the EASA strategy to support general aviation (GA).

The ultimate goal is to support the operation of GA aircraft in Europe, reducing the regulatory burden for the embodiment of certain changes and repairs in certain aircraft when fulfilling the acceptable methods. By facilitating the installation of more modern and technological advanced systems, CS-STAN may also promote and improve the general aviation safety level.

2.2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2.

The specific objective of this Decision is to update CS-STAN in order to incorporate non-complex, non-controversial, and mature Standard Changes and Standard Repairs, with the ultimate goal to support GA in Europe and to promote GA safety.

Additionally, this Decision provides further explanations on the use of CS-STAN and amendments to existing Standard Changes and Standard Repairs based on lessons learnt on the application of CS-STAN.

2.3. How we want to achieve it — overview of the amendments

The new and amended certification specifications adopted with this Decision contain acceptable methods, techniques, and practices for carrying out and identifying standard changes and standard repairs for embodiment in certain aircraft without using the conventional approval process.

The most significant changes introduced by this Decision are listed hereafter:

SUBPART A

- CS STAN.00 ‘Scope’ has been expanded to provide additional clarifications regarding the release to service of aircraft modified or repaired according to CS-STAN
- A new note has been added to further clarify the applicability of CS-STAN.
- Additional explanations have been provided to CS STAN.20 ‘Operational limitations or restrictions’ to further clarify the use of SC/SR with regard to installation of equipment.
- Clarifications have been added in CS STAN.30 ‘Changes/Repairs that are not in conflict with TC Holders’ data’regarding the prevention of conflict between SC/SR provisions and TC holder’s data

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SUBPART B

— **CS-SC002b — Installation of a Mode S elementary surveillance equipment (amended)**

This SC has been amended to clarify the reference to CS-ACNS Section 4 and to prevent possible misinterpretation. Additionally, the contents of the periodical check referred in paragraph 5 has been clarified.

— **CS-SC003b — Installation of audio selector panels and amplifiers (amended)**

The amendment of this SC was not included in NPA 2016-17, however EASA concurred with some commentators who asked for more transparency regarding the ETSO references provided in paragraph 3 'Acceptable methods, techniques and practices'. The only reason for amendment of this SC is therefore to clarify the appropriate ETSO reference.

— **CS-SC031b — Exchange of conventional anti-collision lights, position lights and landing & taxi lights by LED type lights (amended)**

The amendment of this SC was not included in NPA 2016-17, however EASA concurred with some commenters that asked for more transparency regarding ETSO references provided in the paragraph 3 'Acceptable methods, techniques and practices'. The only reason for amendment of this SC is therefore to clarify the appropriate ETSO reference.

— **CS-SC032a — Installation of anti-collision lights (new)**

New provisions have been added to facilitate the installation of anti-collision lights for aircraft not originally certified with anti-collision lights. EASA expects that this could have a positive impact on the prevention of mid-air collision.

— **CS-SC033a — Installation of cabin and cockpit conventional lights by LED-type lights (new)**

New provisions have been added to facilitate the installation or exchange of cabin and cockpit lights by LED-type lights.

— **CS-SC034a — Exchange of existing battery by Lithium Iron Phosphate (LiFePO4) batteries (new)**

New provisions have been added for the replacement of conventional type batteries by LiFePO4-type batteries as storage in aircraft.

— **CS-SC051b — Installation of 'FLARM' equipment (amended)**

This SC has been amended to include provisions for the exchange of already installed FLARM equipment.

— **CS-SC052b — Installation of VFR GNSS equipment (amended)**

This SC together with a similar one proposed in NPA (CS-057a) received several comments during public consultation. EASA concurred with the spirit of these comments and finally decided to expand the boundaries of CS-SC052 to cover also the content proposed in the NPA under CS-SC057a. As a result, the new scope covers the installation of equipment with integrated systems also providing a voice communications functionality and/or a VOR navigation capability.

Additionally the scope of CS-SC052a has been extended to include provisions for the exchange of already installed VFR GNSS equipment/moving-map systems.

The applicability of this SC has been partially aligned with the corresponding FAA Advisory Circular, AC 20-138D 'Airworthiness Approval of Positioning and Navigation Systems'.

— **CS-SC053b — Installation of radio marker receiving equipment (amended)**

The amendment of this SC was not included in NPA 2016-17, however, EASA concurred with some commentators who asked for more transparency regarding the ETSO references provided in

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paragraph 3 'Acceptable methods, techniques and practices'. The only reason for amendment of this SC is therefore to clarify the appropriate ETSO reference.

— **CS-SC054b — Exchange of distance-measuring equipment (DME) (amended)**

The amendment of this SC was not included in NPA 2016-17, however EASA concurred with some commentators who asked for more transparency regarding the ETSO references provided in paragraph 3 'Acceptable methods, techniques and practices'. The only reason for amendment of this SC is therefore to clarify the appropriate ETSO reference.

— **CS-SC055b — Exchange of ADF equipment (amended)**

The amendment of this SC was not included in NPA 2016-17, however, EASA concurred with some commentators who asked for more transparency regarding the ETSO references provided in paragraph 3 'Acceptable methods, techniques and practices'. The only reason for amendment of this SC is therefore to clarify the appropriate ETSO reference.

— **CS-SC056b — Exchange of VOR equipment (amended)**

The amendment of this SC was not included in NPA 2016-17, however, EASA concurred with some commentators who asked for more transparency regarding the ETSO references provided in paragraph 3 'Acceptable methods, techniques and practices'. The only reason for amendment of this SC is therefore to clarify the appropriate ETSO reference.

— **CS-SC057a — Reserved**

Refer to CS-SC052b

— **CS-SC058a — Installation of traffic awareness beacon system (TABS) equipment (new)**

New provisions have been added to allow for the installation of TABS devices which are intended for voluntary equipage on aircraft not required to carry a transponder or automatic dependent surveillance - broadcast (ADS-B) equipment. According to the provisions included in this SC, the equipment shall be authorised in accordance with ETSO-2C199.

This ETSO will be published as part of CS-ETSO Issue 13 which is planned for 2017/Q4.

— **CS-SC081a — Exchange of tyres (inner tubes/outer tyres) (new)**

This SC is intended to allow for replacement of tyres (i.e. the change of inner tubes and/or outer tyres) with a different tube/tyre of the same size and strength.

— **CS-SC082a — Exchange of skids on wing tips/fuselage tails (new)**

New provisions have been added to allow for replacement of skids, typically made of rubber or other elastic material, installed on fuselage tails and/or wing tips.

— **CS-SC083a — Exchange of flexible seals on control surfaces (new)**

New provisions have been added to allow for replacement of flexible seals as installed on control surfaces on wings and empennages.

— **CS-SC101b — Installation of emergency locator transmitter (ELT) equipment (amended)**

The amendment of this SC was not included in NPA 2016-17, however, EASA concurred with some commentators who asked for more transparency regarding the ETSO references provided in paragraph 3 'Acceptable methods, techniques and practices'. The only reason for amendment of this SC is therefore to clarify the appropriate ETSO reference.

— **CS-SC102a — Installation of DC power supply systems (PSS) for portable electronic devices (PED) (new)**

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New provisions have been added to allow for the installation of DC power supply systems (PSS) which connect aeroplane electrical power to portable electronic devices (PED).

— **CS-SC103a — Exchange of interior material covering floor, sidewall and ceiling (new)**

New provisions have been added to allow for the exchange of existing floor, sidewall, and ceiling coverings.

— **CS-SC104a – Installation of lightweight in-flight recording systems (new)**

New provisions have been added to allow for the installation of lightweight in-flight recording systems for the purposes of operational monitoring, training, and incident analysis.

— **CS-SC153b — Exchange of safety belts/torso restraint systems (amended)**

The amendment of this SC was not included in NPA 2016-17, however, EASA concurred with some commentators who asked for more transparency regarding the ETSO references provided in paragraph 3 'Acceptable methods, techniques and practices'. The only reason for amendment of this SC is therefore to clarify the appropriate ETSO reference.

— **CS-SC202b – Use of aviation gasoline (AVGAS) UL 91 (amended)**

The scope of this SC has been amended to include guidance provided by the latest FAA Special Airworthiness Information Bulletin SAIB HQ-16-05R1.

— **CS-SC203b – Use of aviation gasoline (AVGAS) HJELMCO 91/96 UL AND 91/98 UL (amended)**

The scope of this SC has been amended to include guidance provided by the latest FAA Special Airworthiness Information Bulletin SAIB HQ-16-05R1.

— **CS-SC205a – Installation of fuel low level sensor (FLLS) (new)**

New provisions have been added to allow for the installation of fuel low level sensors for aircraft not already equipped with a similar system.

The installed fuel low level sensor will improve the situational awareness and should positively contribute to the prevention of fuel starvation occurrences.

— **CS-SC251b – Installation of an angle of attack (AoA) indicator system (amended)**

The scope of this SC has been amended to include an alternative process to check the proper application of ASTM F3011-13 standard for the AoA to be installed.

— **CS-SC401b – Exchange of basic flight system instruments (amended)**

The scope of this SC has been amended to allow for the exchange of certain combinations of different systems.

— **CS-SC402b — Installation of sailplane equipment (amended)**

The amendment of this SC was not included in NPA 2016-17, however, EASA concurred with the need to better clarify the purpose of this SC which covers the installation of sailplane equipment preventing confusion with other SC addressomg specific equipment installations. The only reason for amendment of this SC is therefore to clarify that this SC does not cover the installation of equipment which is described in other specific SCs.

— **CS-SC403a – Provisions for the installation of lightweight cameras (new)**

New provisions have been added to allow for the installation of aircraft mounted lightweight cameras.

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SUBPART C

— **CS-SR802b – Repair of sailplanes including powered sailplanes, LSA and VLA (amended)**

The scope of this SC has been amended to allow for the utilisation of an additional French standard for skin repairs.

— **CS-SR803a – Temporary repair of canopy cracks by drilling a stopping hole (new)**

New provisions have been added to allow for repairs of certain cracks in transparent canopies made from acrylic glass by drilling a stopping hole.

— **CS-SR804a – Use of alternative adhesive for repair of wood and wooden mixed structures (new)**

Compared to the text proposed in the NPA, new provisions have been added to allow for the use of alternative adhesive systems to perform certain repairs on wood and wooden mixed aircraft structures. This has been done based on the comments and new information received.

ESTABLISHMENT OF A VOLUNTARY FEEDBACK SYSTEM

A note providing a link to the CS-STAN webpage[6] will be added on the first page of CS-STAN, right after the table of contents.

A form will be linked from this webpage to allow stakeholders to:

a) submit proposals for new SC/SR;

b) provide feedback to improve the existing SC/SR; and

c) voluntary report the utilisation of CS-STAN for statistical purposes.

2.4. What are the stakeholders' views

156 comments were submitted by 35 stakeholders during the NPA 2016-17 consultation.

The list of stakeholders commenting on this NPA included National Aviation Authorities, Type Certificate Holders, General Aviation associations, manufacturers of parts and appliances, aircraft owners and others.

The nature of the comments received ranges from specific technical aspects, to comments aiming to improve the wording of the proposed amendments.

Several comments were accepted or partially accepted, thus leading to substantial amendments of the proposed text which, in certain elements, has been significantly improved.

For additional details and individual responses to comments, please refer to the Appendix to this Decision: CRD 2016-17.

2.5. What are the benefits and drawbacks

In accordance with Article 3(5) of EASA MB Decision No 18-2015, this Decision has been prepared in the framework of regular update of CS-STAN, therefore there is no need to develop a RIA.

EASA expects that the increased number and expanded scope of Standard Repairs and Standard Changes will have a positive economic impact on the GA community. The overall safety level could also

6 https://www.easa.europa.eu/easa-and-you/general-aviation
Note: this voluntary reporting tool will start to operate few weeks after publication of ED Decision for CS-STAN issue 2

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be increased since these new provisions will facilitate the installation of more modern equipment on affected aircraft.

Additionally, it is expected that this will have a positive impact on the operation of the affected aircraft in Europe, and also promoting this way general aviation.

2.6. How do we monitor and evaluate the rules

The Standard Changes and Standard Repairs concept is part of EASA's endeavours to reduce the regulatory burden for general aviation. It provides an alternative to the conventional process for approving a modification to the aircraft type design for cases where EASA acknowledges that there is little added value in a conventional design approval process, and that the change or repair is performed using well-established best practice.

Monitoring the number of applications received by EASA for approval of minor changes and repairs in GA could represent a relevant indicator for the effectiveness of this CS.

Additionally, the voluntary reporting system introduced by CS-STAN Issue 2 could also provide a reliable feedback regarding the actual utilisation of the Standard Changes and Standard Repairs.

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3. References

3.1. Related regulations

N/a

3.2. Affected decisions

Decision No. 2015/016/R of the Executive Director of the Agency of 8 July 2015 on Certification Specifications for Standard Changes and Standard Repairs (CS-STAN — Issue 1)

3.3. Other reference documents

None

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4. Appendix

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