

Part-21 Implementation Workshop

Installation of parts without Form 1

Stefano Fico

Section Manager - Business Jets • CT.2 - General Aviation & VTOL Department

Cologne, 26th October 2023

Your safety is our mission.

An Agency of the European Union 

Parts without EASA Form 1

- Commission Delegated Regulation (EU) 2021/699 (amending Commission Regulation (EU) 748/2012) Effective on 18 May 2022
- proposed CM published for comments on 19th October 2022
- Final CM-21.A-K001 Issue 2 published on 13th June 2023

Introduction

- Origin/rationale of the rule change:
 - coming from MO (mainly Airlines), GA, mission equipment
 - to make the need for a Form 1 more scalable
 - to allow release of parts w/o the need of a POA
 - example of application is installation of spare parts such as TV, phone used in the cabin as usually not manufactured by a POA for installation of STC/repairs/minor changes

Overview of main changes in points 21.A.307 and 21.A.804

- Modified 21.A.307
 - Paragraphs renumbering
 - 307(a) – standard approach: Form 1 + marking + condition for safe operation
 - 307(b) – exemptions from Form 1

(1) standard part (former 307(b))

(2) parts for ELA1/2 owner responsibility (similar to former 307(c)(1)/(4)/(5))

(3) new – part for which the consequence of a non-conformity has negligible safety effect – needs to be identified as such by the design approval holder in the ICA

(4) new – similar with (3) but for parts used in standard changes / repairs as identified in the CS-STAN

(5) new – part or appliance exempted from airworthiness approval under OPS rules (e.g. SPO.IDE.B.100(b))

(6) new – part in an assembly meeting criteria above

→ 307(c) – if exempted from Form 1, need for certificate of conformity (or similar) by the manufacturer

→ Modified 21.A.804(a)(3) – no EPA marking for parts referred in 307(b)

21.A.307 (b)(3) and (b)(4)

The eligibility of parts and appliances for installation

AMC1 21.A.307(b)(3) and (b)(4) Verification activities to be conducted on the part or appliance or release documentation prior to its installation
GM1 21.A.307(b)(3) and (b)(4) Meaning of a negligible safety effect.
GM1 21.A.307(b)(4) Certification specifications referred to in 21.A.307 (b)(4).

(b) By way of derogation from point (a) and provided that the conditions in point (c) are met, the following parts or appliances do not require an EASA Form 1 in order to be eligible for installation in a type-certified product:

[...]

(3) a part or appliance for which the consequences of a non-conformity with its approved design data has a negligible safety effect on the product and which is identified as such by the holder of the design approval in the instructions for continued airworthiness. In order to determine the safety effects of a non-conforming part or appliance, the design approval holder may establish in the instructions for continued airworthiness specific verification activities to be conducted by the installer of the part or appliance on the product;

(4) in the case of the embodiment of a standard change in accordance with point 21.A.90B or a standard repair in accordance with point 21.A.431B, a part or appliance, for which the consequences of a non-conformity with its design data have a negligible safety effect on the product, and which is identified as such in the certification specifications for standard changes and standard repairs issued in accordance with point (a)(2) of point 21. A.90B and point (a)(2) of point 21.A.431B. In order to determine the safety effects of a non-conforming part or appliance, specific verification activities to be conducted by the person that installs the part or appliance on the product may be established in the certification specifications referred to above;

AMC1 21.A.307(b)(3) and (b)(4) Verification activities to be conducted on the part or appliance or release documentation prior to its installation

AMC1 21.A.307(b)(3) and (b)(4) Verification activities to be conducted on the part or appliance or release documentation prior to installation

To prevent a non-negligible safety effect on the product, due to the installation of a part or appliance referred to in point 21.A.307(b)(3) and (b)(4) that could potentially not conform to its design, the design approval holder (DAH) or EASA may identify in the ICA (in the case of 21.A.307(b)(3)) or in CS-STAN (in the case of 21.A.307(b)(4)) any specific verification activities to be conducted by the installer on the part or appliance before installing it on the product in accordance with Regulation (EU) No 1321/2014.

When assessing the safety effect of a part or appliance identified in point 21.A.307(b)(3) or (b)(4), the DAH or EASA should assume that the installer would conduct, in accordance with Regulation (EU) No 1321/2014, any specific verification activities on the part or appliance or release documentation, as identified in the ICA or in CS-STAN.

Example: Information from the DAH contained in the ICA: 'Part XXX-YY must comply with flammability requirement JJJ-KKK'.

GM1 21.A.307(b)(3) and (b)(4) Meaning of a negligible safety effect.

GM1 21.A.307(b)(3) and (b)(4) Meaning of 'negligible safety effect'

For the purpose of 21.A.307(b)(3) and (b)(4), when 'a part or appliance for which the consequences of non-conformity to its design has a negligible safety effect when installed on the product' is mentioned, it means that any non-conformity of the part or appliance not identified by the installer that conducted the specific verification activities mentioned in 21.A.307 (c):

(a) for ELA1 and ELA2 aircraft, at worst:

- (1) slightly reduces the operational or functional certified capabilities of the aircraft or its safety margins;
- (2) causes some physical discomfort to its occupants; and
- (3) slightly increases the workload of the flight crew; and

(b) for any other aircraft:

- (1) has no effect on the operational or functional certified capabilities of the aircraft, or on its safety margins;
- (2) causes no physical discomfort to the occupants; and
- (3) has no effect on the flight crew.

21.A.307 (b)(5) and (b)(6)

The eligibility of parts and appliances for installation

GM1 21.A.307(b)(5) Equipment exempted from an airworthiness approval in Commission Regulation (EU) No 965/2012.

GM1 21.A.307(b)(6) Part or appliance that is part of a higher-level assembly.

(b) By way of derogation from point (a) and provided that the conditions in point (c) are met, the following parts or appliances do not require an EASA Form 1 in order to be eligible for installation in a type-certified product:

[...]

(5) a part or appliance that is exempted from an airworthiness approval in accordance with Commission Regulation (EU) No 965/2012 (*); and

(6) a part or appliance that is an item of a higher assembly identified in points (b)(1) to (b)(5).

(*) Commission Regulation (EU) No 379/2014 of 7 April 2014 amending Commission Regulation (EU) No 965/2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 123, 24.4.2014, p. 1).'

21.A.307 (c) The eligibility of parts and appliances for installation

(c) Parts and appliances listed in point (b) are eligible for installation in a type-certified product without being accompanied by an EASA Form 1, provided that the installer holds a document issued by the person or organisation that manufactured the part or appliance, which declares the name of the part or appliance, the part number, and the conformity of the part or appliance with its design data, and which contains the issuance date.

CM-21.A-K-001 (issue 2) Installation of new parts and appliances without an EASA Form 1

Issue 1

- Standard parts,
- Owner accepted parts



Issue 2

- Standard parts
- Owner accepted parts
- New derogations (21.a.307 (b)(3))

- Structure of the revised 21.A.307 and related subparagraph is explained
- Old derogation in 21.A.307(b)(1) (standard parts) and 21.A.30(b)(2) (owner accepted parts) are explained
- New derogation in 21.A.307(b)(3) is explained -> See next slides

CM-21.A-K-001 (issue 2) Installation of new parts and appliances without an EASA Form 1

→ Who can use the derogation in 21.A. 307(b)(3)?

- Design approval holders (DAH -> Only DAH can assess the effect of a non conformity);
- Non DAH cannot propose parts (under this derogation) to be delivered without form 1

→ Meaning of “negligible effect”

- The DAH using the derogation shall perform an assessment to justify that the effect of a non conformity is negligible;
- The assessment is linked to the compliance demonstration but is focused on the effects of a non conformity, in relation to the potential failure modes and/or related hazards;
- The assessment should be documented as part of the data supporting the writing of the ICA and their compliance with the related requirements;
- An example of how such assessment can be performed is given in appendix to the CM;

Note: The use of the derogation does not impact the classification of a change (minor/major) required by point 21.a.91.

CM-21.A-K-001 (issue 2) Installation of new parts and appliances without an EASA Form 1

Identification of parts not requiring an EASA Form 1

- Where: ICA (and other related documents such as SB, modification bulletin, etc.)
- New p/n is not strictly required, but may be useful (for example if the same part is installed in several locations)

Specific verification activities to be conducted by the installer

- It is clarified that such verification activity should be of simple nature. The installer should not perform compliance demonstration;
- Verification activities should be purely aimed to verify the acceptability of the part for installation by, for example, confirming assumptions made by the DAH when declaring the negligible safety effect of the part.
- Some examples:
 - *Check of technical data from the data sheet of the equipment (dimensions, mass, max current/capacity, software version, hardware revision number, etc.);*
 - *Availability of test certificates, with specification of the type of tests and standard where relevant;*
 - *Presence of design features that were identified as relevant in the compliance demonstration.*

CM-21.A-K-001 (issue 2) Installation of new parts and appliances without an EASA Form 1

Conformity, marking, manufacturing aspects

- 21.A.307(c) requires in lieu of an EASA Form 1, a document issued by the manufacturer to properly identify the part and trace it to the original manufacturer. Examples:
 - a certificate of conformity
 - A 'dated delivery-note' stating the name and the part-number;
- The absence of a form 1 does not remove the obligation to investigate in case of occurrences!
- No EPA marking is required

CM-21.A-K-001 (issue 2) Installation of new parts and appliances without an EASA Form 1

Impact on International Agreements

- BASAs and TIPs require an Authorized Release Certificate (i.e., an EASA Form 1 for parts manufactured in the EU) when exporting to the other Party.
- As such, the provisions set up in 21.A.307(b)(3) and (b)(4) cannot currently be used for export purpose, but
- some Bilateral Partners having similar relaxations in place (eg, the handling of commercial parts in the US in AC 21-45)
- Vice-versa, parts fulfilling the conditions set up in 21.A.307(b)(3) and (c) can be imported from outside the EU without the need for a Form 1 (except for parts coming from countries where a BASA with the EU is in place for the reason explained above).
- For installation on non-EU registered aircraft, the absence of an EASA Form 1 shall be agreed with the SoR authority.



easa.europa.eu/connect



Your safety is our mission.

An Agency of the European Union 

... you should know on ICA..

21.A.7 – added new requirement on ICA;

21.A.41 – amended to include ICA;

21.A.90C – new requirement for standalone ICA change

(d) Stand-alone changes to the instructions for continued airworthiness referred to in point (c) shall be approved by the design approval holder under procedures agreed with the Agency