

# CS-STAN

## Certification Specifications for Standard Changes & Standard Repairs Phase 1

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Sjö- och luftfartsavdelningen  
Enheten för operatörer, fartyg och luftfartyg  
Sektionen för underhålls- och tillverkningsorganisationer

- **Vilka är berörda?**
  - flygplan med max 5 700 kg MTOM
  - rotorluftfartyg med max 3 175 kg MTOM
  - segelflygplan, motordrivna segelflygplan, ballonger och luftskepp, som beskrivs i ELA1 och ELA2.

## ED Decision 2015/016/R gavs ut 2015-07-08

Den innehåller ett annex som ändrar

- **GM** till förordning (EG) **748/2012** för del-21 som införde begreppen **Standard Changes (SC)** och **Standard Repairs (SR)** (2012/020/R)

två annex som ändrar

- **AMC** till förordning (EG) **1321/2014** för enskilda tekniker, subpart F och 145-organisationer (2003/19/RM)

och ett annex som innehåller **CS-STAN**

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- CS-STAN är en del av EASA's General Aviation Road Map för att minska bördan för allmänflyget.
- CS-STAN förenklar införandet av modifieringar och reparationer i ett flertal fall. Godkännanden från en DOA eller EASA är inte längre nödvändigt.
- Man tror också att förenklingarna kommer att hjälpa allmänflyget i Europa och begränsa antalet felaktiga och regelvidriga modifieringar och reparationer.

- Standard Changes and Standard Repairs introducerades med den nya Part-21 som kom 2012, dvs förordning (EG) 748/2012.
- För att kunna utnyttja konceptet var EASA tvunget att ta fram CS-STAN.
- Första delen (Phase 1) gavs ut sommaren 2015 och innehåller det första beslutet beträffande CS-STAN med tillhörande AMC till, i huvudsak, del-M.

- Andra delen (Phase 2) är tänkt att vidareutveckla CS-STAN baserat på de lärdomar som kan göras av Phase 1 och med hjälp av de förslag till kompletteringar som fick EASA under utvecklandet av Phase 1.

- Två nya paragrafer infördes i ED Decision 2012/020/R
- **GM 21.A.90B Standard changes — Certification Specifications**
- CS-STAN contains the certification specifications referred to in **21.A.90B(a)2**. Guidance on the implementation of Standard Changes and Standard Repairs can be found in **AMC M.A.801** of the AMC to Part-M.
- **GM 21.A.431B Standard repairs — Certification Specifications**
- CS-STAN contains the certification specifications referred to in **21.A.431B(a)2**. Guidance on the implementation of Standard Changes and Standard Repairs can be found in **AMC M.A.801** of the AMC to Part-M.

- En ny AMC M.A.801 infördes i ED Decision 2003/19/RM
- **AMC M.A.801 Aircraft certificate of release to service after embodiment of a Standard Change or Standard Repair**
  1. Release to service and **eligible persons**
  2. Parts and appliances to be installed as part of SC/SR
  3. Parts and appliances identification
  4. Documenting the SC/SR and declaring compliance with the Certification Specifications
  5. Record keeping
  6. Instructions for the continuing airworthiness
  7. Embodiment of more than one SC
  8. Acceptable form to be used to record the embodiment of SC/SRs
    - EASA Form 123 - Standard Change/Standard Repair (SC/SR) embodiment record (L1884)



- Vad är en **eligible person**?
- “Only **natural (66) or legal persons (MF/145)** entitled to release to service an aircraft after maintenance **in accordance with Part-M or Part-145** are considered as an **eligible installer** responsible for the embodiment of a SC/SR when in compliance with applicable requirements”.
- Dvs den (66/MF/145) som “designar” en SC/SR är också den som ska göra jobbet i luftfartyget och utföra CRS. Det går alltså inte att sälja eller lämna över en framtagen SC/SR till andra.

- En ny AMC 145.A.50 infördes i Decision 2003/19/RM:
- **AMC 145.A.50 Certification of maintenance after embodiment of a Standard Change or Standard Repair (SC/SR)**

**AMC M.A.801** of the AMC to Part-M contains acceptable means of compliance for the release to service of a SC/SR by an organisation approved in accordance with Part-145.

# **Certification Specifications for Standard Changes and Standard Repairs - CS-STAN**

ACCEPTABLE METHODS, TECHNIQUES AND PRACTICES FOR  
CARRYING OUT AND IDENTIFYING STANDARD CHANGES  
AND STANDARD REPAIRS (SCs/SRs) AS PERMITTED IN  
PART-21.

Issue 1 – 8 July 2015

- **SUBPART A — GENERAL**
- **CS-STAN.00 Scope**

These Certification Specifications for SCs/SRs contain design data with acceptable methods, techniques and practices for carrying out and identifying SCs/SRs. SCs/SRs, designed in compliance with these Certification Specifications, **are not subject to an approval process**, and, therefore, can be embodied in an aircraft when the conditions set out in the relevant paragraphs of Part-21 for SCs/SRs, i.e. 21.A.90B or 21.A.431B, are met.

- **CS STAN.10 Applicability**

In addition to the conditions of 21.A.90B and 21.A.431B, for each SC/SR, these Certification Specifications **may further restrict** its applicability to certain aircraft, or to some areas of an aircraft, or to certain aircraft operations.

- **CS STAN.20 Operational limitations or restrictions**

SCs/SRs, as described in these Certification Specifications, may contain operational limitations or restrictions with regard to the use of an aircraft instrument/equipment.

**Equipment installed as part of a SC cannot be used to eliminate or reduce the existing airworthiness limitations and operational limitations of the aircraft.** As a consequence, a SC might introduce limitations on the use of the installed equipment (e.g. a navigation equipment may be installed following a SC, but this installation may not permit that the equipment is used as a primary navigation means if the functionality did not exist before the change was embodied).

Any restriction or limitation applicable due to the embodiment of the SC/SR is included in the aircraft manuals or records, as necessary, and in EASA Form 123.

- **CS STAN.30 Changes/Repairs that are not in conflict with TC holders' data.**

Each SCs/SRs has an applicability independent of the aircraft type and can be embodied in/on an aircraft type unless specific instructions for such a change or repair are issued by the TC holder. **In case that specific data issued by the TC holder exist, the TC holder data takes precedence over a SC/SR. If the change or repair would conflict with the TC holder data, CS-STAN should not be followed and the change/repair should be approved following Part-21 Subparts D or M.**

- **CS STAN.40 Referenced documents**

The acceptable methods, techniques and practices contained in these Certification Specifications **may refer to other documents. Design and production considerations or operational restrictions/limitations established in these documents are applicable unless otherwise stated and, therefore, may further restrict the applicability of the SC/SR.** The same applies to other documents referred to in these aforementioned referenced documents. **Any restriction or limitation established in the referenced document, directly or 'in cascade', affecting the operation or airworthiness of the aircraft, is included in the aircraft manuals or records, as necessary, and in Form 123.**

*CS STAN.40 continued*

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Other references mentioned in these documents and quoted ‘as example’, ‘for information’, etc. are to be considered, but **the installer must ensure that the example or information is applicable to the design being undertaken and not in contradiction with TC holders data before using it.**

The latest available versions of the third-party references should be considered unless otherwise stated by the Agency.

**References to other (e.g. foreign) legislation** in the referenced documents are not applicable and **are replaced by the relevant European rules** (e.g. approval process described in FAA Advisory Circular AC 43.13 to obtain an FAA field approval should be ignored and, instead, the installer should follow the European rules).

- **CS STAN.50 Instructions for Continuing Airworthiness**

Due to the SC/SR being embodied, the aircraft instructions **for continuing airworthiness may need to be updated**. This update is considered to be part of this SC/SR, and, therefore, requires no specific approval.

- **CS STAN.60 Aircraft Flight Manual Supplement (AFMS)**

Due to the SC/SR being embodied, **the AFM may need to be updated**. This manual supplement is considered to be part of this SC/SR, and, therefore, requires no specific approval.

- **CS STAN.70 Acceptable Means of Compliance (AMC)**

AMC for the release to service of the aircraft after embodiment of the SC/SR, the eligibility of the persons entitled to this release, the parts and appliances suitable for use in a SC/SR and their identification, the documents to be produced and kept with the change/repair, the required amendment to aircraft manuals, the EASA Form 123 (change/repair embodiment record), etc. **are contained in AMC M.A.801 in Annex I to Decision No 2003/19/RM.**

- **CS STAN.80 Definitions**

- **SUBPART B — STANDARD CHANGES**

- **LIST OF STANDARD CHANGES**

- Group Systems—Communication:

CS-SC001a — Installation of VHF voice communication equipment

CS-SC002a — Installation of a Mode S elementary surveillance equipment

CS-SC003a — Installation of Audio Selector Panels and Amplifiers

CS-SC004a — Installation of antennas

- Group Systems — Electrical:

CS-SC031a — Exchange of conventional Anti-Collision Lights, Position Lights and Landing & Taxi lights by LED type lights

*SUBPART B — STANDARD CHANGES continued*

- Group Systems — Avionics/NAV/Instruments:
  - CS-SC051a — Installation of 'FLARM' equipment
  - CS-SC052a — Installation of moving-map systems to enhance situational awareness
  - CS-SC053a — Installation of Radio Marker Receiving equipment
  - CS-SC054a — Exchange of Distance Measurement Equipment (DME)
  - CS-SC055a — Exchange of ADF equipment
  - CS-SC056a — Exchange of VOR equipment
- Group Cabin:
  - CS-SC101a — Installation of Emergency Locator Transmitter (ELT) equipment

*SUBPART B — STANDARD CHANGES continued*

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- Group Survivability Equipment:

CS-SC151a — Installation of headrest

CS-SC152a — Changes to seat cushions including the use of alternative foam materials

CS-SC153a — Exchange of safety belts — torso restraint systems

- Group Powerplant:

CS-SC201a — Exchange of power plant instruments

CS-SC202a — Use of Avgas UL 91

CS-SC203a — Use of Avgas Hjelmsco 91/96 UL and 91/98 UL

CS-SC204a — Installation of external powered engine preheater

*SUBPART B — STANDARD CHANGES continued*

- Group Flight:  
CS-SC251a — Installation of an Angle of Attack (AoA) indicator system
- Group Miscellaneous:  
CS-SC401a — Exchange of basic flight instruments  
CS-SC402a — Installation of sailplane equipment
- **SUBPART C — STANDARD REPAIRS**
- **LIST OF STANDARD REPAIRS**  
CS-SR801a — Aircraft Repair according to FAA Advisory Circular AC 43.13-1B  
CS-SR802a — Repair of Sailplanes, Powered Sailplanes, LSA and VLA

- **Exempel:**
- **Standard Change CS-SC001a**
- **INSTALLATION OF VHF VOICE COMMUNICATION EQUIPMENT**
- **1. Purpose**
- Exchange of communications (COM) equipment, and for aircraft limited to VFR operation, also installation of COM equipment. This SC does not include installation of antennas.
- **2. Applicability/Eligibility**
- Aeroplanes not being complex motor-powered aircraft with a maximum cruising speed in ISA conditions below 250 kts, rotorcraft not being complex motor-powered aircraft and any ELA2 aircraft.



- **3. Acceptable methods, techniques and practices**
- The following standards contain acceptable data:
  - — FAA Advisory Circular AC 43-13-2B Chapter 2.
- Additionally, the following applies:
  - — The equipment is authorised in accordance with JTSO-2C37d, JTSO-2C37e, ETSO-2C37e, JTSO-2C38d, JTSO-2C38e, ETSO-2C38e or ETSO-2C169a, or later amendments, or equivalent.
  - — The equipment is capable of 8.33 kHz and 25 kHz channel spacing.
  - — The minimum output power specified for the radio is sufficient for the operation depending on the maximum flight level of the aircraft. The table below is valid for standard antenna installations (antenna type and position) with standard cable length less than 4 m and 2 connectors:

- Maximum aircraft Flight Level (FL) / Minimum output power
- up to FL100 / 4 Watts
- FL100 to 150 / 6 Watts
- FL150 to 200 / 8 Watts
- FL200 to 250 / 10 Watts
- FL250 to 300 / 12 Watts
- FL300 to 400 / 16 Watts
- For different installations (cable length, connectors), the required output power needs to be assessed by additional analysis:
  - — The equipment is qualified for the environmental conditions to be expected during normal operation.
  - — Instructions and tests defined by the equipment manufacturer have to be followed.

#### **4. Limitations**

Any limitations defined by the equipment manufacturer apply.

The equipment installation cannot be used to extend the operational capability of the specific aircraft (e.g. from VFR to IFR operation).

In the case of rotorcraft approved for NVIS, if cockpit panels are to be inserted, the change cannot be considered an SC.

#### **5. Manuals**

Amend the AFM with AFMS containing or referencing the equipment instructions for operation, as required.

Amend the Instructions for Continuing Airworthiness to establish maintenance actions/inspections and intervals, as required.

#### **6. Release to service**

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

- I flera SCs står det “**This SC is not suitable for release to service by the Pilot-owner.**”
- På fråga till EASA svarade de att det förutsätts att piloten-ägaren inte kan till fullo förstå alla konsekvenser av en SC, **förutom för SC152, SC202 and SC203.**”
- Dessa tre gäller “Seat cushions” – AVGAS UL 91 – AVGAS Hjelmcö UL 91/96 och UL 91/9.
- En framtagna SC/SR gäller för **ett** luftfartyg, men det är ju lätt att byta registrering och S/N på Form 123.

## AC 43.13-1B

- Acceptable methods, techniques, and practices - Aircraft inspection and **repair**

## 43.13-2B

- Acceptable methods, techniques, and practices – Aircraft **alterations**

- **Dessutom**
- MOM, MOE och CAME måste kompletteras med beskrivningar och rutiner kring SC/SR. Hur underlag tas fram, vem som får göra det, vem som får göra CRS, vilka som måste godkänna modifieringar och reparationer etc
- Text i MOE 2.9, 2.12 och MOM B9, D7, och D9 plus CAME 1.6

- **Dokument som beskriver SC/SRs:**
- **ED Decision 2015/016/R med**
  - Annex I to ED Decision 2015/016/R - AMC/GM to Part-21, Issue 2, Amendment 3
  - Annex II to ED Decision 2015/016/R - AMC to Part-M, Amendment 12
  - Annex III to ED Decision 2015/016/R - AMC to Part-145, Amendment 8
  - Annex IV to ED Decision 2015/016/R – CS STAN
- Explanatory Note to Decision 2015/016/R



## Ongoing tasks (Technical)

- ▶ RMT.0245 (MDM.048) Certification Specification for Standard changes/repairs
  - ▶ A new CS for standard changes and repairs issued by the Agency (PHASE 1)
  - ▶ NPA 2014-24 issued 06.10.2014
  - ▶ ToR RMT.0245 (MDM.048) Issue 2 issued 16.12.2014
  - ▶ Next deliverable: CRD & Decision 2016/Q1

02 June 2015



Här finns mer information hos EASA:

- <http://easa.europa.eu/document-library/agency-decisions/ed-decision-2015016r>

- <http://easa.europa.eu/regulations>

**Initial Airworthiness**

Commission Regulation (EU) No 748/2012 of 03/08/2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations

Commission Regulation (EU) 2015/640 of 23/04/2015 on additional airworthiness specifications for a given type of operations and amending Regulation (EU) No 965/2012

∨ Show regulations

Acceptable Means of Compliance and Guidance Material	Part-21							
Certification Specification	AMC-20	CS-22	CS-23	CS-25	CS-26	CS-27	CS-29	CS-31GB
	CS-31HB	CS-31TGB	CS-34	CS-36	CS-APU	CS-E	CS-ETSO	CS-LSA
	CS-P	CS-SIMD	CS-STAN	CS-VLA	CS-VLR	CS-MMEL	CS-GEN-MMEL	CS-CCD
	CS-FCD							

## Importer och exporter - kan en SC/SR vara ett hinder?

- Vid överföringar inom EASA borde det inte vara det men den som tar emot ett luftfartyg bör försäkra sig om att eventuella SC/SR finns inkluderade i underhållsdokumentationen och i AMP.
- På fråga till EASA om det diskuterats vid något BASA-möte svarade de att
- During our recent certification oversight board meeting under the EU/US Agreement we informed our FAA colleagues about the implementation of our CS-STAN concept. This did not raise any concerns at their level and we assume that the information will be cascaded down to the working level. We will monitor this carefully. Please let us also know if you are facing difficulties.
- Svaret från EASA gäller bara FAA. Hur det är med andra myndigheter vet vi inte idag men vi vill gärna få information från er om ni upplever några problem!

Slut!

Frågor?