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European Aviation Safety Agency
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RE: Comments on Notice of Proposed Amendment, NPA 2017-19, Installation of Parts and Appliances that are Released without an EASA Form 1 or Equivalent.

Dear Ladies and Gentlemen:

The Aeronautical Repair Station Association (ARSA) submits the following consolidated comments to the above-referenced Notice of Proposed Amendment issued by the European Aviation Safety Agency (EASA). Specific portions of this document have been posted in their appropriate location using EASA's Comment Response Tool (CRT). For ease of reference these consolidated comments were also uploaded to the CRT.

Summary

While ARSA supports the intent behind the NPA, the current version unnecessarily complicates EASA regulations by creating definitions of a part's criticality for maintenance purposes that are different from those included in the approved design.

Additionally, the proposal vests complete discretion in the design approval holder (DAH) to determine whether to conduct a criticality assessment for parts to be installed during maintenance. If a DAH elects not to evaluate its parts as proposed, no meaningful change will result in the Agency's documentation requirements. The requirement for all new parts to be accompanied by a Form 1 would continue—basically, defeating the purpose of the NPA and the agency's effort entirely.

Therefore, the association strongly urges EASA to use three categories of parts¹ in determining the required documentation for installation during maintenance or modification activities:

- (1) Critical parts that would require an EASA Form 1. Critical parts are parts for which a replacement time, inspection interval, or related procedure is specified in the Airworthiness Limitations section or certification maintenance requirements of the manufacturer's maintenance manual or Instructions for Continued Airworthiness. During certification, the design approval holder (DAH) and the Agency determine

¹ Unless otherwise noted, all references to parts, components or articles in these comments pertain to new replacement or modification parts intended for installation during maintenance.

which parts are critical and this definition should control for purposes of this rulemaking.

- (2) Non-critical parts, if produced under Part-21, subpart F (Production without Production Organization Approval) or subpart G (Production Organization Approval for Products, Parts and Appliances) would have to be accompanied either by an EASA Form 1 or another document certifying that the article was produced in accordance with a production inspection system or production quality system, as applicable.
- (3) Parts not accompanied by a Form 1 (or another document described in point 2, above) may be installed during maintenance only if they are traceable to an approved design as reflected in the design or maintenance data (e.g., drawings, specifications, Instructions for Continued Airworthiness, Component Maintenance and Overhaul Manuals, Illustrated Parts Catalogue, Illustrated Parts List, Illustrated Provisioning Documents or other data approved by the Agency). The latter category would include the vast majority of standard parts as defined by the Agency, manufacturer's standards not meeting the Agency's definition of standard part and commercial-off-the-shelf (COTS) parts as defined herein.

ARSA commends EASA for recognizing that requiring a Form 1 for all new parts installed during maintenance is "unnecessary and onerous." That recognizes the fact that regardless of the documentation provided, the installer must ensure an article conforms to the approved design and is in condition for safe operation. This is accomplished by reviewing the available documentation, any identification data or marking on the part, its physical condition and suitability for installation in the next higher assembly. These actions occur in accordance with the incoming or receiving procedures of the approved maintenance organization and again when maintenance personnel obtain the parts issued from inventory and make the fitment on the product or article.

EASA specifically references COTS parts that are not produced for aviation but are included in many EASA-approved designs. By not recognizing these items in its regulations EASA has no mechanism to except them from the EASA Form 1 requirement. Most COTS parts installed during maintenance are produced outside the production organization approval (POA) holder's quality system. Often, they are obtained from distributors. Consequently, COTS parts arrive at maintenance organizations without an EASA Form 1. ARSA believes they are regularly installed following a determination by a qualified organization that they are airworthy.

Specific Issues

The NPA would fundamentally change Part-21 by eliminating the need for an EASA Form 1 in most cases, which in essence would dramatically reduce the number of parts for which the POA holder would be responsible. Instead, the agency would rely primarily on recognized industry quality management systems to govern the production and documentation of most parts used in maintenance and modification activities. While the NPA is consistent with the emphasis on implementing risk-based approaches to regulatory oversight, it should not give DAHs *carte blanche* responsibility for determining documentation requirements for parts installed in maintenance and alteration activities. The responsibility for design and production must remain with the DAH/POA holder. The responsibility for determining fitment during maintenance and alteration is the purview of the maintenance provider and the owner/operator.

Second, the NPA significantly (and unnecessarily) increases regulatory complexity by creating four criticality levels that apply only to articles installed during maintenance and modification. The proposed levels are materially different from those that apply during a certification project where a critical part is required to be identified --

... by the design approval holder (DAH) during the product certification process or otherwise by the Authority for the State of Design (SoD). Typically, such components include parts for which a replacement time, inspection interval, or related procedure is specified in the Airworthiness Limitations section or certification maintenance requirements of the manufacturer's maintenance manual or Instructions for Continued Airworthiness.

The definition of critical already exists in EASA certification specifications and in bilateral aviation safety agreements.² ARSA proposes that EASA use the international definition of critical part for this rulemaking. It is more encompassing than the definition used in some of the Agency's certification specifications³ and it harmonizes with its international partners.

² See the definitions section of the Technical Implementation Procedures between the FAA and EASA.

³ For example, CS 27.602 and CS 29.602 define critical part -

(a) ... as a part, the failure of which could have a catastrophic effect upon the rotorcraft, and for which critical characteristics have been identified which must be controlled to ensure the required level of integrity.

(b) If the type design includes critical parts, a critical parts list shall be established. Procedures shall be established to define the critical design characteristics, identify processes that affect those characteristics, and identify the design change and process change controls necessary for showing compliance with the quality assurance requirements of Part-21.

Third, the NPA does not require design approval holders (DAHs) to assign criticality levels to replacement or modification parts. The NPA states that if a DAH does not assign criticality levels for parts to be used during maintenance all parts included in the type design (except those already excepted) will continue to require a Form 1. Many DAHs will simply choose the status quo. DAHs already have established systems and procedures to identify “critical” parts under the certification requirements. Additionally, many have procedures for issuing the Form 1 from their main POA holder facilities. Relief from COT parts and manufacturer standard parts will not carry the proper incentives and the Agency will have lost an opportunity to address the parts documentation conundrum.

Having the DAH make the criticality assessment will produce the same result as when the FAA amended part 21 to include a definition of commercial parts. U.S. DAHs have largely ignored the ability to designate articles as commercial parts because compliance is duplicative and discretionary. The FAA rule is redundant and imposes administrative burdens on the DAH by requiring another assessment of whether the part’s failure would degrade the level of safety of the product, an assessment already made during the certification process.

The FAA’s definition of commercial parts also creates confusion because COTS parts, represent the vast majority of non-standard parts. While COTS parts used during maintenance and modification are produced outside a Part-21 production inspection system or quality system, they are traceable to an approved design, usually through the applicable maintenance data.

ARSA’s proposal is relatively straightforward. It creates three categories of parts for use during maintenance and modification, each with objective standards for determining the required documentation. Critical parts are already defined and understood in the context of the design, production, operation and maintenance rules. That definition should be used rather than creating another mechanism for determining a part’s criticality. The second category, i.e., those traceable to Part-21, subparts F or G, would have to be accompanied either by a Form 1 or another document evidencing that it was produced under Part-21. All other parts would fall into the third category and could be installed following a determination that they were traceable to an approved design. This includes standard parts as defined by EASA, manufacturer’s standards not meeting the Agency’s definition of standard part and COTS parts as defined herein.

Proposed Regulatory Changes

ARSA’s proposed regulatory language is noted below. Proposed new verbiage is in red text and proposed deletions are crossed out.

21.A.121 (Scope, subpart F) and 21.A.131 (Scope, subpart G): ARSA agrees with the proposed changes in the NPA.

21.A.308 Critical new parts and appliances to be installed during maintenance

(a) The applicant for, and the holder of, a design approval of a product, a change or a repair, the holder of a standard change or a standard repair and the holder of an ETSO article authorization (hereinafter jointly referred as 'design approval holder') may, for the parts and appliances that it has designed or has identified in the design and that are not ETSO articles nor products, determine which parts are critical. For purposes of this section, "critical part" means a part identified by the design approval holder (DAH) during the product certification process or otherwise by the Authority for the State of Design (SoD). Typically, such components include parts for which a replacement time, inspection interval, or related procedure is specified in the Airworthiness Limitations section or certification maintenance requirements of the manufacturer's maintenance manual or Instructions for Continued Airworthiness.

21.A.130 Statement of conformity

(a) Each manufacturer of a product, part or appliance manufactured under this Subpart shall raise a statement of conformity, an EASA Form 52 (see Appendix VIII), for complete aircraft, or EASA Form 1 (see Appendix I), for other products, parts or appliances. This statement shall be signed by an authorised person who holds a responsible position in the manufacturing organisation.

(b) A statement of conformity shall include:

1. for each product, part or appliance a statement that the product or appliance, conforms to the approved design data and is in condition for safe operation; and
2. for each aircraft, a statement that the aircraft has been ground and flight checked in accordance with 21.A.127(a); and
3. for each engine, or variable pitch propeller, a statement that the engine or propeller has been subjected by the manufacturer to a final functional test, in accordance with point 21.A.128; and
4. additionally, in case of engines, a statement that the completed engine is in compliance with the applicable emissions requirements on the date of manufacture of the engine.

(c) Each manufacturer of such a product, **critical** part or appliance shall:

1. upon the initial transfer by it of the ownership of such a product, **critical** part **as defined in 21.A.308(a)** or appliance; or
2. upon application for the original issue of an aircraft certificate of airworthiness; or

upon application for the original issue of an airworthiness release document for an engine, a propeller, a **critical part as defined in 21.A.308(a)** or appliance, present a current statement of conformity, for validation by the competent authority.

(d) The competent authority shall validate by counter-signature the statement of conformity if it finds after inspection that the product, **critical part** or appliance conforms to the applicable design data and is in condition for safe operation.

(e) When transferring ownership of non-critical parts, they may be documented in the same manner as critical parts or, in the alternative, another document may be issued by the organization stating that the part was produced and inspected in accordance with this subpart. When another document is used, such parts and their associated documentation do not require validation by the competent authority.

21.A.165 Obligations of the holder

The holder of a production organisation approval shall:

(a) ensure that the production organisation exposition furnished in accordance with point 21.A.143 and the documents to which it refers, are used as basic working documents within the organisation;

(b) maintain the production organisation in conformity with the data and procedures approved for the production organisation approval;

(c) 1. determine that each completed aircraft conforms to the type design and is in condition for safe operation prior to submitting statements of conformity to the competent authority; or

2. determine that other products, **critical parts** or appliances are complete and conform to the approved design data and are in a condition for safe operation before issuing an EASA Form 1 to certify conformity to approved design data and condition for safe operation;

3. determine that non-critical parts produced under Part-21, subpart G conform to the design data and are in condition for safe operation before issuing an EASA Form 1 or another document indicating that the article was produced under the production organization approval;

4. additionally, in the case of engines, determine that the completed engine is in compliance with the applicable emissions requirements on the date of manufacture of the engine;

5. determine that other products, parts or appliances conform to the applicable data before issuing an EASA Form 1 as a conformity certificate.

145.A.42 Acceptance of Components

(a) All components shall be classified and appropriately segregated into the following categories:

1. **Critical** components which are in a satisfactory condition, released on an **EASA Form 1** or equivalent and marked in accordance with Subpart Q of Annex I (Part-21) to Regulation (EU) No 748/2012.
2. **Non-critical components which are in satisfactory condition, released on an EASA Form 1 or other document issued under part 21, subparts F or G indicating that the component was produced under a Part-21 production inspection system or production quality system as applicable and marked in accordance with Subpart Q of Annex I (Part-21) to Regulation (EU) No 748/2012.**
3. **Non-critical components other than those described in point 2, above, may be installed during maintenance when they are traceable to an approved design as reflected in the design or maintenance data (e.g., drawings, specifications, Instructions for Continued Airworthiness, Component Maintenance and Overhaul Manuals, Illustrated Parts Catalogue, Illustrated Parts List, Illustrated Provisioning Documents or other data approved by the Agency). This includes the vast majority of standard parts as defined by the Agency, manufacturer's standards not meeting the definition of standard part and commercial-off-the-shelf-parts.**
4. Unserviceable components which shall be maintained in accordance with this section.
5. Unsalvageable components which are classified in accordance with point **145.A.42(d)**.
6. Standard parts, **manufacturer's standard parts not meeting the Agency's definition of standard part and commercial-off-the-shelf parts** used on an aircraft, engine, propeller or other aircraft component when specified in the **design data**, manufacturer's illustrated parts catalogue and/or the maintenance data.
7. Material both raw and consumable used in the course of maintenance when the organisation is satisfied that the material meets the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing a conformity to specification statement plus both the manufacturing and supplier source.
8. Components referred to in point 21A.307(c) of Annex I (Part-21) to Regulation (EU) No 748/2012.

AMC 145.A.42(a)

1. A document equivalent to an **EASA Form 1** may be:
 - (a) a release document issued by an organisation under the terms of a bilateral agreement signed by the European Community;
 - (b) a release document issued by an organisation approved under the terms of a JAA bilateral agreement until superseded by the corresponding agreement signed by the European Community;

- (c) a JAA Form One issued prior to 28 November 2004 by a JAR 145 organisation approved by a JAA Full Member State;
 - (d) in the case of new aircraft components that were released from manufacturing prior to the Part-21 compliance date the component should be accompanied by a JAA Form One issued by a JAR 21 organisation approved by a JAA Full Member Authority and within the JAA mutual recognition system;
 - (e) a JAA Form One issued prior to 28 September 2005 by a production organisation approved by a competent authority in accordance with its national regulations.
2. For acceptance of standard parts, **manufacturer's standard parts not meeting the Agency's definition of standard part, commercial-off-the-shelf parts**, raw material and consumable material, refer to [AMC M.A.501\(c\)](#) and [AMC M.A.501\(d\)](#).

M.A. 501(c)

- (a) **Except as provided in point (c), no** component may be fitted unless it is in a satisfactory condition, has been appropriately released to service on an [EASA Form 1](#) or equivalent and is marked in accordance with Annex I (Part-21), Subpart Q, unless otherwise specified in Annex I (Part-21) to Regulation (EU) No 748/2012, [Annex II \(Part-145\)](#) or [Subpart F, Section A](#) of Annex I to this Regulation.
- (b) Prior to installation of a component on an aircraft the person or approved maintenance organisation shall ensure that the particular component is eligible to be fitted when different modification and/or airworthiness directive configurations may be applicable.
- ~~(c) Standard parts shall only be fitted to an aircraft or a component when the maintenance data specifies the particular standard part. Standard parts shall only be fitted when accompanied by evidence of conformity traceable to the applicable standard.~~
- (c) Non-critical parts received without an EASA Form 1 or other document issued under Part-21, subpart F or G (including standard parts, manufacturer's standard parts not meeting the Agency's definition of standard part and COTS parts as defined in AMC M.A.501(c)) may only be fitted when the part is referenced in the design data, manufacturer's illustrated parts catalog and/or maintenance data.**
- (d) Material being either raw material or consumable material shall only be used on an aircraft or a component when the aircraft or component manufacturer states so in relevant maintenance data or as specified in Annex II (Part-145). Such material shall only be used when the material meets the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing a conformity to specification statement plus both the manufacturing and supplier source.

AMC M.A.501(c) Installation

1. Standard parts are:

(a) parts manufactured in complete compliance with an established industry, Agency, competent authority or other Government specification which includes design, manufacturing, test and acceptance criteria, and uniform identification requirements.

The specification should include all information necessary to produce and verify conformity of the part. It should be published so that any party may manufacture the part. Examples of specifications are National Aerospace Standards (NAS), Army-Navy Aeronautical Standard (AN), Society of Automotive Engineers (SAE), SAE Sematec, Joint Electron Device Engineering Council, Joint Electron Tube Engineering Council, and American National Standards Institute (ANSI), EN Specifications etc.

(b) For sailplanes and powered sailplanes, non-required instruments and/or equipment certified under the provision of CS 22.1301(b), if those instruments or equipment, when installed, functioning, functioning improperly or not functioning at all, do not in itself, or by its effect upon the sailplane and its operation, constitute a safety hazard.

'Required' in the term 'non-required' as used above means required by the applicable airworthiness code (CS 22.1303, 22.1305 and 22.1307) or required by the relevant operating regulations and the applicable Rules of the Air or as required by Air Traffic Management (e.g. a transponder in certain controlled airspace). Examples of equipment which can be considered standard parts are electrical variometers, bank/slip indicators ball type, total energy probes, capacity bottles (for variometers), final glide calculators, navigation computers, data logger / barograph / turnpoint camera, bug-wipers and anti-collision systems. Equipment which must be approved in accordance to the airworthiness code shall comply with the applicable ETSO or equivalent and is not considered a standard part (e.g. oxygen equipment).

2. To designate a part as a standard part the TC holder may issue a standard parts manual accepted by the competent authority of original TC holder or may make reference in the parts catalogue to a national/international specification (such as a standard diode/capacitor etc.) not being an aviation only specification for the particular part.

3. Documentation accompanying standard parts should clearly relate to the particular parts and contain a conformity statement plus both the manufacturing and supplier source. Some material is subject to special conditions such as storage condition or life limitation etc. and this should be included on the documentation and / or material packaging.

4. An [EASA Form 1](#) or equivalent is not normally issued **for standard parts and manufacturer's standards not meeting the Agency's definition of standard part**, and therefore none should be expected.

5. **Commercial-off-the-shelf parts are those that:**

(1) are not standard parts or parts fabricated during maintenance,

(2) are not manufactured specifically for aviation use,
(3) are marked by the manufacturer of the part, and
(4) are traceable to an approved design as reflected in the design or maintenance data (e.g., drawings, specifications, Instructions for Continued Airworthiness, Component Maintenance and Overhaul Manuals, Illustrated Parts Catalogue, Illustrated Parts List, Illustrated Provisioning Documents or other data approved by the Agency).

6. An EASA Form 1, equivalent or other document issued under part 21, subpart F or subpart G is not normally issued for commercial-off-the-shelf parts and therefore none should be expected.

ARSA appreciates the opportunity to comment on this important rulemaking proposal. While it supports the Agency's intent to limit the number of parts for which a Form 1 would be required, the association is concerned that the proposal is too complex and vests too much authority in the DAHs.

ARSA believes it has proposed a workable solution that (1) requires a Form 1 for all critical parts as defined in the design rules, (2) for non-critical parts, makes issuance of a Form 1 discretionary with a Part-21 subpart G or subpart F manufacturer, (3) for non-critical parts allows another document to be used in lieu of a Form 1 if it states that the article was produced under a Part-21 inspection system or quality system as applicable, and (4) allows maintenance providers to install parts that are not described above if they can establish a link to an approved design.

Respectfully submitted,



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